UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2019

or

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

For the transition period from_____to_____

Commission file number 1-15399

PACKAGING CORPORATION OF AMERICA

(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.)*
1 North Field Court, Lake Forest, Illinois	**60045**
(Address of Principal Executive Offices)	*(Zip Code)*

Registrant's telephone number, including area code
(847) 482-3000

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of October 25, 2019 the Registrant had outstanding 94,657,919 shares of common stock, par value $0.01 per share.

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.01 per share	PKG	New York Stock Exchange

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All reports we file with the Securities and Exchange Commission (SEC) are available free of charge via the Electronic Data Gathering Analysis and Retrieval (EDGAR) System on the SEC website at www.sec.gov. We also provide copies of our SEC filings at no charge upon request and make electronic copies of our reports available through our website at *www.packagingcorp.com* as soon as reasonably practicable after filing such material with the SEC.

PART I
FINANCIAL INFORMATION

Item 1. ***FINANCIAL STATEMENTS***

Packaging Corporation of America

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Statements of Income:				
Net sales	$ 1,750.7	$ 1,809.9	$ 5,244.3	$ 5,268.1
Cost of sales	(1,339.3)	(1,366.7)	(3,983.6)	(4,048.2)
Gross profit	411.4	443.2	1,260.7	1,219.9
Selling, general and administrative expenses	(136.9)	(134.2)	(420.6)	(406.7)
Other expense, net	(11.7)	(10.5)	(21.5)	(32.2)
Income from operations	262.8	298.5	818.6	781.0
Non-operating pension expense	(1.9)	(0.5)	(6.0)	(1.6)
Interest expense, net	(21.6)	(23.9)	(68.0)	(73.4)
Income before taxes	239.3	274.1	744.6	706.0
Provision for income taxes	(59.5)	(67.4)	(184.4)	(172.6)
Net income	$ 179.8	$ 206.7	$ 560.2	$ 533.4
Net income per common share:				
Basic	$ 1.90	$ 2.19	$ 5.93	$ 5.65
Diluted	$ 1.89	$ 2.18	$ 5.91	$ 5.64
Dividends declared per common share	$ 0.79	$ 0.79	$ 2.37	$ 2.21
Statements of Comprehensive Income:				
Net income	$ 179.8	$ 206.7	$ 560.2	$ 533.4
Other comprehensive income, net of tax:				
Foreign currency translation adjustment	—	—	—	(0.1)
Reclassification adjustments to cash flow hedges included in net income, net of tax of $0.3 million, $0.3 million, $1.0 million, and $1.0 million	1.0	1.0	2.9	3.0
Amortization of pension and postretirement plans actuarial loss and prior service cost, net of tax of $0.8 million, $1.0 million, $2.4 million, and $3.0 million	2.4	3.0	7.1	8.9
Other comprehensive income	3.4	4.0	10.0	11.8
Comprehensive income	$ 183.2	$ 210.7	$ 570.2	$ 545.2

See accompanying condensed notes to unaudited quarterly consolidated financial statements.

Packaging Corporation of America

Consolidated Balance Sheets

(unaudited, dollars and shares in millions, except per-share data)

	September 30, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 738.3	$ 361.5
Accounts receivable, net of allowance for doubtful accounts and customer deductions of $13.9 million and $13.6 million as of September 30, 2019, and December 31, 2018, respectively	932.3	901.9
Inventories	806.3	795.6
Prepaid expenses and other current assets	44.9	39.4
Federal and state income taxes receivable	9.5	16.7
Total current assets	2,531.3	2,115.1
Property, plant, and equipment, net	3,110.4	3,108.6
Operating lease right-of-use assets	232.3	—
Goodwill	918.7	917.3
Other intangible assets, net	348.5	378.2
Other long-term assets	49.9	50.5
Total assets	$ 7,191.1	$ 6,569.7
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Finance lease obligations	$ 1.5	$ 1.4
Operating lease obligations	60.4	—
Accounts payable	385.5	382.2
Dividends payable	76.3	76.1
Accrued liabilities	220.1	222.4
Accrued interest	26.9	11.5
Total current liabilities	770.7	693.6
Long-term liabilities:		
Long-term debt	2,486.3	2,483.7
Finance lease obligations	16.4	17.6
Operating lease obligations	177.3	—
Deferred income taxes	327.6	285.2
Compensation and benefits	320.3	357.5
Other long-term liabilities	57.8	59.7
Total long-term liabilities	3,385.7	3,203.7
Commitments and contingent liabilities		
Stockholders' equity:		
Common stock, par value $0.01 per share, 300.0 million shares authorized, 94.7 million and 94.5 million shares issued as of September 30, 2019, and December 31, 2018, respectively	0.9	0.9
Additional paid in capital	518.9	494.5
Retained earnings	2,643.7	2,315.8
Accumulated other comprehensive loss	(128.8)	(138.8)
Total stockholders' equity	3,034.7	2,672.4
Total liabilities and stockholders' equity	$ 7,191.1	$ 6,569.7

See accompanying condensed notes to unaudited quarterly consolidated financial statements.

Packaging Corporation of America

Consolidated Statements of Cash Flows
(unaudited, dollars in millions)

	Nine Months Ended September 30,	
	2019	2018
Cash Flows from Operating Activities:		
Net income	$ 560.2	$ 533.4
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, depletion, and amortization of intangibles	288.6	313.6
Amortization of deferred financing costs	6.5	6.5
Share-based compensation expense	24.5	17.4
Deferred income tax provision	38.3	34.9
Loss on asset disposals	6.7	4.9
Pension and post-retirement benefits expense, net of contributions	(30.4)	(2.7)
Other, net	9.6	3.3
Changes in operating assets and liabilities:		
Increase in assets —		
Accounts receivable	(30.3)	(148.9)
Inventories	(10.8)	(22.6)
Prepaid expenses and other current assets	(5.6)	(13.2)
Increase (decrease) in liabilities —		
Accounts payable	(2.3)	19.6
Accrued liabilities	15.4	23.7
Federal and state income taxes payable / receivable	7.8	64.6
Net cash provided by operating activities	878.2	834.5
Cash Flows from Investing Activities:		
Additions to property, plant, and equipment	(263.8)	(404.3)
Additions to other long term assets	(4.5)	(4.1)
Proceeds from disposals	1.4	0.5
Other, net	(1.4)	2.6
Net cash used for investing activities	(268.3)	(405.3)
Cash Flows from Financing Activities:		
Repayments of debt and finance lease obligations	(1.1)	(151.0)
Common stock dividends paid	(223.9)	(193.4)
Shares withheld to cover employee restricted stock taxes	(8.1)	(7.9)
Net cash used for financing activities	(233.1)	(352.3)
Net increase in cash and cash equivalents	376.8	76.9
Cash and cash equivalents, beginning of period	361.5	216.9
Cash and cash equivalents, end of period	$ 738.3	$ 293.8

See accompanying condensed notes to unaudited quarterly consolidated financial statements.

Packaging Corporation of America

Consolidated Statements of Changes in Stockholders' Equity

(unaudited, dollars in millions and shares in thousands)

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at July 1, 2019	94,666	$ 0.9	$ 513.3	$ 2,539.2	$ (132.2)	$ 2,921.2
Common stock withheld and retired to cover taxes on vested stock awards	(4)	—	—	(0.3)	—	(0.3)
Common stock dividends declared	—	—	—	(75.0)	—	(75.0)
Share-based compensation	(2)	—	5.6	—	—	5.6
Other	—	—	—	—	—	—
Comprehensive income	—	—	—	179.8	3.4	183.2
Balance at September 30, 2019	94,660	$ 0.9	$ 518.9	$ 2,643.7	$ (128.8)	$ 3,034.7

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at July 1, 2018	94,500	$ 0.9	$ 482.1	$ 2,054.0	$ (149.0)	$ 2,388.0
Common stock withheld and retired to cover taxes on vested stock awards	(2)	—	—	(0.3)	—	(0.3)
Common stock dividends declared	—	—	—	(74.9)	—	(74.9)
Share-based compensation	(1)	—	6.7	—	—	6.7
Other	—	—	0.1	—	(0.1)	—
Comprehensive income	—	—	—	206.7	4.0	210.7
Balance at September 30, 2018	94,497	$ 0.9	$ 488.9	$ 2,185.5	$ (145.1)	$ 2,530.2

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at January 1, 2019	94,497	$ 0.9	$ 494.5	$ 2,315.8	$ (138.8)	$ 2,672.4
Common stock withheld and retired to cover taxes on vested stock awards	(87)	—	(0.7)	(7.4)	—	(8.1)
Common stock dividends declared	—	—	—	(224.7)	—	(224.7)
Share-based compensation	250	—	25.1	—	—	25.1
Other	—	—	—	(0.2)	—	(0.2)
Comprehensive income	—	—	—	560.2	10.0	570.2
Balance at September 30, 2019	94,660	$ 0.9	$ 518.9	$ 2,643.7	$ (128.8)	$ 3,034.7

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at January 1, 2018	94,350	$ 0.9	$ 471.2	$ 1,867.4	$ (156.9)	$ 2,182.6
Common stock withheld and retired to cover taxes on vested stock awards	(69)	—	(0.5)	(7.4)	—	(7.9)
Common stock dividends declared	—	—	—	(209.3)	—	(209.3)
Adoption of ASC 606	—	—	—	1.6	—	1.6
Share-based compensation	216	—	17.8	—	—	17.8
Other	—	—	0.4	(0.2)	—	0.2
Comprehensive income	—	—	—	533.4	11.8	545.2
Balance at September 30, 2018	94,497	$ 0.9	$ 488.9	$ 2,185.5	$ (145.1)	$ 2,530.2

See accompanying condensed notes to unaudited quarterly consolidated financial statements.

Condensed Notes to Unaudited Quarterly 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. We are 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.

We report our business in three reportable segments: Packaging, Paper, and Corporate and Other. Our Packaging segment produces a wide variety of containerboard and corrugated packaging products. The Paper segment manufactures and sells a range of communication-based papers. 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 19, 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.

The consolidated financial statements of PCA as September 30, 2019 and for the three and nine months ended September 30, 2019 and 2018 are unaudited but include all adjustments (consisting only of normal recurring adjustments) that management considers necessary for a fair presentation of such financial statements. The preparation of the consolidated financial statements involves the use of estimates and accruals. Actual results may vary from those estimates. These financial statements have been prepared in accordance with accounting principles generally accepted in the United States for interim financial information and with Article 10 of Regulation S-X of the Securities and Exchange Commission (SEC). Accordingly, they do not include all of the information and notes required by accounting principles generally accepted in the United States for complete audited financial statements. Operating results for the three and nine months ended September 30, 2019 are not necessarily indicative of the results that may be expected for the year ending December 31, 2019. These consolidated financial statements should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2018.

The consolidated financial statements include the accounts of PCA and its majority-owned subsidiaries after elimination of intercompany balances and transactions.

2. New and Recently Adopted Accounting Standards

Recently Adopted Accounting Standards

Effective January 1, 2019, the Company adopted the Financial Accounting Standards Board (“FASB”) Accounting Standards Update (“ASU”) 2016-02 (Topic 842): *Leases*, which requires the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous guidance. The original guidance required application on a modified retrospective basis with the earliest period presented. In July 2018, the FASB issued ASU 2018-11, *Targeted Improvements to ASC 842*, which included an option to not restate comparative periods in transition and elect to use the effective date of ASC 842, *Leases*, as the date of initial application of transition, which we elected. As a result of the adoption of ASC 842 on January 1, 2019, we recorded operating lease liabilities of $228 million, with corresponding right of use (“ROU”) assets of the same amount. In addition, we elected the package of practical expedients permitted under the transition guidance within the new standard, which allowed us to carry forward the historical lease classification and not to reassess whether existing or expired contracts contain a lease. We also elected the short-term lease recognition exemption, which permits us to exclude short-term leases (i.e. leases with terms of 12 months or less) from the recognition requirements of this standard, and we elected to account for lease and non-lease components as a single lease component for all classes of underlying assets except for embedded leases. The adoption of ASC 842 had an immaterial impact on our consolidated net earnings, liquidity and debt covenants under our current agreements for the three- and nine-month periods ended September 30, 2019. See Note 3, Leases, for more information.

Effective January 1, 2019, we adopted ASU 2018-02 (Topic 220*): Income Statement—Reporting Comprehensive Income – Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which allows for optional reclassification from Accumulated Other Comprehensive Income (“AOCI”) to retained earnings for the stranded tax effects resulting from the Tax Cuts and Jobs Act in December 2017 (“Tax Act”). Stranded tax effects are the difference in deferred taxes between the amount initially recorded to other comprehensive income (“OCI”) at historical corporate income tax rates and the amount recorded using the newly-enacted corporate income tax rate. The cumulative tax rate adjustment to deferred taxes was required to be recorded through income tax expense from continuing operations in the period of enactment as opposed to OCI, resulting in the stranded tax effects in AOCI. The Company elected to not reclassify the stranded tax effects related to the Tax Act. As a result, the adoption did not have an impact on the Company's financial position, results of operations, or cash flow.

New Accounting Standards Not Yet Adopted

In August 2018, the FASB issued ASU 2018-15, *Intangibles – Goodwill and Other – Internal Use Software* (Subtopic 350-40): *Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, which includes amendments to align the accounting for costs incurred to implement a cloud computing arrangement that is a service contract with the guidance on capitalizing costs associated with developing or obtaining internal-use software. The accounting for the service component of a hosting arrangement that is a service contract is not affected by the amendments in this update. The ASU is effective for annual and interim periods beginning after December 15, 2019. Early adoption is permitted. The Company is currently evaluating the impact of the new guidance.

In August 2018, the FASB issued ASU 2018-14, *Compensation – Retirement Benefits – Defined Benefit Plans – General* (Subtopic 715-20): *Disclosure Framework – Changes to the Disclosure Requirements for Defined Benefit Plans*. ASU 2018-14 removes certain disclosures that are not considered cost beneficial, clarifies certain required disclosures and adds additional disclosures. The ASU is effective for annual periods beginning after December 31, 2020, with early adoption permitted. The amendments in ASU 2018-14 would need to be applied on a retrospective basis. The Company is currently evaluating the impact this guidance will have on its related disclosures.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement* (Topic 820): *Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.* ASU 2018-13 removes or modifies certain disclosure requirements and adds additional requirements to improve the usefulness of the fair value measurement disclosure for financial statement users. The ASU is effective for annual and interim periods beginning after December 15, 2019, with early adoption permitted. Certain amendments of ASU 2018-13 are required to be applied prospectively for the first interim period of the initial year of adoption. All other amendments need to be applied retrospectively. The Company is currently evaluating the impact of the new guidance.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments – Credit Losses* (Topic 326)*: Measurement of Credit Losses on Financial Instruments.* ASU 2016-13 introduces the Current Expected Credit Losses ("CECL") framework for evaluating credit losses on financial instruments measured at amortized cost. This new framework requires entities to incorporate forward-looking information into their estimate of current expected credit loss as of each reporting date. Although available-for-sale ("AFS") debt securities are not within the scope of the new CECL framework, the ASU includes an amended impairment model for evaluating losses related to AFS debt securities. The guidance in this update also includes enhanced requirements for disclosures related to credit loss estimates. The ASU is effective for annual and interim periods beginning after December 15, 2019, with early adoption permitted. The amendments in ASU 2016-13 would need to be applied using the modified retrospective method. The Company is currently evaluating the impact of the new guidance but does not expect this ASU to have a material impact on the Company's financial position, results of operation, or cash flow.

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. Leases

We group our leases into two primary lease types, real estate and equipment, and into various asset classes within each type. Real estate leases primarily include manufacturing locations, office space, warehouses, and design centers, while equipment leases primarily include manufacturing equipment.

Leases with an initial term of 12 months or less and certain month-to-month leases are not recorded on the balance sheet. The lease expense for these types of leases is recognized on a straight-line basis over the lease term.

To determine the lease term, we include the non-cancellable period of the lease together with the following: all periods covered by an option to extend the lease if we are reasonably certain to exercise that option; any periods covered by an option to terminate the lease if we are reasonably certain not to exercise that option; and any periods covered by an option to extend or not to terminate the lease that are controlled by the lessor. The exercising of lease renewal options is based on whether future economic benefit is expected to be derived from the renewal. Most of our real estate leases contain at least one renewal option. Renewal options generally range from 1 to 5 years. Although equipment leases may also contain renewal options, we typically do not expect to extend and/or exercise these renewal options unless a compelling business reason is provided to management.

Our leases may contain fixed and variable costs. Fixed costs determine the right-of-use asset. Variable costs are those costs which will vary month to month and are excluded from the calculation of the right-of-use asset. Variable lease costs are recorded to lease expense in the period in which they are incurred.

Our leases do not provide an implicit borrowing rate of return. Therefore, we use our incremental borrowing rate to calculate the present value of lease payments at inception of the lease or when a lease is modified.

Supplemental balance sheet information related to our leases was as follows (dollars in millions):

	September 30, 2019
Operating leases:	
Operating lease right-of-use assets	$ 232.3
Current portion of operating lease obligations	$ 60.4
Long-term portion of operating lease obligations	177.3
Total operating lease obligations	$ 237.7
Finance leases:	
Buildings	$ 0.3
Machinery and equipment	28.5
Total	28.8
Less accumulated amortization	(17.8)
Total	$ 11.0
Current portion of finance lease obligations	$ 1.5
Long-term portion of finance lease obligations	16.4
Total finance lease obligations	$ 17.9
Weighted-average remaining lease term (years):	
Operating leases	5.8
Finance leases	9.0
Weighted-average discount rate:	
Operating leases	4.33%
Finance leases	6.66%

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

	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019
Finance lease cost:		
Amortization of finance lease assets	$ 0.4	$ 1.1
Interest on lease liabilities	0.3	0.9
Total finance lease cost	0.7	2.0
Operating lease cost	17.6	52.3
Short-term lease cost	4.4	15.1
Variable lease cost	3.2	13.0
Total lease cost	$ 25.9	$ 82.4

Supplemental cash flow information related to leases was as follows (dollars in millions):

	Nine Months Ended September 30, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows for operating leases	$ (44.6)
Operating cash flows for finance leases	(1.1)
Financing cash flows for finance leases	(0.9)
Right-of-use assets obtained in exchange for new lease obligations:	
Operating leases	$ (20.5)
Finance leases	—
Supplemental non-cash information on changes in lease liabilities	$ 33.8
Supplemental non-cash information on changes in right-of-use assets	$ 16.2

The maturities of lease liabilities for operating and finance leases at September 30, 2019 were as follows (dollars in millions):

	Operating Leases	Finance Leases
2019	$ 18.1	$ 0.7
2020	66.9	2.7
2021	56.6	2.7
2022	39.2	2.7
2023	25.4	2.7
Thereafter	63.8	12.4
Total lease payments	270.0	23.9
Less imputed interest (a)	(32.3)	(6.0)
Present value of lease liabilities	$ 237.7	$ 17.9

(a) Calculated using the incremental borrowing rate for each lease applied to the future payments.

The maturities of lease liabilities at December 31, 2018 under ASC 840 were as follows (dollars in millions):

	Operating Leases	Finance Leases
2019	$ 70.1	$ 2.7
2020	58.7	2.7
2021	47.4	2.7
2022	29.9	2.7
2023	17.8	2.7
Thereafter	46.4	12.4
Total lease payments	$ 270.3	25.9
Less imputed interest (b)		(6.9)
Present value of lease liabilities		$ 19.0

(b) Calculated using the incremental borrowing rate for each lease applied to the future payments.

4. Revenue

Revenue Recognition

Revenue is recognized when control of the promised goods or services is transferred to customers in an amount that reflects the consideration expected to be received in exchange for those goods or services. Sales, value added, and other taxes collected concurrently with revenue-producing activities are excluded from revenue.

The following table presents our revenues disaggregated by product line (dollars in millions):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Packaging	$ 1,489.9	$ 1,535.1	$ 4,472.1	$ 4,434.2
Paper	242.8	254.3	720.3	774.5
Corporate and Other	18.0	20.5	51.9	59.4
Total revenue	$ 1,750.7	$ 1,809.9	$ 5,244.3	$ 5,268.1

Packaging Revenue

Our containerboard mills produce linerboard and corrugating medium which are papers primarily used in the production of corrugated products. The majority of our containerboard production is used internally by our corrugated products manufacturing facilities. The remaining containerboard is sold to outside domestic and export customers. Our corrugated products manufacturing plants produce a wide variety of corrugated packaging products and retail merchandise displays. We sell corrugated products to national, regional and local customers, which are broadly diversified across industries and geographic locations.

The Company recognizes revenue for its packaging products when performance obligations under the terms of a contract with a customer are satisfied. This occurs with the transfer of control of our products at a specific point in time. Based on our express terms and conditions of the sale of products to our customers, as well as terms included in contractual arrangements with our customers, we do not have an enforceable right of payment that includes a reasonable profit throughout the duration of the contract for products that do not have an alternative use. Revenue is recognized when the product is shipped from the mill or from our manufacturing facility to our customer. Certain customers may receive volume-based incentives, which are accounted for as variable consideration. We estimate these amounts based on the expected amount to be provided to customers and reduce revenue recognized.

Certain customers receive a portion of their packaging products as consigned inventory with billing triggered once the customer uses or consumes the designated product. Prior to invoicing, these amounts are handled as unbilled receivables. Total unbilled receivables, which are immaterial in amount, are included in the accounts receivable financial statement caption.

Paper Revenue

We manufacture and sell a range of communication-based papers. Communication papers consist of cut-size office papers, and printing and converting papers.

The Company recognizes revenue for its paper products when performance obligations under the terms of a contract with a customer are satisfied. This occurs with the transfer of control of our products at a specific point in time. Revenue is recognized when the product is shipped from the mill or from our manufacturing facility or distribution center to our customer. Certain customers may receive volume-based incentives, which are accounted for as variable consideration. We estimate these amounts based on the expected amount to be provided to customers and reduce revenue recognized.

Corporate and Other Revenue

Revenue in this segment primarily relates to Louisiana Timber Procurement Company, L.L.C. (LTP), a variable-interest entity that is 50% owned by PCA and 50% owned by Boise Cascade Company (Boise Cascade). 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. See Note 18, Transactions With Related Parties, for more information related to LTP.

The Company recognizes revenue within this segment when performance obligations under the terms of a contract with a customer are satisfied. This occurs with the transfer of control of our products at a specific point in time.

Practical Expedients and Exemption

Shipping and handling fees billed to a customer are recorded on a gross basis in "Net sales" with the corresponding shipping and handling costs included in "Cost of sales" in the concurrent period as the revenue is recorded. We expense sales commissions when incurred because the amortization period is one year or less. Sales commissions are recorded in "Selling, general, and administrative expenses".

We do not disclose the value of unsatisfied performance obligations for contracts with an original expected duration of one year or less.

5. Acquisitions

Englander dZignPak

On October 9, 2018, PCA acquired the assets of Englander dZignPak (“Englander”), a corrugated products manufacturer, for $56.3 million. The assets include two sheet plants located in Waco, Texas and Carrollton, Texas. 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 October 9, 2018 are included in our Packaging segment’s 2018 operating results. The total purchase price has been allocated to the assets acquired and liabilities assumed based on fair values at the date of acquisition, of which $28.6 million was allocated to goodwill (which is deductible for tax purposes) and $14.1 million to intangible assets (to be amortized over a weighted average life of approximately 9.7 years), primarily customer relationships, in the Packaging segment.

During the second quarter of 2019, we paid $1.4 million to the seller related to a final working capital adjustment. We recorded the adjustment as an increase to goodwill, which increased the purchase price to $57.7 million.

6. 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):

	Three Months Ended September 30, 2019	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018
Numerator:				
Net income	$ 179.8	$ 206.7	$ 560.2	$ 533.4
Less: Distributed and undistributed earnings allocated to participating securities	(1.3)	(1.6)	(4.2)	(4.1)
Net income attributable to common shareholders	$ 178.5	$ 205.1	$ 556.0	$ 529.3
Denominator:				
Weighted average basic common shares outstanding	93.9	93.7	93.8	93.7
Effect of dilutive securities	0.4	0.3	0.3	0.2
Weighted average diluted common shares outstanding	94.3	94.0	94.1	93.9
Basic income per common share	$ 1.90	$ 2.19	$ 5.93	$ 5.65
Diluted income per common share	$ 1.89	$ 2.18	$ 5.91	$ 5.64

7. Other Income (Expense), Net

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

	Three Months Ended September 30, 2019	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018
Asset disposals and write-offs (a)	$ (9.5)	$ (5.1)	$ (18.3)	$ (14.4)
Wallula mill restructuring (b)	—	(3.7)	(0.4)	(11.6)
Facilities closure and other costs (c)	—	(1.5)	—	(1.6)
Insurance deductible for property damage (d)	—	(0.5)	—	(0.5)
Acquisition and integration related costs (e)	—	(0.1)	—	(0.1)
Other	(2.2)	0.4	(2.8)	(4.0)
Total	$ (11.7)	$ (10.5)	$ (21.5)	$ (32.2)

(a) For 2019, includes $3.0 million of charges for the disposal of fixed assets related to the containerboard mill conversion at our DeRidder, Louisiana mill.

(b) Includes charges related to the discontinuation of production of uncoated free sheet and coated one-side grades at the Wallula, Washington mill in the second quarter of 2018 and the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.

(c) Includes charges consisting of closure costs related to corrugated products facilities.

(d) Includes charges for the property damage insurance deductible for a weather-related incident at one of our corrugated products facilities.

(e) Includes charges related to recent acquisitions.

8. Income Taxes

For the three months ended September 30, 2019 and 2018, we recorded $59.5 million and $67.4 million of income tax expense and had an effective tax rate of 24.9% and 24.6%, respectively. The increase in our effective tax rate for the three months ended September 30, 2019 compared with the same period in 2018 was due to higher state and local income taxes net of the federal benefit and higher employee compensation related impacts from the elimination of the performance based compensation exclusion in tax reform.

For the nine months ended September 30, 2019 and 2018, we recorded $184.4 million and $172.6 million of income tax expense and had an effective tax rate of 24.8% and 24.4%, respectively. The increase in our effective tax rate for the nine months ended September 30, 2019 compared with the same period in 2018 was due to higher state and local income taxes net of the federal benefit, higher employee compensation related impacts from restricted stock vests with a lower excess tax benefit (ASU 2016-09), and the elimination of the performance based compensation exclusion in tax reform.

Our effective tax rate may differ from the federal statutory income tax rate of 21.0% due primarily to the effect of state and local income taxes. During the nine months ended September 30, 2019 and 2018, cash paid for taxes, net of refunds received, was $138.2 million and $73.2 million, respectively. The increase in cash tax payments between the periods is primarily due to the 2018 use of a federal overpayment carryforward from the 2017 tax year resulting from tax reform related changes.

During the three and nine months ended September 30, 2019, there were no significant changes to our uncertain tax positions. For more information, see Note 7, Income Taxes, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2018 Annual Report on Form 10-K.

9. Inventories

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):

	September 30, 2019	December 31, 2018
Raw materials	$ 280.2	$ 307.8
Work in process	15.8	13.9
Finished goods	215.8	199.0
Supplies and materials	294.5	274.9
Inventories	$ 806.3	$ 795.6

10. Property, Plant, and Equipment

The components of property, plant, and equipment were as follows (dollars in millions):

	September 30, 2019	December 31, 2018
Land and land improvements	$ 167.5	$ 161.9
Buildings	815.4	795.5
Machinery and equipment	5,672.3	5,481.6
Construction in progress	173.3	176.7
Other	77.1	75.4
Property, plant and equipment, at cost	6,905.6	6,691.1
Less accumulated depreciation	(3,795.2)	(3,582.5)
Property, plant, and equipment, net	$ 3,110.4	$ 3,108.6

Depreciation expense for the three months ended September 30, 2019 and 2018 was $87.6 million and $89.0 million, respectively. During the nine months ended September 30, 2019 and 2018, depreciation expense was $258.6 million and $275.3 million, respectively. We recognized $0.2 million and $14.0 million of incremental depreciation expense during the nine months ended September 30, 2019 and 2018, respectively, as a result of shortening the useful lives of certain assets primarily related to the Wallula mill restructuring.

At September 30, 2019 and December 31, 2018, purchases of property, plant, and equipment included in accounts payable were $30.3 million and $24.7 million, respectively.

11. 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 September 30, 2019 and December 31, 2018, we had $863.5 million and $862.1 million of goodwill recorded in our Packaging segment, respectively. At both September 30, 2019 and December 31, 2018, we had $55.2 million of goodwill recorded in our Paper segment.

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

	Goodwill
Balance at January 1, 2019	$ 917.3
Acquisitions (a)	1.4
Balance at September 30, 2019	$ 918.7

(a) During the nine months ended September 30, 2019, the Company recorded a $1.4 million adjustment to increase the goodwill balance for the Company's October 2018 acquisition of Englander.

Intangible Assets

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

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

	September 30, 2019			December 31, 2018		
	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 (b)	10.2	$ 503.8	$ 171.3	10.9	$ 504.6	$ 144.5
Trademarks and trade names	9.6	34.8	19.9	10.1	34.8	18.3
Other	2.3	4.3	3.2	3.0	4.3	2.7
Total intangible assets (excluding goodwill)	10.1	$ 542.9	$ 194.4	10.8	$ 543.7	$ 165.5

(b) During the second quarter ended June 30, 2019, a corrugated products facility sold part of its operations which included existing inventory, certain production equipment, and customer relationships corresponding to the operations sold. As a result, the gross carrying amount for the customer relationships intangible asset was decreased by $0.7 million.

During the three months ended September 30, 2019 and 2018, amortization expense was $9.7 million and $10.2 million, respectively. During the nine months ended September 30, 2019 and 2018, amortization expense was $28.9 million and $30.7 million, respectively.

12. Accrued Liabilities

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

	September 30, 2019	December 31, 2018
Compensation and benefits	$ 121.7	$ 136.7
Customer volume discounts and rebates	27.4	25.2
Medical insurance and workers' compensation	26.9	27.5
Franchise, property, sales and use taxes	25.2	13.4
Environmental liabilities and asset retirement obligations	5.3	5.0
Severance, retention, and relocation	3.5	2.2
Other	10.1	12.4
Total	$ 220.1	$ 222.4

13. Debt

For the nine months ended September 30, 2019 and 2018, cash payments for interest were $53.4 million and $58.6 million, respectively.

Included in interest expense, net are amortization of treasury lock settlements and amortization of financing costs. For both the three months ended September 30, 2019 and 2018, amortization of treasury lock settlements was $1.3 million, and for the nine months ended September 30, 2019 and 2018, amortization of treasury locks was $3.9 million and $4.0 million, respectively. For both the three months ended September 30, 2019 and 2018, amortization of financing costs was $0.7 million, and during the nine months ended September 30, 2019 and 2018, amortization of financing costs was $2.1 million and $2.0 million, respectively.

At September 30, 2019, we had $2,496.8 million of fixed-rate senior notes outstanding. The fair value of our fixed-rate debt was estimated to be $2,607.0 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) within the fair value hierarchy, which is further defined in 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 our 2018 Annual Report on Form 10-K.

For more information on our long-term debt and interest rates on that debt, see Note 10, Debt, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2018 Annual Report on Form 10-K.

14. Employee Benefit Plans and Other Postretirement Benefits

The components of net periodic benefit cost for our pension plans were as follows (dollars in millions):

	Pension Plans			
	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Service cost	$ 6.1	$ 6.3	$ 18.4	$ 18.8
Interest cost	11.7	10.6	35.2	31.8
Expected return on plan assets	(13.0)	(14.2)	(39.1)	(42.5)
Net amortization of unrecognized amounts				
Prior service cost	1.6	1.8	4.7	5.2
Actuarial loss	1.7	2.3	5.3	7.0
Net periodic benefit cost	$ 8.1	$ 6.8	$ 24.5	$ 20.3

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 additional discretionary contributions based on the funded status of the plans, tax deductibility, income from operations, and other factors. During the three and nine months ended September 30, 2019 and 2018, payments to our nonqualified pension plans were insignificant. For the three and nine months ended September 30, 2019, we made contributions of $49.4 million and $54.0 million, respectively, to our qualified pension plans. We made contributions of $18.0 million and $21.2 million to our qualified plans during the three and nine months ended September 30, 2018, respectively.

For the three and nine months ended September 30, 2019 and 2018, the net periodic benefit cost for our postretirement plans was insignificant.

15. Share-Based Compensation

The Company has a long-term equity incentive plan, which allows for grants of restricted stock, performance awards, stock appreciation rights, and stock options 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 September 30, 2019, 0.4 million shares were available for future grants under the plan. Forfeitures are added back to the pool of shares of common stock available to be granted at a future date.

The following table presents restricted stock and performance unit award activity for the nine months ended September 30, 2019:

	Restricted Stock		Performance Units	
	Shares	Weighted Average Grant-Date Fair Value	Shares	Weighted Average Grant-Date Fair Value
Outstanding at January 1, 2019	743,591	$ 86.90	266,704	$ 90.01
Granted	199,185	95.45	115,608	96.98
Vested	(209,687)	68.21	(59,165)	67.84
Forfeitures	(8,836)	100.69	—	—
Outstanding at September 30, 2019	724,253	$ 94.50	323,147	$ 96.56

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):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Restricted stock	$ 3.5	$ 4.9	$ 19.1	$ 13.9
Performance units	2.4	1.7	5.4	3.5
Total share-based compensation expense	5.9	6.6	24.5	17.4
Income tax benefit	(1.5)	(1.6)	(6.2)	(4.4)
Share-based compensation expense, net of tax benefit	$ 4.4	$ 5.0	$ 18.3	$ 13.0

The fair value of restricted stock is determined based on the closing price of the Company’s stock on the grant date. Compensation expense, net of estimated forfeitures, is recorded over the requisite service period. As PCA’s Board of Directors has the ability to accelerate the vesting of these awards upon an employee's retirement, the Company accelerates the recognition of compensation expense for certain employees approaching normal retirement age.

Performance unit awards are earned based on the achievement of defined performance rankings of Return on Invested Capital (ROIC) or Total Shareholder Return (TSR) compared to ROIC and TSR for peer companies. For performance unit awards made in 2019 and 2018, in terms of grant date value, 50% used TSR as the performance measure and 50% used ROIC as the performance measure. The ROIC component of performance unit awards is valued based on the closing price of the stock on the grant date. As the ROIC component contains a performance condition, compensation expense, net of estimated forfeitures, is recorded over the requisite service period based on the most probable number of awards expected to vest. The TSR component of performance unit awards is valued using a Monte Carlo simulation as the TSR component contains a market condition. The Monte Carlo simulation estimates the fair value of the TSR component based on the expected term of the award, a risk-free interest rate, expected dividends, and expected volatility of the Company's common stock and the common stock of the peer companies. Compensation expense is recorded ratably over the expected term of the award.

The unrecognized compensation expense for all share-based awards at September 30, 2019 was as follows (dollars in millions):

	September 30, 2019	
	Unrecognized Compensation Expense	Remaining Weighted Average Recognition Period (in years)
Restricted stock	$ 31.0	3.0
Performance units	19.4	2.6
Total unrecognized share-based compensation expense	$ 50.4	2.9

16. Stockholders' Equity

Dividends

During the nine months ended September 30, 2019, we paid $223.9 million of dividends to shareholders. On August 20, 2019, PCA's Board of Directors declared a regular quarterly cash dividend of $0.79 per share of common stock, which was paid on October 15, 2019 to shareholders of record as of September 13, 2019. The dividend payment was $74.8 million.

Repurchases of Common Stock

On February 25, 2016, PCA announced that its Board of Directors authorized the repurchase of $200.0 million of the Company's outstanding common stock. 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.

The Company did not repurchase any shares of its common stock under this authority during the three and nine months ended September 30, 2019. At September 30, 2019, $193.0 million of the authorized amount remained available for repurchase of the Company's common stock.

Accumulated Other Comprehensive Income (Loss)

Changes in accumulated other comprehensive income (loss) (AOCI) by component were as 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 January 1, 2019	$ (0.4)	$ (10.2)	$ (0.3)	$ (127.9)	$ (138.8)
Amounts reclassified from AOCI, net of tax	—	2.9	—	7.1	10.0
Balance at September 30, 2019	$ (0.4)	$ (7.3)	$ (0.3)	$ (120.8)	$ (128.8)

Reclassifications out of AOCI were as follows (dollars in millions). Amounts in parentheses indicate expenses in the Consolidated Statements of Income:

Details about AOCI Components	Amounts Reclassified from AOCI				
	Three Months Ended September 30,		Nine Months Ended September 30,		
	2019	2018	2019	2018	
Unrealized loss on treasury locks, net (a)	$ (1.3)	$ (1.3)	$ (3.9)	$ (4.0)	See (a) below
	0.3	0.3	1.0	1.0	Tax benefit
	$ (1.0)	$ (1.0)	$ (2.9)	$ (3.0)	Net of tax
Unfunded employee benefit obligations (b)					
Amortization of prior service costs	$ (1.5)	$ (1.7)	$ (4.5)	$ (5.0)	See (b) below
Amortization of actuarial gains / (losses)	(1.7)	(2.3)	(5.0)	(6.9)	See (b) below
	(3.2)	(4.0)	(9.5)	(11.9)	Total before tax
	0.8	1.0	2.4	3.0	Tax benefit
	$ (2.4)	$ (3.0)	$ (7.1)	$ (8.9)	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 $5.2 million ($3.9 million after tax). For a discussion of treasury lock derivative instrument activity, 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 our 2018 Annual Report on Form 10-K.

(b) These AOCI components are included in the computation of net pension and postretirement benefit costs. See Note 14, Employee Benefit Plans and Other Postretirement Benefits, for additional information.

17. Concentrations of Risk

Our Paper segment has a long-standing commercial and contractual relationship with Office Depot, our largest customer in the paper business. This relationship exposes us to a significant concentration of business and financial risk. Our sales to Office Depot represent approximately 7% of our total Company sales revenue for both the nine month periods ended September 30, 2019 and 2018 and approximately 50% and 46% of our Paper segment sales revenue for both of those periods, respectively. For full year 2018, sales to Office Depot represented 47% of our Paper segment sales. At September 30, 2019 and December 31, 2018, we had $78.5 million and $66.7 million of accounts receivable due from Office Depot, respectively, which represents 8% and 7% of our total Company accounts receivable, respectively.

18. 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 $5.1 million at September 30, 2019 and $2.7 million at December 31, 2018. During the three months ended September 30, 2019 and 2018, we recorded $21.4 million and $22.4 million, respectively, and during the nine months ended September 30, 2019 and 2018, we recorded $62.7 million and $65.5 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".

During the three months ended September 30, 2019 and 2018, fiber purchases from related parties were $4.4 million and $4.1 million**,** respectively. Fiber purchases from related parties were $13.2 million and $12.8 million, respectively, during the nine months ended September 30, 2019 and 2018. 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.

19. 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 requires distinct operating and marketing strategies.

Each segment’s profits and losses are measured on operating profits before interest expense, net, non-operating pension expense, and income taxes. For certain allocated expenses, the related assets and liabilities remain in the Corporate and Other segment.

Selected financial information by reportable segment was as follows (dollars in millions):

Three Months Ended September 30, 2019	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)
Packaging	$ 1,482.9	$ 7.0	$ 1,489.9	$ 235.1 (a)
Paper	242.8	—	242.8	48.1
Corporate and Other	25.0	34.0	59.0	(20.4)
Intersegment eliminations	—	(41.0)	(41.0)	—
	$ 1,750.7	$ —	$ 1,750.7	262.8
Non-operating pension expense				(1.9)
Interest expense, net				(21.6)
Income before taxes				$ 239.3

Three Months Ended September 30, 2018	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)
Packaging	$ 1,528.3	$ 6.8	$ 1,535.1	$ 284.4 (c)
Paper	254.3	—	254.3	32.3 (c)
Corporate and Other	27.3	32.3	59.6	(18.2) (c)
Intersegment eliminations	—	(39.1)	(39.1)	—
	$ 1,809.9	$ —	$ 1,809.9	298.5
Non-operating pension expense				(0.5)
Interest expense, net				(23.9)
Income before taxes				$ 274.1

Nine Months Ended September 30, 2019	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)
Packaging	$ 4,451.5	$ 20.6	$ 4,472.1	$ 748.6 (a)(b)
Paper	720.3	—	720.3	132.5
Corporate and Other	72.5	98.9	171.4	(62.5)
Intersegment eliminations	—	(119.5)	(119.5)	—
	$ 5,244.3	$ —	$ 5,244.3	818.6
Non-operating pension expense				(6.0)
Interest expense, net				(68.0)
Income before taxes				$ 744.6

Nine Months Ended September 30, 2018	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)
Packaging	$ 4,414.7	$ 19.5	$ 4,434.2	$ 782.3 (c)
Paper	774.5	—	774.5	55.7 (c)
Corporate and Other	78.9	94.9	173.8	(57.0) (c)
Intersegment eliminations	—	(114.4)	(114.4)	—
	$ 5,268.1	$ —	$ 5,268.1	781.0
Non-operating pension expense				(1.6)
Interest expense, net				(73.4)
Income before taxes				$ 706.0

(a) The three and nine months ended September 30, 2019 include $3.0 million of charges for the disposal of fixed assets related to the containerboard mill conversion at our DeRidder, Louisiana mill.

(b) The nine months ended September 30, 2019 include $0.6 million of charges related to the announced second quarter 2018 discontinuation of uncoated free sheet and coated one-side grades at the Wallula, Washington mill associated with the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.

(c) The three and nine months ended September 30, 2018 include the following:

1. $4.0 million and $26.4 million, respectively, of charges related to the second quarter 2018 discontinuation of uncoated free sheet and coated one-side grades at the Wallula, Washington mill associated with the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.
2. $1.3 million and $1.8 million, respectively, of charges consisting of closure costs related to corrugated products facilities and a corporate administration facility.
3. $0.5 million of costs for the property damage insurance deductible for a weather-related incident at one of the corrugated products facilities.
4. $0.1 million of charges related to recent acquisitions.

20. 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, capital commitments, lease obligations, and purchase commitments for goods and services, and legal proceedings, all of which are discussed in Note 10, Debt, and 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 our 2018 Annual Report on Form 10-K.

Guarantees and Indemnifications

We provide guarantees, indemnifications, and other assurances to third parties in the normal course of our business. These include tort indemnifications, product guarantees, environmental assurances, and representations and warranties in commercial agreements. At September 30, 2019, 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.

DeRidder Mill Incident

On February 8, 2017, a tank located in the pulp mill at the Company's DeRidder, Louisiana facility exploded, resulting in three contractor fatalities and other injuries. The Company has been served with multiple lawsuits involving the decedents and other allegedly injured parties, alleging negligence on the part of the Company and claiming compensatory and punitive damages. The Company is vigorously defending these lawsuits. The Company believes that these suits are covered by its liability insurance policies, subject to an aggregate $1.0 million deductible. The incident remains under investigation and all lawsuits are in the early stages. Accordingly, the Company is unable to estimate a range of reasonable possible losses at this time.

The Company has also incurred property damage and business interruption losses and has claimed these losses, subject to a $5.0 million deductible, under its property damage and business interruption insurance policy. As of December 31, 2017, the Company finalized the claim with the insurance carrier and received $17.0 million in insurance proceeds during the first quarter of 2018. The insurance proceeds are included in net cash provided by operating activities ($14.5 million) and in net cash used for investing activities ($2.5 million) based on the nature of the reimbursement.

The Company has cooperated with investigations from the U.S. Occupational Health and Safety Administration (OSHA), the U.S. Chemical Safety Board (CSB) and the U.S. Environmental Protection Agency (EPA). The U.S. Chemical Safety Board completed its investigation and issued its report during the second quarter of 2018. The Company settled with OSHA during the second quarter of 2018 and paid approximately $40,000 in penalties for citations. The EPA investigation is ongoing.

Environmental Matters

On August 8, 2019, the EPA issued a notice of violation (NOV) alleging violations of the Clean Air Act, resulting from an inspection of our Wallula, Washington mill in September 2018. The EPA has agreed to discuss the matters involved in the NOV with the Company prior to taking enforcement action and such discussions are ongoing. While we cannot predict with certainty the ultimate resolution of this matter, we believe that we have taken appropriate action to address the matters raised by the EPA in the NOV and that this matter will not result in a material adverse effect on our financial condition, results of operations or cash flows.

Legal Proceedings

We are also a party to various 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.

Item 2. *MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS*

This management's discussion and analysis includes statements regarding our expectations with respect to our future performance, expected business conditions, liquidity, and capital resources. Such statements, along with any other statements that are not historical in nature, are forward-looking. These forward-looking statements are subject to numerous risks and uncertainties, including, but not limited to, the risks and uncertainties described in our 2018 Annual Report on Form 10-K, as well as those factors listed in other documents we file with the Securities and Exchange Commission (SEC). We do not assume any obligation to update any forward-looking statement. Our actual results may differ materially from those contained in or implied by any of the forward-looking statements in this Form 10-Q. Please see "Forward Looking Statements" elsewhere in this Item 2.

Overview

PCA is the third largest producer of containerboard products and the third largest producer of uncoated freesheet paper in North America. We operate six containerboard mills, two paper mills, and 94 corrugated products manufacturing plants. Our containerboard mills produce linerboard and corrugating medium, which are papers primarily used in the production of corrugated 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, 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 are headquartered in Lake Forest, Illinois and operate primarily in the United States.

This Item 2 is intended to supplement, and should be read in conjunction with, "Management's Discussion and Analysis of Financial Condition and Results of Operations" included in our 2018 Annual Report on Form 10-K.

Executive Summary

Third quarter net sales were $1.75 billion in 2019 and $1.81 billion in 2018. We reported $180 million of net income, or $1.89 per diluted share, during the third quarter of 2019, compared to $207 million, or $2.18 per diluted share, during the same period in 2018. Net income included $2 million of expense for special items in the third quarter of 2019, compared to $4 million of expense in 2018 (discussed below). Excluding special items, net income was $182 million, or $1.92 per diluted share, during the third quarter of 2019, compared to $211 million, or $2.23 per diluted share, in the third quarter of 2018. The decrease was driven primarily by lower prices and mix and lower volume in our Packaging segment, lower volume in our Paper segment, higher operating and converting costs, and other costs. These items were partially offset by higher prices and mix in our Paper segment, lower annual outage expenses, and lower freight and logistics expenses. For additional detail on special items included in reported GAAP results, as well as segment income (loss) excluding special items, earnings before non-operating pension expense, interest, income taxes, and depreciation, amortization, and depletion (EBITDA), and EBITDA excluding special items, see "Item 2. Reconciliations of Non-GAAP Financial Measures to Reported Amounts."

Packaging segment income from operations was $235 million in the third quarter of 2019, compared to $284 million in the third quarter of 2018. Packaging segment EBITDA excluding special items was $325 million in the third quarter of 2019 compared to $378 million in the third quarter of 2018. The decrease in EBITDA excluding special items was due primarily to lower prices and mix, lower sales and production volumes and higher operating and converting costs, partially offset by lower annual outage expenses and lower freight and logistic expenses.

Paper segment income from operations was $48 million in the third quarter of 2019, compared to $32 million in the third quarter of 2018. Paper segment EBITDA excluding special items was $58 million in the third quarter of 2019, compared to $44 million in the third quarter of 2018. The increase in EBITDA excluding special items was due to higher prices and mix, lower annual outage expenses, and lower freight costs, partially offset by lower sales and production volumes.

During the first nine months of 2019, we reported $560 million of net income, or $5.91 per diluted share, compared to $533 million of net income, or $5.64 per diluted share, during the same period in 2018. Net income included $3 million of expense for special items, compared to $22 million of expense for special items during the same period in 2018 (discussed below). Excluding special items, we recorded $563 million of net income, or $5.94 per diluted share, during the first nine months of 2019, compared to $555 million of net income, or $5.87 per diluted share, in the first nine months of 2018. The increase was driven primarily by higher corrugated products prices and mix, higher containerboard and corrugated products sales and production volumes, higher Paper segment prices and mix, and lower annual outage expenses, and lower depreciation expense, partially offset by lower containerboard domestic and export prices and mix, lower volumes in our Paper segment, primarily related to the exit from the paper business at the Wallula Mill, higher operating and converting costs, and higher fixed expenses.

Packaging segment income from operations was $749 million in the first nine months of 2019, compared to $782 million in the same period in 2018. Packaging segment EBITDA excluding special items was $1.01 billion in the first nine months of 2019, compared to $1.05 billion in the first nine months of 2018. The decrease related primarily to higher operating and converting costs, lower domestic and export containerboard prices and mix, and other expenses, partially offset by higher corrugated products prices and mix, higher containerboard and corrugated products sales and production volumes, and lower annual outage expense.

Paper segment income from operations was $133 million in the first nine months of 2019, compared to $56 million in the first nine months of 2018. Paper segment EBITDA excluding special items was $161 million in the first nine months of 2019, compared to $113 million in the same period in 2018. The increase was due primarily to higher prices and mix and lower operating costs, partially offset by lower sales and production volumes, primarily related to the exit from the paper business at the Wallula Mill, and higher annual outage costs.

During the second quarter of 2018, the Company discontinued production of uncoated freesheet and coated one-side grades at its Wallula, Washington mill and converted the No. 3 paper machine to a 400,000 ton-per-year virgin kraft linerboard machine. The Company took an extended outage on the machine to complete the conversion in the fourth quarter of 2018. The Company incurred charges in both the Packaging and Paper segments during the first quarter of 2019 and the first, second, and third quarters of 2018 relating to these activities as described below under "Special Items and Earnings per Diluted Share, Excluding Special Items." The Company does not expect to incur further related charges going forward.

Special Items and Earnings per Diluted Share, Excluding Special Items

A reconciliation of reported earnings per diluted share to earnings per diluted share, excluding special items, for the three and nine months ended September 30, 2019 and 2018 are as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	**2018**	**2019**	**2018**
Earnings per diluted share, as reported	$ 1.89	$ 2.18	$ 5.91	$ 5.64
Special items:				
DeRidder mill fixed asset disposals (a)	0.02	—	0.02	—
Wallula mill restructuring (b)	—	0.04	0.01	0.22
Facilities closure and other costs (c)	—	0.01	—	0.01
Total special items	0.02	0.05	0.03	0.23
Earnings per diluted share, excluding special items	$ 1.92 (d)	$ 2.23	$ 5.94	$ 5.87

(a) For the three and nine months ended September 30, 2019, includes $3.0 million of charges for the disposal of fixed assets related to the containerboard mill conversion at our DeRidder, Louisiana mill.

(b) For the nine months ended September 30, 2019 and the three and nine months ended September 30, 2018, includes $0.6 million, $4.0 million, and $26.4 million, respectively, of charges related to the discontinuation of production of uncoated free sheet and coated one-side grades at the Wallula, Washington mill in the second quarter of 2018 and conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.

(c) For the three and nine months ended September 30, 2018, includes $1.3 million and $1.8 million, respectively, of charges consisting of closure costs related to corrugated products facilities and a corporate administration facility.

(d) Amount does not foot due to rounding.

Included in this Item 2 are various non-GAAP financial measures, including diluted EPS excluding special items, segment income excluding special items and EBITDA excluding special items. Management excludes special items as it believes these items are not necessarily reflective of the ongoing results of operations of our business. 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, because these measures assist in providing a meaningful comparison between periods presented and because these measures are frequently used by investors and other interested parties in the evaluation of companies and the performance of their segments. A 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 in Item 2 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 North American industry-wide corrugated products shipments per work day were up 1.5% during the third quarter of 2019 compared to the same quarter of 2018. Reported industry containerboard production decreased 4.9% compared to the third quarter of 2018. Reported industry containerboard inventories at the end of the third quarter of 2019 were approximately 2.5 million tons, down 3.4% compared to the same period in 2018. Reported containerboard export shipments were down 16.9% compared to the third quarter of 2018. Prices reported by trade publications decreased by $10 per ton for linerboard in March, May, and June 2019, and corrugating medium decreased $20 per ton in January and $10 per ton in May and June 2019.

Trade publications reported North American uncoated freesheet paper shipments were down 9.8% in the third quarter of 2019, compared to the same quarter of 2018. Average prices reported by a trade publication for cut size office papers increased $35 per ton in both the second and third quarters of 2019. Average prices were higher by $46 per ton, or 4.3%, in the third quarter of 2019, compared to the third quarter of 2018.

Outlook

Looking ahead to the fourth quarter of 2019, in our Packaging segment we expect slightly lower prices as the remaining impact of the published domestic containerboard price decreases from earlier this year work through our system, and lower export prices. We also expect a seasonally less rich mix in corrugated products and slightly lower shipments with one less shipping day than the third quarter of 2019. Containerboard sales volume is expected to be lower. We expect to match production to our demand as well as increase our containerboard inventory levels to prepare for first quarter 2020 scheduled maintenance outages at our three largest containerboard mills. In our Paper segment, volumes are expected to be seasonally lower along with lower average prices when compared to the third quarter of 2019. With anticipated colder weather, energy costs are expected to be higher, and we expect certain other operating and converting costs to be higher as well, which includes the costs associated with the start-up of our new Richland, Washington box plant during the quarter. Scheduled maintenance outage costs are also expected to be higher than the third quarter of 2019. Considering these items, we expect fourth quarter earnings to be lower than the third quarter of 2019.

Results of Operations

Three Months Ended September 30, 2019, compared to Three Months Ended September 30, 2018

The historical results of operations of PCA for the three months ended September 30, 2019 and 2018 are set forth below (dollars in millions):

	Three Months Ended September 30,		
	2019	**2018**	**Change**
Packaging	$ 1,489.9	$ 1,535.1	$ (45.2)
Paper	242.8	254.3	(11.5)
Corporate and Other	59.0	59.6	(0.6)
Intersegment eliminations	(41.0)	(39.1)	(1.9)
Net sales	$ 1,750.7	$ 1,809.9	$ (59.2)
Packaging	$ 235.1	$ 284.4	$ (49.3)
Paper	48.1	32.3	15.8
Corporate and Other	(20.4)	(18.2)	(2.2)
Income from operations	$ 262.8	$ 298.5	$ (35.7)
Non-operating pension expense	(1.9)	(0.5)	(1.4)
Interest expense, net	(21.6)	(23.9)	2.3
Income before taxes	239.3	274.1	(34.8)
Income tax provision	(59.5)	(67.4)	7.9
Net income	$ 179.8	$ 206.7	$ (26.9)
Non-GAAP Measures (a)			
Net income excluding special items	$ 182.1	$ 211.1	$ (29.0)
Consolidated EBITDA	360.7	400.0	(39.3)
Consolidated EBITDA excluding special items	363.7	405.8	(42.1)
Packaging EBITDA	321.6	373.0	(51.4)
Packaging EBITDA excluding special items	324.6	378.2	(53.6)
Paper EBITDA	57.7	43.5	14.2
Paper EBITDA excluding special items	57.7	44.1	13.6

(a) See “Reconciliations of Non-GAAP Financial Measures to Reported Amounts” included in this Item 2 for a reconciliation of non-GAAP measures to the most comparable GAAP measure.

Net Sales

Net sales decreased $59 million, or 3.3%, to $1,751 million during the three months ended September 30, 2019, compared to $1,810 million during the same period in 2018.

Packaging. Net sales decreased $45 million, or 2.9%, to $1,490 million, compared to $1,535 million in the third quarter of 2018 due to lower containerboard and corrugated products prices and mix ($62 million), partially offset by increased corrugated products volume ($16 million). In the third quarter of 2019, our domestic containerboard prices decreased 6.6%, while export prices decreased 27.6%, compared to the same period in 2018. In the third quarter of 2019, export and domestic containerboard outside shipments decreased 13.4%, compared to the third quarter of 2018. Total corrugated products shipments were up 1.9%, compared to the same period in 2018 with the same number of workdays.

Paper. Net sales during the three months ended September 30, 2019 decreased $11 million, or 4.5%, to $243 million, compared to $254 million in the third quarter of 2018, due to decreased volume ($22 million), primarily due to the exit from the paper business at Wallula, partially offset by favorable changes in prices and mix ($11 million).

Gross Profit

Gross profit decreased $32 million during the three months ended September 30, 2019, compared to the same period in 2018. The decrease was driven primarily by lower containerboard and corrugated products prices and mix, lower containerboard sales and production volumes, lower volumes in our Paper segment, and higher operating and converting costs, partially offset by higher prices and mix in our Paper segment and lower annual outage costs. In the three months ended September 30, 2019, gross profit included no significant special items, compared to $0.3 million of Wallula Mill restructuring charges in the same period last year.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses (“SG&A”) increased $3 million during the three months ended September 30, 2019, compared to the same period in 2018. The increase was primarily due to higher employee salaries and fringes.

Other Income (Expense), Net

Other income (expense), net, for the three months ended September 30, 2019 and 2018 are set forth below (dollars in millions):

	Three Months Ended September 30,	
	2019	2018
Asset disposals and write-offs	$ (9.5)	$ (5.1)
Wallula mill restructuring	—	(3.7)
Facilities closure and other costs	—	(1.5)
Insurance deductible for property damage	—	(0.5)
Acquisition and integration related costs	—	(0.1)
Other	(2.2)	0.4
Total	$ (11.7)	$ (10.5)

We discuss these items in more detail in Note 7, Other Income (Expense), Net of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in “Part I, Item1. Financial Statements” of this Form 10-Q.

Income from Operations

Income from operations decreased $36 million, or 12.0%, during the three months ended September 30, 2019, compared to the same period in 2018. The third quarter of 2019 included $3 million of special item expense related to DeRidder fixed asset disposals, compared to $6 million of expense primarily related to the Wallula Mill restructuring in the third quarter of 2018.

Packaging. Packaging segment income from operations decreased $49 million to $235 million, compared to $284 million during the three months ended September 30, 2018. The decrease related primarily to lower domestic and export containerboard prices ($25 million), lower corrugated products prices and mix ($20 million), lower containerboard sales and production volumes ($7 million), higher operating and converting costs ($6 million), and other fixed costs ($2 million), partially offset by lower annual outage expenses ($8 million) and lower freight expenses ($1 million). Special items during the third quarter of 2019 included $3 million of DeRidder fixed asset disposals, compared to $6 million for the third quarter of 2018 primarily related to Wallula Mill restructuring and corrugated facility closure charges.

Paper. Paper segment income from operations increased $16 million to $48 million, compared to $32 million during the three months ended September 30, 2018. The increase primarily related to higher prices and mix ($11 million), lower annual outage expenses ($4 million), and lower freight expenses ($2 million), partially offset by lower sales and production volumes ($3 million). There were no material special items in the Paper segment in the third quarter of 2019. Special items for the third quarter 2018 included expense of $1 million of Wallula Mill restructuring charges.

Non-Operating Pension Expense, Interest Expense, Net and Income Taxes

Non-operating pension expense increased $1 million during the three months ended September 30, 2019, compared to the same period in 2018. The increase in non-operating pension expense was primarily related to the 2018 asset performance (i.e. lower asset balances resulted in lower than expected return) and the amortization of the 2018 losses.

Interest expense, net decreased $2 million during the three months ended September 30, 2019, compared to the same period in 2018. The decrease in interest expense, net was primarily due to higher interest income as a result of higher cash balances in 2019.

During the three months ended September 30, 2019, we recorded $59 million of income tax expense, compared to $67 million of expense during the three months ended September 30, 2018. The effective tax rate for the three months ended September 30, 2019 and 2018 was 24.9% and 24.6%, respectively. The increase in our effective tax rate was due to higher state and local income taxes net of the federal benefit and higher employee compensation related impacts from the elimination of the performance based exclusion in tax reform.

Nine Months Ended September 30, 2019, compared to Nine Months Ended September 30, 2018

The historical results of operations of PCA for the nine months ended September 30, 2019 and 2018 are set forth below (dollars in millions):

	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018	Change
Packaging	$ 4,472.1	$ 4,434.2	$ 37.9
Paper	720.3	774.5	(54.2)
Corporate and Other	171.5	173.8	(2.3)
Intersegment eliminations	(119.6)	(114.4)	(5.2)
Net sales	$ 5,244.3	$ 5,268.1	$ (23.8)
Packaging	$ 748.6	$ 782.3	$ (33.7)
Paper	132.5	55.7	76.8
Corporate and Other	(62.5)	(57.0)	(5.5)
Income from operations	$ 818.6	$ 781.0	$ 37.6
Non-operating pension expense	(6.0)	(1.5)	(4.5)
Interest expense, net	(68.0)	(73.5)	5.5
Income before taxes	744.6	706.0	38.6
Income tax provision	(184.4)	(172.6)	(11.8)
Net income	$ 560.2	$ 533.4	$ 26.8
Non-GAAP Measures (a)			
Net income excluding special items	$ 563.0	$ 555.0	$ 8.0
Consolidated EBITDA	1,107.1	1,094.7	12.4
Consolidated EBITDA excluding special items	1,110.5	1,109.9	0.6
Packaging EBITDA	1,003.8	1,038.6	(34.8)
Packaging EBITDA excluding special items	1,007.0	1,049.0	(42.0)
Paper EBITDA	160.6	108.2	52.4
Paper EBITDA excluding special items	160.8	113.0	47.8

a) See “Reconciliations of Non-GAAP Financial Measures to Reported Amounts” included in this Item 2 for a reconciliation of non-GAAP measures to the most comparable GAAP measure.

Net Sales

Net sales decreased $24 million, or 0.5%, to $5,244 million during the nine months ended September 30, 2019, compared to $5,268 million during the same period in 2018.

Packaging. Net sales increased $38 million, or 0.9%, to $4,472 million, compared to $4,434 million in the nine months ended September 30, 2018, due to higher corrugated products prices and mix ($56 million) and increased corrugated products volume ($31 million), partially offset by lower domestic and export containerboard price and mix ($37 million) and lower containerboard volume ($12 million). Our domestic containerboard prices in the first nine months of 2019 decreased 2.4%, and export prices decreased 17.5%, compared to the same period in 2018. In the first nine months of 2019, containerboard outside shipments decreased 14.3% compared to the same period in 2018. Total corrugated products shipments were up 0.4%, with one less work day in the first nine months of 2019, compared to the first nine months of 2018 and up 1.0% per workday. Prices reported by trade publications decreased by $10 per ton for linerboard in March, May, and June, and corrugating medium decreased $20 per ton in January and $10 per ton in May and June 2019.

Paper. Net sales during the nine months ended September 30, 2019 decreased $54 million, or 7.0%, to $720 million, compared to $775 million in the nine months ended September 30, 2018, due to lower volume ($110 million), partially offset by higher prices and mix ($56 million).

Gross Profit

Gross profit increased $41 million during the nine months ended September 30, 2019, compared to the same period in 2018. The increase was driven primarily by higher corrugated products prices and mix, higher containerboard and corrugated products sales and production volumes, higher Paper segment prices and mix, and lower annual outage expenses, partially offset by lower containerboard domestic and export prices and mix, lower volumes in our Paper segment, primarily related to the exit from the paper business at the Wallula Mill, higher operating and converting costs, and higher fixed expenses. In the nine months ended September 30, 2019, gross profit included no significant special items, compared to $14 million of Wallula Mill restructuring charges in the same period last year.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses ("SG&A") increased $14 million during the nine months ended September 30, 2019, compared to the same period in 2018. The increase was primarily due to higher employee salaries and fringes.

Other Income (Expense), Net

Other income (expense), net, for the nine months ended September 30, 2019 and 2018 are set forth below (dollars in millions):

	Nine Months Ended September 30,	
	2019	2018
Asset disposals and write-offs	$ (18.3)	$ (14.4)
Wallula mill restructuring	(0.4)	(11.6)
Facilities closure and other costs	—	(1.6)
Insurance deductible for property damage	—	(0.5)
Acquisition and integration related costs	—	(0.1)
Other	(2.8)	(4.0)
Total	$ (21.5)	$ (32.2)

We discuss these items in more detail in Note 7, Other Income (Expense), Net of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in "Part I, Item1. Financial Statements" of this Form 10-Q.

Income from Operations

Income from operations increased $38 million, or 4.8%, during the nine months ended September 30, 2019, compared to the same period in 2018. The first nine months of 2019 included $4 million of expense for special items, primarily related to the disposal of fixed assets at the DeRidder Mill. The nine months ended September 30, 2018 included $29 million of expense for special items, primarily related to the Wallula Mill restructuring.

Packaging. Packaging segment income from operations decreased $34 million to $749 million during the first nine months of 2019 compared to the same period last year. The decrease related primarily to higher operating and converting costs ($89 million), lower domestic and export containerboard prices and mix ($37 million), and other fixed expenses ($17 million), partially offset by higher corrugated products prices and mix ($48 million), higher containerboard and corrugated products sales and production volumes ($40 million), and lower annual outage expense ($12 million). The first nine months of 2019 included $3 million of special item expense related to the disposal of fixed assets at the DeRidder Mill, compared to $9 million of Wallula Mill restructuring charges and $2 million of closure costs related to corrugated products facilities and other costs during the same period of 2018.

Paper. Paper segment income from operations increased $77 million to $133 million, compared to the nine months ended September 30, 2018. The increase primarily related to higher prices and mix ($57 million), lower operating costs ($16 million), lower freight expenses ($5 million), and lower depreciation ($11 million), partially offset by lower sales and production volume ($25 million) and higher annual outage expense ($5 million). There were an insignificant amount of special items in the Paper segment in the first nine months of 2019. The first nine months of 2018 included $18 million of Wallula Mill restructuring charges.

Non-Operating Pension Expense, Interest Expense, Net and Income Taxes

Non-operating pension expense increased $4 million during the nine months ended September 30, 2019, compared to the same period in 2018. The increase in non-operating pension expense was primarily related to the 2018 asset performance (i.e. lower asset balances resulted in lower than expected return) and the amortization of the 2018 losses.

Interest expense, net decreased $5 million during the nine months ended September 30, 2019, compared to the same period in 2018. The decrease in interest expense, net was primarily due to higher interest income as a result of higher cash balances in 2019 and lower interest, as the Company repaid $150 million of notes in March 2018.

During the nine months ended September 30, 2019, we recorded $184 million of income tax expense, compared to $173 million of expense during the nine months ended September 30, 2018. The effective tax rate for the nine months ended September 30, 2019 and 2018 was 24.8% and 24.4%, respectively. The increase in our effective tax rate was due to higher state and local income taxes net of the federal benefit, higher employee compensation related impacts from restricted stock vests with a lower excess tax benefit (ASU 2016-09), and the elimination of the performance based exclusion in tax reform.

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. At September 30, 2019, we had $738 million of cash and $329 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, acquisitions, debt service, common stock dividends, and repurchases of common stock. 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, refinance, extend, or replace such debt or credit 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):

	Nine Months Ended September 30, 2019	Nine Months Ended September 30, 2018	Change
Net cash provided by (used for):			
Operating activities	$ 878.2	$ 834.5	$ 43.7
Investing activities	(268.3)	(405.3)	137.0
Financing activities	(233.1)	(352.3)	119.2
Net increase in cash and cash equivalents	$ 376.8	$ 76.9	$ 299.9

Operating Activities

Our operating cash flow is primarily driven by our earnings and changes in operating assets and liabilities, such as accounts receivable, inventories, accounts payable and other accrued liabilities, as well as factors described below. 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.

During the nine months ended September 30, 2019, net cash provided by operating activities was $878 million, compared to $834 million in the same period in 2018, an increase of $44 million. Cash increased by $51 million due to changes in operating assets and liabilities, primarily due to the following: a smaller increase in accounts receivable in 2019 compared to 2018 related to the timing of collections in the Packaging segment, partially offset by: (a) lower taxes paid in 2018 compared to 2019 due to the 2018 use of a federal overpayment carryforward from the 2017 tax year resulting from Federal Tax Reform, and (b) a decrease in accounts payable levels related to the timing of payments in 2019. Cash from operations excluding changes in cash used for operating assets and liabilities decreased $7 million, primarily due to higher pension contributions made in 2019 compared to 2018 of $33 million, partially offset by higher income from operations as discussed above.

Investing Activities

We used $268 million for investing activities during the nine months ended September 30, 2019 compared to $405 million during the same period in 2018. We spent $264 million for internal capital investments during the nine months ended September 30, 2019, compared to $404 million during the same period in 2018.

We expect capital investments in 2019 to be between $385 million and $395 million, not including acquisitions. These expenditures could increase or decrease as a result of a number of factors, including our financial results, strategic opportunities, future economic conditions, and our regulatory compliance requirements. We currently estimate capital expenditures to comply with environmental regulations will be about $10 million in 2019. 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 "Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of our 2018 Annual Report on Form 10-K.

Financing Activities

During the nine months ended September 30, 2019, net cash used for financing activities was $233 million, compared to $352 million during the same period in 2018. The decrease primarily relates to the $150 million repayment from cash on hand at maturity of our 6.5% senior notes that were due March 2018. In the first nine months of 2019, we paid $224 million of dividends compared with $193 million of dividends paid during the first nine months of 2018. On May 15, 2018, PCA's Board of Directors announced an increase in the regular quarterly cash dividend to $0.79 per share from the previous $0.63 per share dividend, beginning with the dividend paid on July 13, 2018.

For more information about our debt, see Note 10, Debt, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2018 Annual Report on Form 10-K.

Contractual Obligations

There have been no material changes to the contractual obligations table disclosed in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" of our 2018 Annual Report on Form 10-K.

Reconciliations of Non-GAAP Financial Measures to Reported Amounts

Income from operations excluding special items, net income excluding special items, EBITDA, and EBITDA excluding special items are non-GAAP financial measures. Management excludes special items, as it believes that these items are not necessarily reflective of the ongoing operations of our business. These measures are presented 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, because these measures assist in providing a meaningful comparison between periods and because these measures are frequently used by investors and other interested parties in the evaluation of companies and the performance of their segments. 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 three and nine months ended September 30, 2019 and 2018 follow (dollars in millions):

	Three Months Ended September 30,					
	2019			2018		
	Income before Taxes	Income Taxes	Net Income	Income before Taxes	Income Taxes	Net Income
As reported in accordance with GAAP	$ 239.3	$ (59.5)	$ 179.8	$ 274.1	$ (67.4)	$ 206.7
Special items:						
DeRidder mill fixed asset disposals (a)	3.0	(0.7)	2.3	—	—	—
Wallula mill restructuring (c)	—	—	—	4.0	(1.1)	2.9
Facilities closure and other costs (c)	—	—	—	1.3	(0.3)	1.0
Insurance deductible for property damage (c)	—	—	—	0.5	(0.1)	0.4
Acquisition and integration related costs (c)	—	—	—	0.1	—	0.1
Total special items	3.0	(0.7)	2.3	5.9	(1.5)	4.4
Excluding special items	$ 242.3	$ (60.2)	$ 182.1	$ 280.0	$ (68.9)	$ 211.1

	Nine Months Ended September 30,					
	2019			2018		
	Income before Taxes	Income Taxes	Net Income	Income before Taxes	Income Taxes	Net Income
As reported in accordance with GAAP	$ 744.6	$ (184.4)	$ 560.2	$ 706.0	$ (172.6)	$ 533.4
Special items:						
DeRidder mill fixed asset disposals (a)	3.0	(0.7)	2.3	—	—	—
Wallula mill restructuring (b)(c)	0.6	(0.1)	0.5	26.4	(6.6)	19.8
Facilities closure and other costs (c)	—	—	—	1.8	(0.5)	1.3
Insurance deductible for property damage (c)	—	—	—	0.5	(0.1)	0.4
Acquisition and integration related costs (c)	—	—	—	0.1	—	0.1
Total special items	3.6	(0.8)	2.8	28.8	(7.2)	21.6
Excluding special items	$ 748.2	$ (185.2)	$ 563.0	$ 734.8	$ (179.8)	$ 555.0

(a) The three and nine months ended September 30, 2019 include $3.0 million of charges for the disposal of fixed assets related to the containerboard mill conversion at our DeRidder, Louisiana mill.

(b) The nine months ended September 30, 2019 include $0.6 million of charges related to the announced second quarter 2018 discontinuation of uncoated free sheet and coated one-side grades at the Wallula, Washington mill associated with the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.

(c) The three and nine months ended September 30, 2018 include the following:

1. $4.0 million and $26.4 million, respectively, of charges related to the announced second quarter 2018 discontinuation of uncoated free sheet and coated one-side grades at the Wallula, Washington mill associated with the conversion of the No. 3 paper machine to a high-performance 100% virgin kraft linerboard machine.
2. $1.3 million and $1.8 million, respectively, of charges consisting of closure costs related to corrugated products facilities and a corporate administration facility.
3. $0.5 million of costs for the property damage insurance deductible for a weather-related incident at one of the corrugated products facilities.
4. $0.1 million of charges related to recent acquisitions.

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income	$ 179.8	$ 206.7	$ 560.2	$ 533.4
Non-operating pension expense	1.9	0.5	6.0	1.6
Interest expense, net	21.6	23.9	68.0	73.4
Income tax provision	59.5	67.4	184.4	172.6
Depreciation, amortization, and depletion	97.9	101.5	288.5	313.7
EBITDA	$ 360.7	$ 400.0	$ 1,107.1	$ 1,094.7
Special items:				
DeRidder mill fixed asset disposals	3.0	—	3.0	—
Wallula mill restructuring	—	3.7	0.4	13.0
Facilities closure and other costs	—	1.5	—	1.6
Insurance deductible for property damage	—	0.5	—	0.5
Acquisition and integration related costs	—	0.1	—	0.1
Total special items	3.0	5.8	3.4	15.2
EBITDA excluding special items	$ 363.7	$ 405.8	$ 1,110.5	$ 1,109.9

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Packaging				
Segment income	$ 235.1	$ 284.4	$ 748.6	$ 782.3
Depreciation, amortization, and depletion	86.5	88.6	255.2	256.3
EBITDA	321.6	373.0	1,003.8	1,038.6
DeRidder mill fixed asset disposals	3.0	—	3.0	—
Wallula mill restructuring	—	3.1	0.2	8.2
Facilities closure and other costs	—	1.5	—	1.6
Property damage insurance deductible	—	0.5	—	0.5
Acquisition and integration related costs	—	0.1	—	0.1
EBITDA excluding special items	**$ 324.6**	**$ 378.2**	**$ 1,007.0**	**$ 1,049.0**
Paper				
Segment income	$ 48.1	$ 32.3	$ 132.5	$ 55.7
Depreciation, amortization, and depletion	9.6	11.2	28.1	52.5
EBITDA	57.7	43.5	160.6	108.2
Wallula mill restructuring	—	0.6	0.2	4.8
EBITDA excluding special items	**$ 57.7**	**$ 44.1**	**$ 160.8**	**$ 113.0**
Corporate and Other				
Segment loss	$ (20.4)	$ (18.2)	$ (62.5)	$ (57.0)
Depreciation, amortization, and depletion	1.8	1.7	5.2	4.9
EBITDA	(18.6)	(16.5)	(57.3)	(52.1)
EBITDA excluding special items	**$ (18.6)**	**$ (16.5)**	**$ (57.3)**	**$ (52.1)**
EBITDA	**$ 360.7**	**$ 400.0**	**$ 1,107.1**	**$ 1,094.7**
EBITDA excluding special items	**$ 363.7**	**$ 405.8**	**$ 1,110.5**	**$ 1,109.9**

Market Risk and Risk Management Policies

PCA is exposed to the impact of interest rate changes and changes in the market value of its financial instruments. We periodically enter into derivatives to minimize these risks, but not for trading purposes. We were not a party to any derivatives-based arrangements at September 30, 2019. 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 our 2018 Annual Report on Form 10-K.

At September 30, 2019, interest rates on 100% of PCA's outstanding debt are fixed.

Off-Balance-Sheet Activities

The Company does not have any off-balance sheet arrangements as of September 30, 2019.

Environmental Matters

There have been no material changes to the disclosure set forth in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations - Environmental Matters" filed with our 2018 Annual Report on Form 10-K.

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, pensions and other postretirement benefits, goodwill and intangible assets, long-lived asset impairment, environmental liabilities, and income taxes, 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.

PCA has included in its 2018 Annual Report on Form 10-K a discussion of its critical accounting policies and estimates which require management's most difficult, subjective, or complex judgments used in the preparation of its consolidated financial statements. PCA has not had any changes to these critical accounting estimates during the first nine months of 2019.

New and Recently Adopted Accounting Standards

For a listing of our new and recently adopted accounting standards, see Note 2, New and Recently Adopted Accounting Standards, of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in "Part I, Item 1. Financial Statements" of this Form 10-Q.

Forward-Looking Statements

Some of the statements in this Quarterly Report on Form 10-Q, and in particular, statements found in this 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 the following:

- the impact of general economic conditions;
- the impact of acquired businesses and risks and uncertainties regarding operation, expected benefits and integration of such businesses;
- containerboard, corrugated products, and white paper general industry conditions, including competition, product demand, product pricing, and input costs;
- fluctuations in wood fiber and recycled fiber costs;
- fluctuations in purchased energy costs;
- the possibility of unplanned outages or interruptions at our principal facilities;
- legislative or regulatory actions or requirements, particularly concerning environmental or tax matters.

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 occur, what impact they will have on our results of operations or financial condition. Given these uncertainties, investors are cautioned not to place undue reliance on these forward-looking statements. We expressly disclaim any obligation to publicly revise any forward-looking statements that have been made to reflect the occurrence of events after the date hereof. For a discussion of other factors, risks and uncertainties that may affect our business, see Item 1A. Risk Factors included in our Annual Report on Form 10-K for the year ended December 31, 2018.

Item 3. *QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK*

For a discussion of market risks related to PCA, see Part I, Item 2, “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Market Risk and Risk Management Policies” in this Quarterly Report on Form 10-Q.

Item 4. *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 September 30, 2019. 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 September 30, 2019.

PART II
OTHER INFORMATION

Item 1. *LEGAL PROCEEDINGS*

The disclosure set forth under the caption "Legal Proceedings" in Note 20, Commitments, Guarantees, Indemnifications and Legal Proceedings, of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in "Part I, Item 1. Financial Statements" of this Form 10-Q is incorporated herein by reference.

Item 1A. *RISK FACTORS*

There have been no material changes to the risk factors disclosed in "Part I, Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018.

Item 2. *UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS*

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 September 30, 2019:

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)
July 1-31, 2019	3,127	$ 97.43	—	$ 193.0
August 1-31, 2019	442	100.08	—	193.0
September 1-30, 2019	615	105.87	—	193.0
Total	4,184	$ 98.95	—	$ 193.0

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

Item 3. *DEFAULTS UPON SENIOR SECURITIES*

None.

Item 4. *MINE SAFETY DISCLOSURES*

Not applicable.

Item 5. *OTHER INFORMATION*

None.

Item 6. ***EXHIBITS***

Exhibit Number	Description
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. †
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document. †
101.SCH	Inline XBRL Taxonomy Extension Schema Document. †
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document. †
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document. †
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document. †
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document. †
104	Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101). †

† Filed herewith.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Packaging Corporation of America

/s/ PAMELA A. BARNES

Pamela A. Barnes
Senior Vice President, Finance and Controller

Date: November 1, 2019

Exhibit 31.1

**CEO CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002**

I, Mark W. Kowlzan, certify that:

(1) I have reviewed this quarterly report on Form 10-Q of Packaging Corporation of America (PCA);

(2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

(3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of PCA as of, and for, the periods presented in this report;

(4) PCA's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for PCA and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to PCA, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of PCA's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in PCA's internal control over financial reporting that occurred during PCA's most recent fiscal quarter (PCA's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, PCA's internal control over financial reporting; and

(5) PCA's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to PCA's auditors and the Audit Committee of PCA's Board of Directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect PCA's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in PCA's internal control over financial reporting.

/s/ Mark W. Kowlzan

Mark W. Kowlzan
Chairman and Chief Executive Officer

Date: November 1, 2019

Exhibit 31.2

CFO CERTIFICATION PURSUANT TO SECTION 302
OF THE SARBANES-OXLEY ACT OF 2002

I, Robert P. Mundy, certify that:

(1) I have reviewed this quarterly report on Form 10-Q of Packaging Corporation of America (PCA);

(2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

(3) Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of PCA as of, and for, the periods presented in this report;

(4) PCA's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for PCA and have:

a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to PCA, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c) evaluated the effectiveness of PCA's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d) disclosed in this report any change in PCA's internal control over financial reporting that occurred during PCA's most recent fiscal quarter (PCA's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, PCA's internal control over financial reporting; and

(5) PCA's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to PCA's auditors and the Audit Committee of PCA's Board of Directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect PCA's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in PCA's internal control over financial reporting.

/s/ Robert P. Mundy

Robert P. Mundy
Executive Vice President and Chief Financial Officer

Date: November 1, 2019

Exhibit 32

CERTIFICATIONS 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

I, Mark W. Kowlzan, Chief Executive Officer of Packaging Corporation of America (the "Company"), certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Quarterly Report of the Company on Form 10-Q for the period ended September 30, 2019 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in such Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Mark W. Kowlzan

Mark W. Kowlzan

Chairman and Chief Executive Officer

Date: November 1, 2019

I, Robert P. Mundy, Chief Financial Officer of Packaging Corporation of America (the "Company"), certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

(1) The Quarterly Report of the Company on Form 10-Q for the period ended September 30, 2019 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in such Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Robert P. Mundy

Robert P. Mundy

Executive Vice President and Chief Financial Officer

Date: November 1, 2019