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, 2022

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 28, 2022 the Registrant had outstanding 92,534,480 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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PART I

PART II

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,	
	2022	2021	2022	2021
Statements of Income:				
Net sales	$ 2,125.9	$ 2,000.1	$ 6,499.6	$ 5,687.1
Cost of sales	(1,607.5)	(1,489.4)	(4,859.3)	(4,324.0)
Gross profit	518.4	510.7	1,640.3	1,363.1
Selling, general and administrative expenses	(145.2)	(144.5)	(462.9)	(435.7)
Other expense, net	(12.9)	(13.4)	(44.7)	(41.7)
Income from operations	360.3	352.8	1,132.7	885.7
Non-operating pension income	3.6	5.0	10.9	14.8
Interest expense, net	(16.5)	(23.9)	(55.3)	(72.2)
Income before taxes	347.4	333.9	1,088.3	828.3
Provision for income taxes	(84.9)	(83.2)	(270.1)	(203.7)
Net income	$ 262.5	$ 250.7	$ 818.2	$ 624.6
Net income per common share:				
Basic	$ 2.81	$ 2.64	$ 8.74	$ 6.58
Diluted	$ 2.80	$ 2.63	$ 8.70	$ 6.55
Dividends declared per common share	$ 1.25	$ 1.00	$ 3.50	$ 3.00
Statements of Comprehensive Income:				
Net income	$ 262.5	$ 250.7	$ 818.2	$ 624.6
Other comprehensive income, net of tax:				
Foreign currency translation adjustment	—	0.4	—	0.4
Changes in unrealized losses on marketable debt securities, net of tax of $0.2 million, $0.0 million, $0.7 million, and $0.1 million	(0.6)	—	(2.1)	(0.2)
Amortization of pension and postretirement plans actuarial loss and prior service cost, net of tax of ($0.4) million, ($0.8) million, ($1.2) million, and ($2.5) million	1.2	2.5	3.5	7.5
Other comprehensive income	0.6	2.9	1.4	7.7
Comprehensive income	$ 263.1	$ 253.6	$ 819.6	$ 632.3

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, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 648.7	$ 618.7
Short-term marketable debt securities	77.7	86.1
Accounts receivable, net of allowance for credit losses and customer deductions of $20.2 million and $14.3 million as of September 30, 2022 and December 31, 2021, respectively	1,112.8	1,071.0
Inventories	994.9	902.5
Prepaid expenses and other current assets	67.3	47.0
Federal and state income taxes receivable	6.1	7.4
Total current assets	2,907.5	2,732.7
Property, plant, and equipment, net	3,813.2	3,529.0
Goodwill	922.4	923.5
Other intangible assets, net	277.4	308.4
Operating lease right-of-use assets	286.8	238.3
Long-term marketable debt securities	67.1	60.0
Other long-term assets	70.0	44.9
Total assets	$ 8,344.4	$ 7,836.8
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Operating lease obligations	$ 72.5	$ 67.1
Finance lease obligations	1.8	1.7
Accounts payable	485.3	452.4
Dividends payable	118.8	96.3
Accrued liabilities	259.5	255.0
Accrued interest	25.5	12.3
Total current liabilities	963.4	884.8
Long-term liabilities:		
Long-term debt	2,473.1	2,471.5
Operating lease obligations	221.4	179.3
Finance lease obligations	11.3	12.7
Deferred income taxes	513.7	465.9
Compensation and benefits	129.2	157.4
Other long-term liabilities	61.1	58.0
Total long-term liabilities	3,409.8	3,344.8
Commitments and contingent liabilities (Note 20)		
Stockholders' equity:		
Common stock, par value $0.01 per share, 300.0 million shares authorized, 92.7 million and 93.5 million shares issued as of September 30, 2022 and December 31, 2021, respectively	0.9	0.9
Additional paid in capital	600.6	579.4
Retained earnings	3,443.5	3,102.1
Accumulated other comprehensive loss	(73.8)	(75.2)
Total stockholders' equity	3,971.2	3,607.2
Total liabilities and stockholders' equity	$ 8,344.4	$ 7,836.8

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,	
	2022	**2021**
Cash Flows from Operating Activities:		
Net income	$ 818.2	$ 624.6
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation, depletion, and amortization of intangibles	338.0	311.1
Amortization of deferred financing costs	1.5	2.0
Share-based compensation expense	28.7	26.9
Deferred income tax provision	47.3	41.7
Net loss on asset disposals	11.1	7.3
Pension and post-retirement benefits expense, net of contributions	(48.1)	(50.4)
Other, net	4.0	8.9
Changes in operating assets and liabilities:		
Increase in assets —		
Accounts receivable	(41.6)	(234.3)
Inventories	(92.8)	(92.3)
Prepaid expenses and other current assets	(20.1)	(11.8)
Increase (decrease) in liabilities —		
Accounts payable	8.9	22.3
Accrued liabilities	18.6	53.5
Federal and state income taxes receivable	1.2	(6.1)
Net cash provided by operating activities	1,074.9	703.4
Cash Flows from Investing Activities:		
Additions to property, plant, and equipment	(577.1)	(366.2)
Additions to other long-term assets	(5.8)	(1.8)
Proceeds from asset disposals	1.8	2.6
Purchases of marketable debt securities	(98.0)	(100.3)
Proceeds from sales of marketable debt securities	28.4	17.7
Proceeds from maturities of marketable debt securities	66.9	83.0
Other, net	1.9	—
Net cash used for investing activities	(581.9)	(365.0)
Cash Flows from Financing Activities:		
Repayments of debt and finance lease obligations	(1.3)	(1.2)
Proceeds from issuance of debt	—	696.3
Financing costs paid	—	(8.5)
Common stock dividends paid	(304.4)	(284.8)
Repurchases of common stock	(142.0)	—
Shares withheld to cover employee restricted stock taxes	(15.3)	(11.9)
Net cash (used for) provided by financing activities	(463.0)	389.9
Net increase in cash and cash equivalents	30.0	728.3
Cash and cash equivalents, beginning of period	618.7	974.6
Cash and cash equivalents, end of period	$ 648.7	$ 1,702.9

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, 2022	93,686	$ 0.9	$ 601.0	$ 3,437.0	$ (74.4)	$ 3,964.5
Common stock repurchases and retirements	(1,032)	—	(8.5)	(133.5)	—	(142.0)
Common stock withheld and retired to cover taxes on vested stock awards	(43)	—	(0.4)	(5.5)	—	(5.9)
Common stock dividends declared	—	—	—	(116.7)	—	(116.7)
Share-based compensation and other	90	—	8.5	(0.3)	—	8.2
Comprehensive income	—	—	—	262.5	0.6	263.1
Balance at September 30, 2022	92,701	$ 0.9	$ 600.6	$ 3,443.5	$ (73.8)	$ 3,971.2

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at July 1, 2021	94,979	$ 1.0	$ 574.5	$ 3,008.5	$ (139.7)	$ 3,444.3
Common stock withheld and retired to cover taxes on vested stock awards	(10)	—	(0.1)	(1.3)	—	(1.4)
Common stock dividends declared	—	—	—	(95.3)	—	(95.3)
Share-based compensation and other	22	—	6.9	0.2	—	7.1
Comprehensive income	—	—	—	250.7	2.9	253.6
Balance at September 30, 2021	94,991	$ 1.0	$ 581.3	$ 3,162.8	$ (136.8)	$ 3,608.3

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at January 1, 2022	93,539	$ 0.9	$ 579.4	$ 3,102.1	$ (75.2)	$ 3,607.2
Common stock repurchases and retirements	(1,032)	—	(8.5)	(133.5)	—	(142.0)
Common stock withheld and retired to cover taxes on vested stock awards	(110)	—	(0.9)	(14.4)	—	(15.3)
Common stock dividends declared	—	—	—	(328.6)	—	(328.6)
Share-based compensation and other	304	—	30.6	(0.3)	—	30.3
Comprehensive income	—	—	—	818.2	1.4	819.6
Balance at September 30, 2022	92,701	$ 0.9	$ 600.6	$ 3,443.5	$ (73.8)	$ 3,971.2

	Common Stock		Additional Paid in Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at January 1, 2021	94,830	$ 0.9	$ 554.4	$ 2,835.5	$ (144.5)	$ 3,246.3
Common stock withheld and retired to cover taxes on vested stock awards	(88)	(0.1)	(0.7)	(11.2)	—	(12.0)
Common stock dividends declared	—	—	—	(286.2)	—	(286.2)
Share-based compensation and other	249	0.2	27.6	0.1	—	27.9
Comprehensive income	—	—	—	624.6	7.7	632.3
Balance at September 30, 2021	94,991	$ 1.0	$ 581.3	$ 3,162.8	$ (136.8)	$ 3,608.3

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. 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.

Our Jackson, Alabama mill had historically operated as an uncoated freesheet ("UFS") paper mill, with its results of operations reported in our Paper segment. During the fourth quarter of 2020, in order to meet strong packaging demand and maintain appropriate inventory levels, we temporarily began producing linerboard on the No. 3 machine at our Jackson, Alabama mill. In the first quarter of 2021, we announced the discontinuation of production of UFS paper grades on the machine and the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities. In the third quarter of 2021, we began producing corrugating medium on the No. 1 machine at the Jackson mill (which had produced UFS paper in the past) to help satisfy our demand for containerboard, build necessary inventories, and evaluate the capability of the machine to produce containerboard on a cost-effective basis. For the periods presented in this Form 10-Q, operating results for the Jackson mill are included in both the Packaging and Paper segments, as appropriate.

The consolidated financial statements of PCA as of September 30, 2022 and for the three and nine months ended September 30, 2022 and 2021 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, 2022 are not necessarily indicative of the results that may be expected for the year ending December 31, 2022. These consolidated financial statements should be read in conjunction with our Annual Report on Form 10-K for the year ended December 31, 2021.

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

2. New Accounting Standards

In October 2021, the FASB issued ASU 2021-08, *Business Combinations* (Topic 805): *Accounting for Contract Assets and Contract Liabilities from Contracts with Customers*. ASU 2021-08 requires contract assets and contract liabilities acquired in a business combination to be recognized and measured by the acquirer on the acquisition date in accordance with ASC 606, *Revenue from Contracts with Customers*. Under current business combination guidance in ASC 805, *Business Combinations*, such assets and liabilities are recognized by the acquirer at fair value on the acquisition date, whereas the new guidance requires the acquirer to recognize such assets and liabilities as if it had originated the contracts. The ASU is effective for annual periods beginning after December 15, 2022, and interim periods within those annual periods, with early adoption permitted. The Company will apply the amended guidance on a prospective basis to any business combinations that occur on or after the adoption date.

In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform* (Topic 848): *Facilitation of the Effects of Reference Rate Reform on Financial Reporting.* ASU 2020-04 provides optional guidance for a limited period of time to ease the potential burden in accounting for, or recognizing the effects of, reference rate reform on financial reporting. The amendments in this Update are elective and apply to all entities, subject to meeting certain criteria, that have contracts, hedging relationships, and other transactions that reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. In January 2021, the FASB issued ASU 2021-01, which extends some of the optional expedients under Topic 848 to include derivative contracts impacted by discounting transition. Companies can apply the ASU immediately. The ASU can be adopted on a full retrospective basis as of any date from the beginning of an interim period that includes or is subsequent to March 12, 2020, or on a prospective basis to any new modification from any date within an interim period that includes or is subsequent to the date of the issuance of a final Update, up to the date that financial statements are available to be issued. The optional guidance will only be available until December 31, 2022. While the Company's fixed-rate outstanding debt will not be impacted by the reference rate reform, the Company is still evaluating the impact of this guidance on its revolving credit facility, as the interest rate associated with any future borrowings against the revolving credit facility is based on LIBOR. Overall, the Company does not expect the guidance to have a significant impact on its financial position or related disclosures.

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. 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,	
	2022	2021	2022	2021
Packaging	$ 1,940.2	$ 1,829.4	$ 5,971.6	$ 5,171.4
Paper	165.3	150.3	468.6	457.1
Corporate and Other	20.4	20.4	59.4	58.6
Total revenue	$ 2,125.9	$ 2,000.1	$ 6,499.6	$ 5,687.1

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 accounts, 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.

4. Acquisitions

Advance Packaging Acquisition

On December 11, 2021, PCA acquired the assets of Advance Packaging Corporation ("Advance Packaging"), an independent corrugated products producer, for $194.9 million, including working capital adjustments. Assets acquired include full-line corrugated products operations in Grand Rapids, Michigan. Advance Packaging is a full-service producer of corrugated packaging products, including graphics, retail displays, sustainable shipping containers, and protective packaging. Advance Packaging's financial results are included in the Packaging segment from the date of acquisition.

During the second quarter of 2022, we received $1.9 million from the seller related to a final working capital adjustment. We recorded the adjustment as a decrease to goodwill, which decreased the purchase price to $193.0 million.

The Company accounted for the Advance Packaging acquisition using the acquisition method of accounting in accordance with ASC 805, *Business Combinations*. The total purchase price has been allocated to tangible and intangible assets acquired and liabilities assumed based on respective fair values, as follows (dollars in millions):

	12/31/2021 Allocation	Adjustments	Revised Allocation
Goodwill	$ 60.0	$ (1.0)	$ 59.0
Other intangible assets	50.2	(1.4)	48.8
Property, plant and equipment	66.7	0.5	67.2
Other net assets	18.0	—	18.0
Net assets acquired	$ 194.9	$ (1.9)	$ 193.0

Goodwill is calculated as the excess of the purchase price over the fair value of the net assets acquired. Among the factors that contributed to the recognition of goodwill were Advance Packaging's commitment to continuous improvement and synergies, as well as the expected increases in PCA's containerboard integration levels. Goodwill is deductible for tax purposes.

Other intangible assets, primarily customer relationships, were assigned an estimated weighted average useful life of 12.8 years.

Property, plant, and equipment were assigned estimated useful lives ranging from one to 20 years.

5. 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,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Numerator:				
Net income	$ 262.5	$ 250.7	$ 818.2	$ 624.6
Less: Distributed and undistributed earnings allocated to participating securities	(1.9)	(1.7)	(6.4)	(4.9)
Net income attributable to common shareholders	$ 260.6	$ 249.0	$ 811.8	$ 619.7
Denominator:				
Weighted average basic common shares outstanding	92.8	94.3	92.9	94.2
Effect of dilutive securities	0.4	0.4	0.4	0.4
Weighted average diluted common shares outstanding	93.2	94.7	93.3	94.6
Basic income per common share	$ 2.81	$ 2.64	$ 8.74	$ 6.58
Diluted income per common share	$ 2.80	$ 2.63	$ 8.70	$ 6.55

6. Other Expense, Net

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

	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021
Asset disposals and write-offs	$ (7.5)	$ (6.4)	$ (33.9)	$ (27.3)
Jackson mill conversion-related activities (a)	(2.7)	(3.2)	(4.8)	(6.1)
Acquisition-related, facilities closure and other income (costs) (b)	0.2	(0.7)	0.4	2.7
Other	(2.9)	(3.1)	(6.4)	(11.0)
Total	$ (12.9)	$ (13.4)	$ (44.7)	$ (41.7)

(a) Includes charges related to the announced discontinuation of production of uncoated freesheet paper grades on the No. 3 machine at the Jackson, Alabama mill in the first quarter of 2021 associated with the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities.

(b) For the three months ended September 30, 2022, includes income consisting of a gain on sale of assets related to a corrugated products facility, partially offset by charges consisting of closure costs related to corrugated products facilities. For the nine months ended September 30, 2022, includes income primarily related to insurance proceeds received for a natural disaster at one of the corrugated products facilities and a gain on sale of assets related to a corrugated products facility, partially offset by closure costs related to corrugated products facilities and acquisition and integration costs related to the December 2021 Advance Packaging acquisition.

For the three months ended September 30, 2021, includes charges consisting of closure costs related to corrugated products facilities. For the nine months ended September 30, 2021, includes income primarily related to an adjustment of the required asset retirement obligation related to the 2020 closure of the San Lorenzo, California facility, a gain on sale of transportation assets, and insurance proceeds received for a natural disaster at one of the corrugated products facilities, partially offset by closure costs related to corrugated products facilities.

7. Income Taxes

For the three months ended September 30, 2022 and 2021, we recorded $84.9 million and $83.2 million of income tax expense and had an effective tax rate of 24.4% and 24.9%, respectively. The decrease in our effective tax rate for the three months ended September 30, 2022 compared to the same period in 2021 was primarily due to favorable employee restricted stock and performance unit vests with higher excess tax benefits and favorable state tax law changes, partially offset by higher nondeductible employee remuneration paid to covered employees.

For the nine months ended September 30, 2022 and 2021, we recorded $270.1 and $203.7 million of income tax expense and had an effective tax rate of 24.8% and 24.6%, respectively. The increase in our effective tax rate for the nine months ended September 30, 2022 compared to the same period in 2021 was primarily due to higher nondeductible employee remuneration paid to covered employees, partially offset by favorable employee restricted stock and performance unit vests with higher excess tax benefits.

Our current effective tax rate is higher than 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, 2022 and 2021, cash paid for taxes, net of refunds received, was $221.6 million and $168.1 million, respectively. The increase in cash tax payments between the periods is primarily due to higher 2022 forecasted taxable income.

During the three and nine months ended September 30, 2022, there were no significant changes to our uncertain tax positions. For more information, see Note 8, Income Taxes, of the Notes to Consolidated Financial Statements in “Part II, Item 8. Financial Statements and Supplementary Data” of our 2021 Annual Report on Form 10-K.

8. 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 net realizable value. 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, 2022	December 31, 2021
Raw materials	$ 381.3	$ 324.2
Work in process	16.0	16.2
Finished goods	195.0	201.0
Supplies and materials	402.6	361.1
Inventories	$ 994.9	$ 902.5

9. Property, Plant, and Equipment

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

	September 30, 2022	December 31, 2021
Land and land improvements	$ 193.0	$ 189.8
Buildings	1,006.6	938.7
Machinery and equipment	6,452.3	6,159.1
Construction in progress	608.4	481.0
Other	126.7	102.9
Property, plant and equipment, at cost	8,387.0	7,871.5
Less accumulated depreciation	(4,573.8)	(4,342.5)
Property, plant, and equipment, net	$ 3,813.2	$ 3,529.0

Depreciation expense for the three months ended September 30, 2022 and 2021 was $103.2 million and $95.5 million, respectively. During the nine months ended September 30, 2022 and 2021, depreciation expense was $305.3 million and $279.9 million, respectively. We recognized $3.1 million and $3.6 million of incremental depreciation expense during the nine months ended September 30, 2022 and 2021, respectively, as a result of Jackson mill conversion-related activities and closure costs related to corrugated products facilities.

At September 30, 2022 and December 31, 2021, purchases of property, plant, and equipment included in accounts payable were $91.4 million and $73.6 million, respectively.

10. 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, 2022 and December 31, 2021 we had $922.4 million and $923.5 million, respectively, of goodwill recorded in our Packaging segment, which represents the entire goodwill balance reported on our Consolidated Balance Sheets.

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

	Goodwill
Balance at January 1, 2022	$ 923.5
Acquisitions (a)	(1.0)
Adjustment related to sale of corrugated assets (b)	(0.1)
Balance at September 30, 2022	$ 922.4

(a) During the nine months ended September 30, 2022, the Company recorded a $1.0 million adjustment to decrease the goodwill balance for the Company's December 2021 acquisition of Advance Packaging.

(b) During the three months ended September 30, 2022, a corrugated products facility sold part of its operations, which primarily included existing inventory. As a result, the Company recorded a $0.1 million adjustment to decrease the goodwill balance.

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, 2022			December 31, 2021		
	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 (c)	8.4	$ 546.0	$ 282.0	8.5	$ 551.1	$ 254.9
Trademarks and trade names (c)	7.4	41.3	28.0	8.4	37.6	25.5
Other (c)	3.6	4.5	4.4	2.2	4.4	4.3
Total intangible assets (excluding goodwill)	8.4	$ 591.8	$ 314.4	8.5	$ 593.1	$ 284.7

(c) In connection with the December 2021 acquisition of Advance Packaging, the Company recorded intangible assets of $47.3 million for customer relationships, $2.8 million for trade names, and $0.1 million for other intangibles. During the three months ended June 30, 2022, the Company made a $1.4 million net adjustment based on the final valuation received for the intangible assets. This adjustment resulted in a revision to the original allocations for customer relationships and trade names. As of June 30, 2022, the revised allocations for customer relationships and trade names were $42.2 million and $6.5 million, respectively.

During the nine months ended September 30, 2022 and 2021, amortization expense was $29.7 million and $28.2 million, respectively.

11. Accrued Liabilities

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

	September 30, 2022	December 31, 2021
Compensation and benefits	$ 146.5	$ 157.1
Customer rebates and other credits	40.3	36.9
Franchise, property, sales and use taxes	29.0	17.6
Medical insurance and workers' compensation	25.9	26.9
Environmental liabilities and asset retirement obligations	3.8	4.0
Severance, retention, and relocation	1.9	2.7
Other	12.1	9.8
Total	$ 259.5	$ 255.0

12. Debt

For the nine months ended September 30, 2022 and 2021, cash payments for interest were $50.6 million and $55.2 million, respectively.

Included in interest expense, net is the amortization of financing costs. For the three months ended September 30, 2022 and 2021, amortization of financing costs was $0.4 million and $0.5 million, respectively, and during the nine months ended September 30, 2022 and 2021, amortization of financing costs was $1.2 million and $1.5 million, respectively.

At September 30, 2022, we had $2,491.4 million of fixed-rate senior notes outstanding. The fair value of our fixed-rate debt was estimated to be $2,004.1 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 2021 Annual Report on Form 10-K.

For more information on our long-term debt and interest rates on that debt, see Note 11, Debt, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2021 Annual Report on Form 10-K.

13. Cash, Cash Equivalents, and Marketable Debt Securities

The following table shows the Company's cash and available-for-sale ("AFS") debt securities by major asset category at September 30, 2022 and December 31, 2021 (in millions):

	September 30, 2022						
	Adjusted Cost Basis	Unrealized Gain	Unrealized Loss	Fair Value	Cash and Cash Equivalents	Short-Term Marketable Debt Securities	Long-Term Marketable Debt Securities
Cash and cash equivalents	$ 643.0	$ —	$ —	$ 643.0	$ 643.0	$ —	$ —
Level 1 [(a)]:							
U.S. Treasury securities	30.0	—	(0.6)	29.4	3.0	13.7	12.7
Money market funds	0.7	—	—	0.7	0.7	—	—
Subtotal	30.7	—	(0.6)	30.1	3.7	13.7	12.7
Level 2 [(b)]:							
Corporate debt securities	117.0	—	(2.5)	114.5	1.2	60.8	52.5
U.S. government agency securities	3.2	—	(0.1)	3.1	—	1.2	1.9
Certificates of deposit	2.8	—	—	2.8	0.8	2.0	—
Subtotal	123.0	—	(2.6)	120.4	2.0	64.0	54.4
Total	$ 796.7	$ —	$ (3.2)	$ 793.5	$ 648.7	$ 77.7	$ 67.1

	December 31, 2021						
	Adjusted Cost Basis	Unrealized Gain	Unrealized Loss	Fair Value	Cash and Cash Equivalents	Short-Term Marketable Debt Securities	Long-Term Marketable Debt Securities
Cash and cash equivalents	$ 612.3	$ —	$ —	$ 612.3	$ 612.3	$ —	$ —
Level 1 [(a)]:							
U.S. Treasury securities	26.4	—	(0.1)	26.3	2.0	14.7	9.6
Money market funds	0.9	—	—	0.9	0.9	—	—
Subtotal	27.3	—	(0.1)	27.2	2.9	14.7	9.6
Level 2 [(b)]:							
Corporate debt securities	118.9	—	(0.3)	118.6	3.5	66.0	49.1
U.S. government agency securities	4.8	—	—	4.8	—	3.5	1.3
Certificates of deposit	1.9	—	—	1.9	—	1.9	—
Subtotal	125.6	—	(0.3)	125.3	3.5	71.4	50.4
Total	$ 765.2	$ —	$ (0.4)	$ 764.8	$ 618.7	$ 86.1	$ 60.0

(a) Valuations based on quoted prices for identical assets or liabilities in active markets.

(b) Valuations based on observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data.

For the three and nine months ended September 30, 2022 and 2021, net realized gains and losses on the sales and maturities of certain marketable debt securities were insignificant.

The Company invests in highly rated securities, with the primary objective of minimizing the potential risk of principal loss. The Company's investment policy requires securities to be investment grade and limits the amount of credit exposure to any one issuer. The maturities of the Company's long-term marketable debt securities generally range from one to two years.

Fair values were determined for each individual marketable debt security in the investment portfolio. When evaluating a marketable debt security for impairment, PCA reviews factors such as the duration and extent to which the fair value of the marketable debt security is less than its cost, the financial condition of the issuer and any changes thereto, the general market condition in which the issuer operates, and PCA's intent to sell, or whether it will be more likely than not be required to sell, the marketable debt security before recovery of its amortized cost basis.

As of September 30, 2022 and December 31, 2021, we do not consider any of the impairments related to our marketable debt securities to be the result of credit losses. Therefore, we have not recorded an allowance for credit losses related to our marketable debt securities. All unrealized gains and losses were recorded in other comprehensive income (OCI).

The following tables provide information about the Company's marketable debt securities that have been in a continuous loss position as of September 30, 2022 and December 31, 2021 (in millions, except number of marketable debt securities in a loss position):

	September 30, 2022					
	Fair Value of Marketable Debt Securities in a Loss Position < 12 Months	Number of Marketable Debt Securities in a Loss Position < 12 Months	Unrealized Losses < 12 Months	Fair Value of Marketable Debt Securities in a Loss Position ≥ 12 Months	Number of Marketable Debt Securities in a Loss Position ≥ 12 Months	Unrealized Losses ≥ 12 Months
Corporate debt securities	$ 103.1	165	$ 2.1	$ 9.2	10	$ 0.5
U.S. Treasury securities	23.0	22	0.4	3.4	6	0.1
U.S. government agency securities	2.9	5	0.1	0.3	1	—
Certificates of deposit	0.8	2	—	—	—	—
	$ 129.8	194	$ 2.6	$ 12.9	17	$ 0.6

	December 31, 2021		
	Fair Value of Marketable Debt Securities	Number of Marketable Debt Securities in a Loss Position	Unrealized Losses (c)
Corporate debt securities	$ 106.9	153	$ 0.3
U.S. Treasury securities	22.4	27	0.1
U.S. government agency securities	4.8	6	—
Certificates of deposit	0.5	1	—
	$ 134.6	187	$ 0.4

(c) For the period ended December 31, 2021, there were no debt securities in a continuous loss position greater than or equal to 12 months.

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,	
	2022	2021	2022	2021
Service cost	$ 4.6	$ 5.4	$ 14.4	$ 16.0
Interest cost	8.6	7.4	26.0	22.2
Expected return on plan assets	(13.9)	(15.8)	(41.8)	(47.3)
Net amortization of unrecognized amounts				
Prior service cost	0.9	1.0	2.7	2.9
Actuarial loss	0.9	2.6	2.6	7.8
Net periodic benefit cost	$ 1.1	$ 0.6	$ 3.9	$ 1.6

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, 2022 and 2021, payments to our nonqualified pension plans were insignificant. During both the three and nine months ended September 30, 2022 and 2021, we made contributions of $50.0 million to our qualified pension plans. We do not have a required minimum contribution amount for 2022, but we expect to make discretionary contributions to our plans.

For the three and nine months ended September 30, 2022 and 2021, 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. On February 25, 2020, our board of directors approved and, on May 5, 2020, our stockholders approved, the amendment and restatement of the plan. The amendment extended the plan’s term to May 5, 2030 and increased the number of shares of common stock available for issuance under the plan by 1.4 million shares. The total number of shares authorized for past and future awards is 12.0 million shares.

As of September 30, 2022, assuming performance units are paid out at the target level of performance, 1.0 million shares were available for future grants under the current 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, 2022:

	Restricted Stock		Performance Units	
	Shares	Weighted Average Grant-Date Fair Value	Shares	Weighted Average Grant-Date Fair Value
Outstanding at January 1, 2022	651,448	$ 109.16	358,092	$ 105.38
Granted	175,047	145.63	133,017	148.71
Vested (a)	(151,087)	115.46	(132,404)	136.62
Forfeitures	(14,245)	120.47	(256)	145.26
Outstanding at September 30, 2022	661,163	$ 117.13	358,449	$ 109.89

(a) Upon vesting of the performance unit awards, PCA issued 144,193 shares, which included 11,789 shares for dividends accrued during the vesting period.

Compensation Expense

Our share-based compensation expense is primarily 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,	
	2022	2021	2022	2021
Restricted stock	$ 4.1	$ 3.9	$ 18.7	$ 18.4
Performance units	3.1	2.9	10.0	8.5
Total share-based compensation expense	7.2	6.8	28.7	26.9
Income tax benefit	(1.8)	(1.7)	(7.2)	(6.8)
Share-based compensation expense, net of tax benefit	$ 5.4	$ 5.1	$ 21.5	$ 20.1

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 granted to certain key employees 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 2022 and 2021, 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, 2022 was as follows (dollars in millions):

	September 30, 2022	
	Unrecognized Compensation Expense	Remaining Weighted Average Recognition Period (in years)
Restricted stock	$ 31.4	2.6
Performance units	22.8	2.3
Total unrecognized share-based compensation expense	$ 54.2	2.5

16. Stockholders' Equity

Dividends

During the nine months ended September 30, 2022, we paid $304.4 million of dividends to shareholders. On May 18, 2022, PCA announced an increase of its quarterly cash dividend on its common stock from an annual rate of $4.00 per share to $5.00 per share. On September 21, 2022, PCA's Board of Directors declared a regular quarterly cash dividend of $1.25 per share of common stock, which was paid on October 17, 2022 to shareholders of record as of October 3, 2022. The dividend payment was $115.9 million.

Repurchases of Common Stock

On January 26, 2022, PCA announced that its Board of Directors authorized the repurchase of an additional $1 billion 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.

During the three and nine months ended September 30, 2022, we paid $142.0 million to repurchase 1.0 million shares of common stock. All shares repurchased have been retired. At September 30, 2022, $858.0 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:

	Unrealized Loss On Foreign Exchange Contracts	Unrealized Loss on Marketable Debt Securities	Unfunded Employee Benefit Obligations	Total
Balance at January 1, 2022	$ (0.2)	$ (0.2)	$ (74.8)	$ (75.2)
Other comprehensive income before reclassifications, net of tax	—	(2.1)	—	(2.1)
Amounts reclassified from AOCI, net of tax	—	—	3.5	3.5
Balance at September 30, 2022	$ (0.2)	$ (2.3)	$ (71.3)	$ (73.8)

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, 2022	2021	Nine Months Ended September 30, 2022	2021	
Unfunded employee benefit obligations (a)					
Amortization of prior service costs	$ (0.8)	$ (0.8)	$ (2.4)	$ (2.5)	See (a) below
Amortization of actuarial losses	(0.8)	(2.5)	(2.3)	(7.5)	See (a) below
	(1.6)	(3.3)	(4.7)	(10.0)	Total before tax
	0.4	0.8	1.2	2.5	Tax benefit
	$ (1.2)	$ (2.5)	$ (3.5)	$ (7.5)	Net of tax

(a) 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 4% of our total Company sales revenue for both the nine month periods ended September 30, 2022 and 2021, respectively, and approximately 50% and 48% of our Paper segment sales revenue for both of those periods, respectively. For the full year 2021, sales to Office Depot represented 51% of our Paper segment sales. At September 30, 2022 and December 31, 2021, we had $43.5 million and $49.8 million of accounts receivable due from Office Depot, respectively, which represents approximately 4% of our total Company accounts receivable for the same periods.

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 $4.1 million at September 30, 2022 and $3.5 million at December 31, 2021. During the three months ended September 30, 2022 and 2021, we recorded $23.1 million and $22.3 million, respectively, and during the nine months ended September 30, 2022 and 2021, we recorded $67.4 million and $63.3 million, respectively, of LTP sales to Boise Cascade in "Net Sales" in the Consolidated Statements of Income and approximately the same amount of expenses in "Cost of Sales".

During the three months ended September 30, 2022 and 2021, fiber purchases from related parties were $3.4 million and $3.6 million, respectively, and during the nine months ended September 30, 2022 and 2021, fiber purchases from related parties were $10.7 million and $10.3 million, respectively. Most of these purchases related to chip and log purchases by LTP from Boise Cascade's wood products business. These purchases are recorded in "Cost of Sales" in the Consolidated Statements of Income.

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.

Our Jackson, Alabama mill had historically operated as a UFS mill, with its results of operations reported in our Paper segment. During the fourth quarter of 2020, in order to meet strong packaging demand and maintain appropriate inventory levels, we temporarily began producing linerboard on the No. 3 machine at our Jackson, Alabama mill. In the first quarter of 2021, we announced the discontinuation of production of UFS paper grades on the machine and the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities. In the third quarter of 2021, we began producing corrugating medium on the No. 1 machine at the Jackson mill (which had produced UFS paper in the past) to help satisfy our demand for containerboard, build necessary inventories, and evaluate the capability of the machine to produce containerboard on a cost-effective basis. For the periods presented, operating results for the Jackson mill are included in both the Packaging and Paper segments, as appropriate.

Each segment’s profits and losses are measured on operating profits before interest expense, net, non-operating pension income, 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, 2022	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)	
Packaging	$ 1,935.1	$ 5.1	$ 1,940.2	$ 359.2	(a)
Paper	165.3	—	165.3	26.1	(a)
Corporate and Other	25.5	37.8	63.3	(25.0)	
Intersegment eliminations	—	(42.9)	(42.9)	—	
	$ 2,125.9	$ —	$ 2,125.9	360.3	
Non-operating pension income				3.6	
Interest expense, net				(16.5)	
Income before taxes				$ 347.4	

Three Months Ended September 30, 2021	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)	
Packaging	$ 1,825.0	$ 4.4	$ 1,829.4	$ 365.2	(b)
Paper	150.3	—	150.3	11.0	(b)
Corporate and Other	24.8	36.5	61.3	(23.4)	(b)
Intersegment eliminations	—	(40.9)	(40.9)	—	
	$ 2,000.1	$ —	$ 2,000.1	352.8	
Non-operating pension income				5.0	
Interest expense, net				(23.9)	(b)
Income before taxes				$ 333.9	

Nine Months Ended September 30, 2022	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)	
Packaging	$ 5,956.8	$ 14.8	$ 5,971.6	$ 1,141.3	(a)
Paper	468.6	—	468.6	71.2	(a)
Corporate and Other	74.2	110.6	184.8	(79.8)	
Intersegment eliminations	—	(125.4)	(125.4)	—	
	$ 6,499.6	$ —	$ 6,499.6	1,132.7	
Non-operating pension income				10.9	
Interest expense, net				(55.3)	
Income before taxes				$ 1,088.3	

Nine Months Ended September 30, 2021	Sales, net Trade	Sales, net Intersegment	Sales, net Total	Operating Income (Loss)	
Packaging	$ 5,159.3	$ 12.1	$ 5,171.4	$ 940.3	(b)
Paper	457.0	0.1	457.1	22.3	(b)
Corporate and Other	70.8	101.0	171.8	(76.9)	(b)
Intersegment eliminations	—	(113.2)	(113.2)	—	
	$ 5,687.1	$ —	$ 5,687.1	885.7	
Non-operating pension income				14.8	
Interest expense, net				(72.2)	(b)
Income before taxes				$ 828.3	

(a) The three and nine months ended September 30, 2022 include the following:

1. $3.9 million and $9.4 million, respectively, of charges related to the announced discontinuation of production of UFS paper grades on the No. 3 machine at the Jackson, Alabama mill associated with the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities.
2. $0.2 million of charges and $0.2 million of income, respectively, consisting of closure costs related to corrugated products facilities and acquisition and integration costs related to the December 2021 Advance Packaging Corporation acquisition, partially offset by a gain on sale of assets related to a corrugated products facility. For the nine months ended September 30, 2022, these costs were offset by insurance proceeds received for a natural disaster at one of the corrugated products facilities and a favorable lease buyout for a closed corrugated products facility.

(b) The three and nine months ended September 30, 2021 include the following:

1. $4.5 million and $9.4 million, respectively, of charges related to the announced discontinuation of production of UFS paper grades on the No. 3 machine at the Jackson, Alabama mill in the first quarter of 2021 associated with the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities.
2. $2.7 million and $0.1 million, respectively, of charges consisting of closure costs related to corrugated products facilities. For the nine months ended September 30, 2021, these costs are partially offset by income primarily consisting of an adjustment of the required asset retirement obligation related to the 2020 closure of the San Lorenzo, California facility, a gain on sale of transportation assets, and insurance proceeds received for a natural disaster at one of the corrugated products facilities.
3. $0.5 million of costs related to the Company's September 2021 debt refinancing.

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 11, Debt, and Note 21, 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 2021 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, 2022, 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, which has been satisfied in full as a result of settlement of various lawsuits and fees and expenses incurred by the Company. Cases involving nine plaintiffs are pending in the U.S. District Court for the Middle District of Louisiana and one case remains pending in state court in Alabama. One case previously dismissed by the federal district court for the Western District of Louisiana has been appealed by the plaintiff to the United States Court of Appeals for the Fifth Circuit. The Fifth Circuit Court of Appeals affirmed such dismissal. The remaining lawsuits pending in federal district court and state court are in the early stages. Accordingly, the Company is unable to estimate a range of reasonable possible losses at this time.

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.

In May 2017, the EPA conducted an on-site inspection of the facility to assess compliance with the Clean Air Act, Risk Management Program ("RMP"). The Company provided additional information to the EPA promptly after the inspection to address certain areas of concern ("AOCs") observed during the inspection. Since the inspection in 2017, PCA performed several voluntary activities to address the AOCs presented in the EPA's inspection report and has removed the RMP covered process from the facility. In January 2021, the EPA and U.S. Department of Justice ("DOJ") initiated civil judicial enforcement discussions with PCA. During the third quarter of 2022, we reached a settlement with the agencies and will pay a civil penalty of $2.5 million. The Company did not admit liability for violation of the Clean Air Act in connection with the settlement. The settlement is subject to a 45-day notice and comment period which is pending as of the time of this filing.

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 2021 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 a leading producer of UFS paper in North America. We operate eight mills and 90 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 UFS 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 2021 Annual Report on Form 10-K.

Executive Summary

Third quarter net sales were $2.13 billion in 2022 and $2.00 billion in 2021. We reported $262 million of net income, or $2.80 per diluted share, during the third quarter of 2022, compared to $251 million, or $2.63 per diluted share, during the same period in 2021. Net income included $3 million of expense for special items in the third quarter of 2022, compared to $6 million of expense for special items in 2021 (discussed below). Excluding special items, net income was $266 million, or $2.83 per diluted share, during the third quarter of 2022, compared to $257 million, or $2.69 per diluted share, in the third quarter of 2021. The increase in net income was driven primarily by higher prices and mix in our Packaging and Paper segments, lower interest expense, and a lower tax rate. These items were partially offset by higher operating costs, lower volume in our Packaging and Paper segments, higher freight and logistics expenses, higher scheduled outage expenses, higher depreciation expense, and higher converting and other 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 income (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 $359 million in the third quarter of 2022, compared to $365 million in the third quarter of 2021. Packaging segment EBITDA excluding special items was $467 million in the third quarter of 2022 and 2021. Higher prices and mix were offset by lower sales and production volumes, higher operating and converting costs, higher scheduled outage expenses, and higher freight and logistic expenses. Lower sales and production volumes were driven by lower demand, as economic conditions continued to deteriorate during the quarter. We continued to experience cost inflation across our business.

Paper segment income from operations was $26 million in the third quarter of 2022, compared to $11 million in the third quarter of 2021. Paper segment EBITDA excluding special items was $33 million in the third quarter of 2022, compared to $18 million in the third quarter of 2021. The increase was due to higher prices and mix, lower freight and logistic expenses, and lower operating costs, partially offset by lower sales and production volumes and higher scheduled outage expenses.

During the fourth quarter of 2020, in order to meet strong packaging demand and maintain appropriate inventory levels in the packaging segment, we temporarily began producing linerboard on the No. 3 machine at the Jackson mill, and we have produced linerboard on the machine since that time. In the first quarter of 2021, we announced the discontinuation of production of UFS paper grades on the machine and the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities. Sales and production in the Paper segment will remain below pre-pandemic levels as we will no longer be producing paper products on the Jackson No. 3 machine. In the third quarter of 2021, we began producing corrugating medium on the No. 1 machine at the Jackson mill (which had produced UFS paper in the past) to help satisfy our demand for containerboard, build necessary inventories, and evaluate the capability of the machine to produce containerboard on a cost-effective basis. We expect to continue producing corrugating medium on the machine for the foreseeable future. For the periods presented, operating results for the Jackson mill are included in both the Packaging and Paper segments, as appropriate.

Packaging segment income from operations was $1,141 million in the first nine months of 2022, compared to $940 million in the same period in 2021. Packaging segment EBITDA excluding special items was $1,456 million in the first nine months of 2022 compared to $1,228 million in the first nine months of 2021. The increase in EBITDA excluding special items was due primarily to higher prices and mix, partially offset by higher operating and converting costs, higher freight and logistic expenses, lower sales and production volumes, and higher scheduled outage expenses.

Paper segment income from operations was $71 million in the first nine months of 2022, compared to $22 million in the first nine months of 2021. Paper segment EBITDA excluding special items was $93 million in the first nine months of 2022, compared to $46 million in the same period in 2021. The increase in EBITDA excluding special items was due to higher prices and mix and lower operating costs, partially offset by lower sales and production volumes, higher scheduled outage expenses, and higher freight and logistic expenses.

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, 2022 and 2021 are as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Earnings per diluted share, as reported	$ 2.80	$ 2.63	$ 8.70	$ 6.55
Special items:				
Jackson mill conversion-related activities (a)	0.03	0.03	0.08	0.07
Acquisition-related, facilities closure and other costs (b)	—	0.02	—	—
Debt refinancing (c)	—	0.01	—	0.01
Total special items	0.03	0.06	0.08	0.08
Earnings per diluted share, excluding special items	$ 2.83	$ 2.69	$ 8.78	$ 6.63

(a) For the three and nine months ended September 30, 2022, includes $3.9 million and $9.4 million, respectively, of charges related to the announced discontinuation of production of uncoated freesheet paper grades on the No. 3 machine at the Jackson, Alabama mill associated with the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities. For the three and nine months ended September 30, 2021, these amounts were $4.5 million and $9.4 million, respectively.

(b) For the three and nine months ended September 30, 2022, includes $0.2 million of charges and $0.2 million of income, respectively, consisting of closure costs related to corrugated products facilities and acquisition and integration costs related to the December 2021 Advance Packaging Corporation acquisition, partially offset by a gain on sale of assets related to a corrugated products facility. For the nine months ended September 30, 2022, these costs were offset by insurance proceeds received for a natural disaster at one of the corrugated products facilities and a favorable lease buyout for a closed corrugated products facility.

For the three and nine months ended September 30, 2021, includes $2.7 million and $0.1 million, respectively, of charges consisting of closure costs related to corrugated products facilities. For the nine months ended September 30, 2021, these costs are partially offset by income primarily consisting of an adjustment of the required asset retirement obligation related to the 2020 closure of the San Lorenzo, California facility, a gain on sale of corporate assets, and insurance proceeds received for a natural disaster at one of the corrugated products facilities.

(c) For the three and nine months ended September 30, 2021, includes $0.5 million of costs related to the Company's September 2021 debt refinancing.

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 in total and per work day were down 4.5% during the third quarter of 2022 compared to the same quarter of 2021. Reported industry containerboard production decreased 8.6% compared to the third quarter of 2021. Reported industry containerboard inventories at the end of the third quarter of 2022 were approximately 3.0 million tons, up 11.4% compared to the same period in 2021. Reported containerboard export shipments were down 19.2% compared to the third quarter of 2021. There were no price increases in the third quarter of 2022.

Trade publications reported North American UFS paper shipments were down 2.5% in the third quarter of 2022, compared to the same quarter of 2021. Average prices reported by a trade publication for cut size office papers were higher by $52 per ton, or 3.7%, in the third quarter of 2022, compared to the second quarter of 2022, and higher by $272 per ton, or 23.0%, compared to the third quarter of 2021.

Outlook

In the fourth quarter, we expect to see continued lower Packaging demand. Global and domestic economic conditions continue to be less favorable with high inflation, higher interest rates, and some continuing supply chain disruptions. Our customers are continuing to work through high inventories of their products, which is driving lower orders and demand for our products. The fourth quarter will have four less shipping days compared to the third quarter, which will result in lower total box shipments. Accordingly, we expect lower Packaging sales volumes and lower containerboard production, as we will produce containerboard to meet our expected demand. At our Jackson, Alabama mill, we expect to complete the scheduled annual maintenance outage as well as the first phase of the containerboard conversion work on the No. 3 machine. We also expect a seasonally less rich mix in corrugated products and lower average export containerboard prices. In our Paper segment, we will continue to implement our price increase that took effect in September; however, volume is expected to be lower compared to the seasonally stronger third quarter. Scheduled outage expenses are expected to be higher, and we expect higher operating costs, primarily labor and benefit expenses, along with anticipated colder weather resulting in higher energy costs. Considering these items, we expect fourth quarter earnings per share to be lower than third quarter.

Results of Operations

Three Months Ended September 30, 2022, compared to Three Months Ended September 30, 2021

The historical results of operations of PCA for the three months ended September 30, 2022 and 2021 are set forth below (dollars in millions):

	Three Months Ended September 30, 2022	Three Months Ended September 30, 2021	Change
Packaging	$ 1,940.2	$ 1,829.4	$ 110.8
Paper	165.3	150.3	15.0
Corporate and Other	63.3	61.3	2.0
Intersegment eliminations	(42.9)	(40.9)	(2.0)
Net sales	$ 2,125.9	$ 2,000.1	$ 125.8
Packaging	$ 359.2	$ 365.2	$ (6.0)
Paper	26.1	11.0	15.1
Corporate and Other	(25.0)	(23.4)	(1.6)
Income from operations	$ 360.3	$ 352.8	$ 7.5
Non-operating pension income	3.6	5.0	(1.4)
Interest expense, net	(16.5)	(23.9)	7.4
Income before taxes	347.4	333.9	13.5
Income tax provision	(84.9)	(83.2)	(1.7)
Net income	$ 262.5	$ 250.7	$ 11.8
Non-GAAP Measures (a)			
Net income excluding special items	$ 265.6	$ 256.5	$ 9.1
Consolidated EBITDA	474.3	458.4	15.9
Consolidated EBITDA excluding special items	477.1	464.0	13.1
Packaging EBITDA	464.5	461.4	3.1
Packaging EBITDA excluding special items	467.1	466.9	0.2
Paper EBITDA	32.4	18.1	14.3
Paper EBITDA excluding special items	32.6	18.1	14.5

(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 increased $126 million, or 6.3%, to $2,126 million during the three months ended September 30, 2022, compared to $2,000 million during the same period in 2021.

Packaging. Net sales increased $111 million, or 6.1%, to $1,940 million, compared to $1,829 million in the third quarter of 2021 due to higher prices and mix ($227 million), partially offset by lower containerboard and corrugated products volume ($116 million). In the third quarter of 2022, our domestic containerboard prices were 11.2% higher, while export prices were 15.8% higher, than the same period in 2021. In the third quarter of 2022, export and domestic containerboard outside shipments decreased 26.6% compared to the third quarter of 2021. Our total corrugated products shipments were down 6.0% in total and per workday, compared to the same period in 2021.

Paper. Net sales increased $15 million, or 10.0%, to $165 million, compared to $150 million in the third quarter of 2021, due to higher prices and mix ($28 million), partially offset by lower volume ($13 million).

Gross Profit

Gross profit increased $8 million during the three months ended September 30, 2022, compared to the same period in 2021. The increase was driven primarily by higher prices and mix in our Packaging and Paper segments, partially offset by higher operating costs, lower volume in our Packaging and Paper segments, higher freight and logistics expenses, higher scheduled outage expenses, and higher converting and other expenses. In the three months ended September 30, 2022, gross profit included $2 million of special items primarily related to Jackson mill conversion-related activities and closure costs related to corrugated products facilities. In the three months ended September 30, 2021, gross profit included $3 million of special items for charges related to Jackson mill conversion-related activities and corrugated facility closure costs.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses (“SG&A”) increased $1 million during the three months ended September 30, 2022, compared to the same period in 2021. The increase was primarily due to higher information technology expenses, partially offset by maintenance related expenses.

Other Expense, Net

Other income (expense), net, for the three months ended September 30, 2022 and 2021 are set forth below (dollars in millions):

	Three Months Ended September 30,	
	2022	2021
Asset disposals and write-offs	$ (7.5)	$ (6.4)
Jackson mill conversion-related activities	(2.7)	(3.2)
Acquisition-related, facilities closure and other income (costs)	0.2	(0.7)
Other	(2.9)	(3.1)
Total	$ (12.9)	$ (13.4)

We discuss these items in more detail in Note 6, Other Expense, Net, of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in “Part I, Item 1. Financial Statements” of this Form 10-Q.

Income from Operations

Income from operations increased $7 million, or 2.1%, during the three months ended September 30, 2022, compared to the same period in 2021. The third quarter of 2022 included $4 million of special items expense primarily related to the Jackson mill conversion-related activities, compared to $7 million of special items expense primarily related to corrugated facility closures and costs from Jackson mill conversion-related activities in the third quarter of 2021.

Packaging. Packaging segment income from operations decreased $6 million to $359 million, compared to $365 million during the three months ended September 30, 2021. The decrease related primarily to higher operating and converting costs ($99 million), lower sales and production volumes ($67 million), higher freight expenses ($28 million), higher annual outage expenses ($8 million), higher depreciation expense ($9 million), and other costs ($3 million), partially offset by higher containerboard and corrugated products prices and mix ($205 million). Special items during the third quarter of 2022 included $3 million of expense primarily related to Jackson mill conversion-related activities, compared to $6 million of expense for Jackson mill conversion-related activities and corrugated facility closures in the third quarter of 2021.

Paper. Paper segment income from operations increased $15 million to $26 million, compared to $11 million during the three months ended September 30, 2021. The increase primarily related to higher prices and mix ($29 million), lower freight expenses ($2 million), lower operating costs ($1 million), and lower depreciation expenses ($1 million), partially offset by lower sales and production volumes ($7 million), higher annual outage expenses ($8 million), and other costs ($2 million). Special items during the third quarters of 2022 and 2021 included $1 million each of expense for Jackson mill conversion-related activities.

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

Non-operating pension income decreased $1 million during the three months ended September 30, 2022, compared to the same period in 2021. The decrease in non-operating pension income was primarily related to assumption changes, partially offset by favorable 2021 asset performance.

Interest expense, net for the three months ended September 30, 2022 decreased $7 million when compared to the same period in 2021. The decrease in interest expense, net was primarily due to higher interest income due to higher rates on invested cash balances and lower interest rates on the Company's fixed-rate debt as a result of the Company's debt refinancing completed in October 2021, compared to the same period in 2021.

During the three months ended September 30, 2022, we recorded $85 million of income tax expense, compared to $83 million of expense during the three months ended September 30, 2021. The effective tax rate for the three months ended September 30, 2022 and 2021 was 24.4% and 24.9%, respectively. The decrease in our effective tax rate for the three months ended September 30, 2022 compared to the same period in 2021 was primarily due to favorable employee restricted stock and performance unit vests with higher excess tax benefits and favorable state tax law changes, partially offset by higher nondeductible employee remuneration paid to covered employees.

Nine Months Ended September 30, 2022, compared to Nine Months Ended September 30, 2021

The historical results of operations of PCA for the nine months ended September 30, 2022 and 2021 are set forth below (dollars in millions):

	Nine Months Ended September 30, 2022	Nine Months Ended September 30, 2021	Change
Packaging	$ 5,971.6	$ 5,171.4	$ 800.2
Paper	468.6	457.1	11.5
Corporate and Other	184.8	171.8	13.0
Intersegment eliminations	(125.4)	(113.2)	(12.2)
Net sales	$ 6,499.6	$ 5,687.1	$ 812.5
Packaging	$ 1,141.3	$ 940.3	$ 201.0
Paper	71.2	22.3	48.9
Corporate and Other	(79.8)	(76.9)	(2.9)
Income from operations	$ 1,132.7	$ 885.7	$ 247.0
Non-operating pension income	10.9	14.8	(3.9)
Interest expense, net	(55.3)	(72.2)	16.9
Income before taxes	1,088.3	828.3	260.0
Income tax provision	(270.1)	(203.7)	(66.4)
Net income	$ 818.2	$ 624.6	$ 193.6
Non-GAAP Measures (a)			
Net income excluding special items	$ 825.1	$ 632.1	$ 193.0
Consolidated EBITDA	1,470.7	1,196.7	274.0
Consolidated EBITDA excluding special items	1,476.8	1,202.6	274.2
Packaging EBITDA	1,453.5	1,223.4	230.1
Packaging EBITDA excluding special items	1,456.3	1,227.8	228.5
Paper EBITDA	89.7	43.4	46.3
Paper EBITDA excluding special items	93.0	45.5	47.5

(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 increased $813 million, or 14.3%, to $6,500 million during the nine months ended September 30, 2022, compared to $5,687 million during the same period in 2021.

Packaging. Net sales increased $800 million, or 15.5%, to $5,972 million, compared to $5,171 million in the nine months ended September 30, 2021, due to higher containerboard and corrugated products prices and mix ($800 million). In the first nine months of 2022, our domestic containerboard prices were 14.9% higher, while export prices were 26.4% higher, than the same period in 2021. In the first nine months of 2022, export and domestic containerboard outside shipments increased 5.3% compared to the first nine months of 2021. Total corrugated products shipments were down 1.1% with one additional workday, and down 1.6% per day compared to the same period in 2021.

Paper. Net sales during the nine months ended September 30, 2022 increased $12 million, or 2.5%, to $469 million, compared to $457 million in the nine months ended September 30, 2021, due to higher prices and mix ($70 million), partially offset by decreased volume ($58 million).

Gross Profit

Gross profit increased $277 million during the nine months ended September 30, 2022, compared to the same period in 2021. The increase was driven primarily by higher prices and mix in the Packaging and Paper segments, partially offset by higher operating and converting costs, higher freight and logistics expenses, and lower volume in the Packaging and Paper segments. In the nine months ended September 30, 2022, gross profit included $5 million of special items expense primarily related to Jackson mill conversion-related activities. In the nine months ended September 30, 2021, gross profit included $6 million of special items expense for Jackson mill conversion-related activities and corrugated facility closure costs.

Selling, General, and Administrative Expenses

Selling, general, and administrative expenses (“SG&A”) increased $27 million during the nine months ended September 30, 2022, compared to the same period in 2021. The increase was primarily due to employee-related expenses, information technology expenses, and outside services.

Other Expense, Net

Other income (expense), net, for the nine months ended September 30, 2022 and 2021 are set forth below (dollars in millions):

	Nine Months Ended September 30,	
	2022	2021
Asset disposals and write-offs	$ (33.9)	$ (27.3)
Jackson mill conversion-related activities	(4.8)	(6.1)
Acquisition-related, facilities closure and other income	0.4	2.7
Other	(6.4)	(11.0)
Total	$ (44.7)	$ (41.7)

We discuss these items in more detail in Note 6, Other Expense, Net, of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in "Part I, Item 1. Financial Statements" of this Form 10-Q.

Income from Operations

Income from operations increased $247 million, or 27.9%, during the nine months ended September 30, 2022, compared to the same period in 2021. The first nine months of 2022 included $9 million of special items expense primarily related to Jackson mill conversion-related costs, corrugated facility closure costs, and acquisition and integration costs related to Advance Packaging, partially offset by income related to storm damage proceeds and a favorable lease buyout for a closed corrugated facility, compared to $10 million of special items expense related to Jackson mill conversion-related activities and corrugated facilities closure costs in the same period of 2021.

Packaging. Packaging segment income from operations increased $201 million to $1,141 million during the first nine months of 2022, compared to the same period last year. The increase related primarily to higher containerboard and corrugated products prices and mix ($693 million), partially offset by higher operating and converting costs ($349 million), higher freight expenses ($87 million), and higher depreciation expense ($30 million), lower sales and production volumes ($21 million), higher annual outage expenses ($4 million), and other costs ($4 million). Special items during the first nine months of 2022 included $3 million of expense related to Jackson mill conversion-related costs, corrugated facility closure costs, and acquisition and integration costs related to Advance Packaging, partially offset by income related to storm damage proceeds and a favorable lease buyout for a closed corrugated facility, compared to $5 million of costs for Jackson mill conversion-related activities and corrugated facilities closures costs in the first nine months of 2021.

Paper. Paper segment income from operations increased $49 million to $71 million, compared to the nine months ended September 30, 2021. The increase primarily related to higher prices and mix ($71 million), lower operating costs ($17 million), and lower depreciation expense ($3 million), partially offset by lower sales and production volumes ($24 million), higher annual outage expenses ($8 million), and higher freight and other expenses ($8 million). Special items during the first nine months of 2022 included $6 million of expense related to Jackson mill conversion-related activities, compared to $5 million of expense related to Jackson mill conversation-related activities in the first nine months of 2021.

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

Non-operating pension income decreased $4 million during the nine months ended September 30, 2022, compared to the same period in 2021. The decrease in non-operating pension income was primarily related to assumption changes, partially offset by favorable 2021 asset performance.

Interest expense, net decreased $17 million during the nine months ended September 30, 2022, compared to the same period in 2021. The decrease in interest expense, net was primarily due to lower interest rates on the Company's fixed-rate debt as a result of the Company's debt refinancing completed in October 2021, higher interest income due to higher rates on invested cash balances, and higher capitalized interest related to the increase in capital investments in the first nine months of 2022, compared to the same period in 2021.

During the nine months ended September 30, 2022, we recorded $270 million of income tax expense, compared to $204 million of expense during the nine months ended September 30, 2021. The effective tax rate for the nine months ended September 30, 2022 and 2021 was 24.8% and 24.6%, respectively. The increase in our effective tax rate for the nine months ended September 30, 2022 compared to the same period in 2021 was primarily due to higher nondeductible employee remuneration paid to covered employees, partially offset by favorable employee restricted stock and performance unit vests with higher excess tax benefits.

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, 2022, we had $649 million of cash and cash equivalents, $145 million of marketable debt securities, and $321 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, extend, or replace such facilities. Our ability to do so will be subject to future economic conditions and financial, business, and other factors, many of which are beyond our control.

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

	Nine Months Ended September 30,		
	2022	2021	Change
Net cash provided by (used for):			
Operating activities	$ 1,074.9	$ 703.4	$ 371.5
Investing activities	(581.9)	(365.0)	(216.9)
Financing activities	(463.0)	389.9	(852.9)
Net increase in cash and cash equivalents	$ 30.0	$ 728.3	$ (698.3)

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, 2022, net cash provided by operating activities was $1,075 million, compared to $703 million in the same period in 2021, an increase of $372 million. Cash from operations excluding changes in cash used for operating assets and liabilities increased $229 million primarily due to higher income from operations in 2022 as discussed above. Cash from operations increased by $143 million due to changes in operating assets and liabilities, primarily related to favorable changes in accounts receivable in 2022 due to lower sales volumes in the third quarter of 2022, partially offset by higher pricing in 2022 in the Packaging segment. This was partially offset by unfavorable changes in accrued liabilities primarily in compensation and benefits liabilities in the first nine months of 2022 compared to the same period in 2021.

Investing Activities

We used $582 million for investing activities during the nine months ended September 30, 2022 compared to $365 million during the same period in 2021. We spent $577 million for internal capital investments during the nine months ended September 30, 2022, compared to $366 million during the same period in 2021.

We expect capital investments in 2022 to be approximately $820 million, including capital spending related to the conversion of the No. 3 paper machine to containerboard at our Jackson mill. 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 $17 million in 2022. Our estimated environmental expenditures could vary significantly depending upon the enactment of new environmental laws and regulations. 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 2021 Annual Report on Form 10-K.

Financing Activities

During the nine months ended September 30, 2022, net cash used for financing activities was $463 million, compared to $390 million of net cash provided by financing activities during the same period in 2021. We paid $304 million of dividends during the first nine months of 2022, compared to $285 million of dividends paid during the comparable period in 2021. We repurchased and retired 1.0 million shares of the Company's common stock for $142 million during the first nine months of 2022. We had no share repurchases during the same period in 2021. During the nine months ended September 30, 2021, we issued $700 million of 3.05% Senior Notes due 2051, the proceeds of which were used to redeem $700 million of 4.50% Senior Notes due 2023 in October 2021. We also paid $8 million of debt issuance costs associated with the September 2021 debt refinancing and $1 million of debt issuance costs related to the New Revolving Credit Agreement that was entered into on June 8, 2021.

In addition to the items discussed in Note 12, Debt, of the Condensed Notes to Unaudited Quarterly Consolidated Financial Statements in "Part I, Item 1. Financial Statements" of this Form 10-Q, see Note 11, Debt, of the Notes to Consolidated Financial Statements in "Part II, Item 8. Financial Statements and Supplementary Data" of our 2021 Annual Report on Form 10-K for more information.

Contractual Obligations

There have been no material changes to the contractual obligations disclosed in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations" of our 2021 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, 2022 and 2021 follow (dollars in millions):

	Three Months Ended September 30,					
	2022			2021		
	Income before Taxes	Income Taxes	Net Income	Income before Taxes	Income Taxes	Net Income
As reported in accordance with GAAP	$ 347.4	$ (84.9)	$ 262.5	$ 333.9	$ (83.2)	$ 250.7
Special items:						
Jackson mill conversion-related activities (a)	3.9	(1.0)	2.9	4.5	(1.1)	3.4
Acquisition-related, facilities closure and other costs (b)	0.2	—	0.2	2.7	(0.7)	2.0
Debt refinancing (c)	—	—	—	0.5	(0.1)	0.4
Total special items	4.1	(1.0)	3.1	7.7	(1.9)	5.8
Excluding special items	$ 351.5	$ (85.9)	$ 265.6	$ 341.6	$ (85.1)	$ 256.5

	Nine Months Ended September 30,					
	2022			2021		
	Income before Taxes	Income Taxes	Net Income	Income before Taxes	Income Taxes	Net Income
As reported in accordance with GAAP	$ 1,088.3	$ (270.1)	$ 818.2	$ 828.3	$ (203.7)	$ 624.6
Special items:						
Jackson mill conversion-related activities (a)	9.4	(2.3)	7.1	9.4	(2.4)	7.0
Acquisition-related, facilities closure and other costs (income) (b)	(0.2)	—	(0.2)	0.1	—	0.1
Debt refinancing (c)	—	—	—	0.5	(0.1)	0.4
Total special items	9.2	(2.3)	6.9	10.0	(2.5)	7.5
Excluding special items	$ 1,097.5	$ (272.4)	$ 825.1	$ 838.3	$ (206.2)	$ 632.1

(a) Includes charges related to the announced discontinuation of production of UFS paper grades on the No. 3 machine at the Jackson, Alabama mill associated with the permanent conversion of the machine to produce linerboard and other paper-to-containerboard conversion related activities.

(b) For the three months ended September 30, 2022, includes closure costs related to corrugated products facilities and acquisition and integration costs related to the December 2021 Advance Packaging Corporation acquisition, partially offset by a gain on sale of assets related to a corrugated products facility. For the nine months ended September 30, 2022, these costs were offset by insurance proceeds received for a natural disaster at one of the corrugated products facilities and a favorable lease buyout for a closed corrugated products facility.

For the three months ended September 30, 2021, includes closure costs related to corrugated products facilities. For the nine months ended September 30, 2021, these costs are partially offset by income primarily consisting of an adjustment of the required asset retirement obligation related to the 2020 closure of the San Lorenzo, California facility, a gain on sale of corporate assets, and insurance proceeds received for a natural disaster at one of the corrugated products facilities, partially offset by closure costs related to corrugated products facilities.

(c) Includes costs related to the Company's September 2021 debt refinancing.

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,	
	2022	2021	2022	2021
Net income	$ 262.5	$ 250.7	$ 818.2	$ 624.6
Non-operating pension income	(3.6)	(5.0)	(10.9)	(14.8)
Interest expense, net	16.5	23.9	55.3	72.2
Income tax provision	84.9	83.2	270.1	203.7
Depreciation, amortization, and depletion	114.0	105.6	338.0	311.0
EBITDA	$ 474.3	$ 458.4	$ 1,470.7	$ 1,196.7
Special items:				
Jackson mill conversion-related activities	2.7	3.3	6.4	6.4
Acquisition-related, facilities closure and other costs (income)	0.1	2.3	(0.3)	(0.5)
Total special items	2.8	5.6	6.1	5.9
EBITDA excluding special items	$ 477.1	$ 464.0	$ 1,476.8	$ 1,202.6

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,	
	2022	2021	2022	2021
Packaging				
Segment income	$ 359.2	$ 365.2	$ 1,141.3	$ 940.3
Depreciation, amortization, and depletion	105.3	96.2	312.2	283.1
EBITDA	464.5	461.4	1,453.5	1,223.4
Jackson mill conversion-related activities	2.5	3.2	3.1	4.1
Acquisition-related, facilities closure and other costs (income)	0.1	2.3	(0.3)	0.3
EBITDA excluding special items	$ 467.1	$ 466.9	$ 1,456.3	$ 1,227.8
Paper				
Segment income	$ 26.1	$ 11.0	$ 71.2	$ 22.3
Depreciation, amortization, and depletion	6.3	7.1	18.5	21.1
EBITDA	32.4	18.1	89.7	43.4
Jackson mill conversion-related activities	0.2	—	3.3	2.1
EBITDA excluding special items	$ 32.6	$ 18.1	$ 93.0	$ 45.5
Corporate and Other				
Segment loss	$ (25.0)	$ (23.4)	$ (79.8)	$ (76.9)
Depreciation, amortization, and depletion	2.4	2.3	7.3	6.8
EBITDA	(22.6)	(21.1)	(72.5)	(70.1)
Acquisition-related, facilities closure and other income	—	—	—	(0.8)
Jackson mill conversion-related activities	—	0.1	—	0.2
EBITDA excluding special items	$ (22.6)	$ (21.0)	$ (72.5)	$ (70.7)
EBITDA	$ 474.3	$ 458.4	$ 1,470.7	$ 1,196.7
EBITDA excluding special items	$ 477.1	$ 464.0	$ 1,476.8	$ 1,202.6

Market Risk and Risk Management Policies

PCA is exposed to the impact of commodity price changes, interest rate changes, and changes in the market value of its financial instruments. To manage these risks, we may from time to time enter into transactions, including certain physical commodity transactions, that are determined to be derivatives. As of September 30, 2022, we are party to certain physical commodity transactions related to natural gas supply contracts. These contracts qualify for the normal purchase normal sale ("NPNS") exception, and we have elected that exception. For a discussion of derivatives and hedging activities, see Note 16, Derivative Instruments and Hedging Activities, of the Notes to Consolidated Financial Statements in “Part II, Item 8. Financial Statements and Supplementary Data” of our 2021 Annual Report on Form 10-K.

At September 30, 2022, 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, 2022.

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 2021 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 2021 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 2022.

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 the COVID-19 pandemic on the health of our employees, on our vendors and customers and on economic conditions affecting our business;
- 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, 2021.

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, 2022. 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, 2022.

Changes in Internal Control over Financial Reporting

On December 11, 2021, PCA acquired Advance Packaging Corporation ("Advance Packaging"). We are currently in the process of evaluating and integrating Advance Packaging's controls over financial reporting, which may result in changes or additions to PCA's internal control over financial reporting. Under guidelines established by the SEC, companies are permitted to exclude acquisitions from their assessment of internal control over financial reporting during the first year of an acquisition while integrating the acquired company. We excluded Advance Packaging from the assessment of internal control over financial reporting at September 30, 2022. Except as may relate to the integration of the Advance Packaging acquisition, there were no other changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) that occurred during the most recent fiscal quarter ended September 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. As of the quarter ended September 30, 2022, Advance Packaging accounted for approximately 2% of the Company's consolidated total assets. For both the three and nine months ended September 30, 2022, Advance Packaging accounted for approximately 1% of the Company's consolidated net sales.

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 IA. Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2021.

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, 2022:

Issuer Purchases of Equity Securities

Period	Total Number of Shares Purchased		Average Price Paid Per Share (b)	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, 2022	41,894		$ 134.32	—	$ 1,000.0
August 1-31, 2022	38,803		137.95	38,803	994.6
September 1-30, 2022	994,414	(a)	137.59	993,195	858.0
Total	1,075,111		$ 137.48	1,031,998	$ 858.0

(a) 1,219 shares were withheld from employees to cover income and payroll taxes on equity awards that vested during the period.
(b) Excludes commissions.

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 3, 2022

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 3, 2022

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 3, 2022

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, 2022 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 3, 2022

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, 2022 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 3, 2022