GREIF®

PACKAGING SUCCESS **TOGETHER**™

2020 ANNUAL REPORT

DEAR FELLOW SHAREHOLDERS,

Greif made meaningful progress across our strategic priorities – Engaged Teams, Differentiated Customer Service and Enhanced Performance – in 2020. While the ongoing global health pandemic created unprecedented challenges to our daily lives, we overcame these obstacles to accomplish much during this past year. This highlights our Greif team's discipline, resolve and extraordinary dedication to our business and customers.

Engaged Teams – Safe and engaged teams fuel Greif's ongoing success. To help counter potential colleague exposure to COVID-19, we changed how we worked and implemented advanced safety and health protocols across our global workplace this year. We also advanced toward our "zero harm" workplace aspiration with more than 50 percent of our manufacturing sites recording zero medical cases in 2020. To further improve our workplace, we completed our third annual colleague engagement survey and achieved a companywide engagement score placing Greif among the best performers in the manufacturing sector. Lastly, we expanded our colleague resource group offering to strengthen our commitment to diversity and inclusion. We also engaged our colleagues in active listening sessions about race and equality to ensure our behaviors align to our value systems outlined in The Greif Way.

Differentiated Customer Service – Our vision is, in industrial packaging, be the best performing customer service company in the world. Although COVID-19 forced us to interact with customers in new ways, it did not prevent us from serving their needs with excellence. In 2020 we launched an in-depth customer interview process to identify new markets and customer needs. We also completed our 10th Net Promoter Score (NPS) survey and achieved an all-time best score of 67, which represents a 10% improvement over our 2019 result.

Enhanced Performance – While macroeconomic uncertainty caused by COVID-19 impacted our profitability in 2020, we still advanced our financial priorities of generating cash and paying down debt. Adjusted Free Cash Flow improved by more than 29 percent versus 2019 thanks to disciplined operational execution and sharp working capital focus. We reduced net debt by more than $293 million dollars and rewarded our investors with more than $104 million in dividends. In addition to solid financial results, we made great progress on our sustainability journey. More than 35 of our manufacturing facilities achieved "zero waste to landfill" status, and we commenced third party assessments of our suppliers' sustainability performance to find opportunities for improvement. Finally, we were awarded with our third consecutive gold rating from EcoVadis for sustainability leadership and our third consecutive A- rating from CDP as part of their annual climate change assessment.

In summary, I am incredibly proud of how our global team adapted and responded to the unique and unprecedented challenges presented this past year. Looking ahead to 2021, the Greif team will remain laser focused on controlling the execution levers within our control as the world emerges from the pandemic. We have a solid foundation – our vision is clear; our teams are engaged; we are focused on serving our customers; and our financial priorities are sound. We will leverage our position and scale as the world's leading industrial packaging company to drive greater value for our colleagues, our communities and our shareholders. I am excited about our future. Thank you for your support and continued investment in Greif.

Best regards,

Peter G. Watson
President and Chief Executive Officer

GAAP TO NON-GAAP RECONCILIATION

ADJUSTED FREE CASH FLOW [1]

UNAUDITED

(in millions)	Twelve months ended October 31, 2020	2019	2018
Net cash provided by operating activities	$ 454.7	$ 389.5	$ 253.0
Cash paid for purchases of properties, plants and equipment	(131.4)	(156.8)	(140.2)
Free Cash Flow	$ 323.3	$ 232.7	$ 112.8
Cash paid for acquisition and integration related costs	17.0	29.7	0.7
Cash paid for debt issuance costs[2]	-	5.1	-
Additional U.S. pension contribution	-	-	65.0
Cash paid for incremental COVID-19 costs, net [3]	2.6	-	-
Cash paid for acquisition-related ERP systems [4]	3.3	0.3	-
Adjusted Free Cash Flow	$ 346.2	$ 267.8	$ 178.5

[1]Adjusted free cash flow is defined as net cash provided by operating activities, less cash paid for purchases of properties, plants and equipment, plus cash paid for aacquisition and integration related costs, plus cash paid for debt issuance costs, plus an additional one-time $65.0 million contribution made by the Company to its U.S. defined benefit plan during the third quarter of 2018, plus cash paid for incremental COVID-19 costs, net, plus cash paid for acquisition-related ERP systems.

[2]Cash paid for debt issuance costs is defined as cash payments for debt issuance related expenses included within net cash used in operating activities.

[3]Incremental COVID-19 costs, net includes costs directly attributable to COVID-19 such as costs incurred for incremental cleaning and sanitation efforts and employee safety measures, offset by economic relief received from foreign governments.

[4]Cash paid for acquisition-related ERP systems is defined as capital expenditures for the integration of Caraustar into Grief's global enterprise resource planning system.

GAAP TO NON-GAAP RECONCILIATION

NET DEBT [5]

UNAUDITED

(in millions)	October 31, 2020	October 31, 2019
Total Debt	2,487.0	2,751.9
Cash and cash equivalents	(105.9)	(77.3)
Net Debt	2,381.1	2,674.6

[5] Net debt is dened as total debt less cash and cash equivalents.

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

FORM 10-K

☑ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended October 31, 2020

or

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

Commission file number: 001-00566

GREIF
PACKAGING SUCCESS TOGETHER™

GREIF, INC.
(Exact name of Registrant as specified in its charter)

Delaware	**31-4388903**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
425 Winter Road Delaware Ohio	**43015**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code (740) 549-6000
Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Class A Common Stock	GEF	New York Stock Exchange
Class B Common Stock	GEF-B	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

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

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

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

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

Indicate by check mark 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	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

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

Indicate by check mark whether the Registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☑

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

The aggregate market value of voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold as of the last business day of the Registrant's most recently completed second fiscal quarter was as follows:

Non-voting common equity (Class A Common Stock) $860,619,382
Voting common equity (Class B Common Stock) $234,235,302

The number of shares outstanding of each of the Registrant's classes of common stock, as of December 14, 2020, was as follows:

Class A Common Stock 26,444,986 shares
Class B Common Stock 22,007,725 shares

Listed hereunder are the documents, portions of which are incorporated by reference, and the parts of this Form 10-K into which such portions are incorporated:

1. The Registrant's Definitive Proxy Statement for use in connection with the Annual Meeting of Stockholders to be held on February 23, 2021 (the "2021 Proxy Statement"), portions of which are incorporated by reference into Parts II and III of this Form 10-K. The 2021 Proxy Statement will be filed within 120 days of October 31, 2020.

IMPORTANT INFORMATION REGARDING FORWARD-LOOKING STATEMENTS

All statements, other than statements of historical facts, included in this Annual Report on Form 10-K of Greif, Inc. and its subsidiaries for the fiscal year ended October 31, 2020 (this "Form 10-K") or incorporated herein, including, without limitation, statements regarding our future financial position, business strategy, budgets, projected costs, goals and plans and objectives of management for future operations and initiatives, are forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Forward-looking statements generally can be identified by the use of forward-looking terminology such as "may," "will," "expect," "intend," "estimate," "anticipate," "aspiration," "objective," "project," "believe," "continue," "on track" or "target" or the negative thereof or variations thereon or similar terminology. All forward-looking statements made in this Form 10-K are based on information currently available to our management. Forward-looking statements speak only as of the date the statements were made. Although we believe that the expectations reflected in forward-looking statements have a reasonable basis, we can give no assurance that these expectations will prove to be correct. Forward-looking statements are subject to risks and uncertainties that could cause actual events or results to differ materially from those expressed in or implied by the statements. For a discussion of the most significant risks and uncertainties that could cause our actual results to differ materially from those projected, see "Risk Factors" in Item 1A of this Form 10-K. The risks described in this Form 10-K are not all inclusive, and given these and other possible risks and uncertainties, investors should not place undue reliance on forward-looking statements as a prediction of actual results. All forward-looking statements made in this Form 10-K are expressly qualified in their entirety by reference to such risk factors. Except to the limited extent required by applicable law, we undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Index to Form 10-K Annual Report for the Fiscal Year ended October 31, 2020

PART I

ITEM 1. BUSINESS

(a) General Development of Business

We are a leading global producer of industrial packaging products and services with operations in over 40 countries. We offer a comprehensive line of rigid industrial packaging products, such as steel, fibre and plastic drums, rigid intermediate bulk containers, closure systems for industrial packaging products, transit protection products, water bottles and remanufactured and reconditioned industrial containers, and services, such as container life cycle management, filling, logistics, warehousing and other packaging services. We produce and sell containerboard, corrugated sheets, corrugated containers, and other corrugated products to customers in North America in industries such as packaging, automotive, food and building products. We also produce and sell coated recycled paperboard and uncoated recycled paperboard, some of which we use to produce and sell industrial products (tubes and cores, construction products, protective packaging, and adhesives). In addition, we also purchase and sell recycled fiber. We are a leading global producer of flexible intermediate bulk containers and related services. We sell timber to third parties from our timberland in the southeastern United States that we manage to maximize long-term value. In addition, we sell, from time to time, timberland and special use land, which consists of surplus land, higher and better use ("HBU") land, and development land. Our customers range from Fortune 500 companies to medium and small-sized companies in a cross section of industries.

Our fiscal year begins on November 1 and ends on October 31 of the following year. Any references in this Form 10-K to the years, or to any quarter of those years, relates to the fiscal year or quarter, as the case may be, ended in that year, unless otherwise stated.

As used in this Form 10-K, the terms "Greif," the "Company," "we," "us," and "our" refer to Greif, Inc. and its subsidiaries.

(b) Financial Information about Segments

We operate in eight business segments, which are aggregated into four reportable business segments: Rigid Industrial Packaging & Services; Paper Packaging & Services; Flexible Products & Services; and Land Management. Information related to each of these segments is included in Note 15 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K.

(c) Narrative Description of Business

Sales

In the Rigid Industrial Packaging & Services segment, we are a leading global producer of rigid industrial packaging products, such as steel, fibre and plastic drums, rigid intermediate bulk containers, closure systems for industrial packaging products, transit protection products, water bottles and remanufactured and reconditioned industrial containers, and services, such as container life cycle management, filling, logistics, warehousing and other packaging services. We sell our industrial packaging products to customers in industries such as chemicals, paints and pigments, food and beverage, petroleum, industrial coatings, agricultural, pharmaceutical and minerals, among others.

In the Paper Packaging & Services segment, we produce and sell containerboard, corrugated sheets, corrugated containers, and other corrugated products to customers in North America in industries such as packaging, automotive, food and building products. Our corrugated container products are used to ship such diverse products as home appliances, small machinery, grocery products, automotive components, books and furniture, as well as numerous other applications. We also produce and sell coated recycled paperboard and uncoated recycled paperboard, some of which we use to produce and sell industrial products (tubes and cores, construction products, protective packaging, and adhesives). In addition, we also purchase and sell recycled fiber.

In the Flexible Products & Services segment, we are a leading global producer of flexible intermediate bulk containers and related services. Our flexible intermediate bulk containers consist of a polypropylene-based woven fabric that is produced at our production sites, as well as sourced from strategic regional suppliers. Our flexible products are sold globally and service customers and market segments similar to those of our Rigid Industrial Packaging & Services segment. Additionally, our flexible products significantly expand our presence in the agricultural and food industries, among others.

In the Land Management segment, we are focused on the active harvesting and regeneration of our United States timber properties to achieve sustainable long-term yields. While timber sales are subject to fluctuations, we seek to maintain a consistent cutting schedule, within the limits of market and weather conditions. We also sell, from time to time, timberland and special use land, which consists of surplus land, HBU land and development land. As of October 31, 2020, we owned approximately 244,000 acres of timber properties in the southeastern United States.

Due to the variety of our products, we have many customers buying different types of our products and due to the scope of our sales, no one customer is considered principal in our total operations.

COVID-19

The preparation of financial statements requires management to make estimates and assumptions that affect the amounts of assets, liabilities, revenues and expenses reported in such financial statements. Our actual results and outcomes during the year ended October 31, 2020 have been impacted by the COVID-19 pandemic, which has caused an economic downturn on a global scale, as well as significant market disruption and volatility. Because the scope, duration and magnitude of the effects of the COVID-19 pandemic continue to evolve, we cannot, at this time, predict the impact the pandemic will have on our future consolidated financial position, cash flows or results of operations; however, the impact could be material. Our future financial results and operations depend in part on the duration and severity of the pandemic and what actions are taken to mitigate the outbreak.

Markets

The markets in which we sell our products are highly competitive with many participants. Although no single company dominates, we face significant competitors in each of our businesses. Our competitors include large vertically integrated companies as well as numerous smaller companies. The industries in which we compete are particularly sensitive to price fluctuations caused by shifts in industry capacity and other cyclical industry conditions. Other competitive factors include design, quality and service, with varying emphasis depending on product line.

In both the rigid industrial packaging industry and the flexible products industry, we compete by offering a comprehensive line of products on a global basis. In the containerboard industry, we compete by concentrating on providing value-added, higher-margin corrugated products to niche markets. In our other paper packaging businesses, we compete by offering a comprehensive range of uncoated and coated paperboard products and diverse tube, core and other specialty products. In addition, over the past several years we have closed higher cost facilities and otherwise restructured our operations, which we believe has significantly improved our cost competitiveness.

Resources

Steel, resin and containerboard, as well as used industrial packaging for reconditioning, are the principal raw materials for the Rigid Industrial Packaging & Services segment, resin is the primary raw material for the Flexible Products & Services segment, and pulpwood, old corrugated containers, and recycled coated and uncoated paperboard are the principal raw materials for the Paper Packaging & Services segment. We satisfy most of our needs for these raw materials through purchases on the open market or under short-term and long-term supply agreements. All of these raw materials are purchased in highly competitive, price-sensitive markets, which have historically exhibited price, demand and supply cyclicality. From time to time, some of these raw materials have been in short supply at certain of our manufacturing facilities. In those situations, we ship the raw materials in short supply from one or more of our other facilities with sufficient supply to the facility or facilities experiencing the shortage. To date, raw material shortages have not had a material adverse effect on our financial condition or results of operations.

Government Laws and Regulations

We must comply with extensive laws, rules, and regulations in the United States and in each of the countries where we conduct business with respect to a variety of matters, including the compliance with government laws and regulations concerning the environment and health and safety matters. We do not believe that future compliance with government laws and regulations will have a material adverse effect on our capital expenditures, competitive position, results of operations or financial condition.

As to environmental matters, our operations are subject to extensive federal, state, local and international laws, regulations, rules and ordinances relating to pollution, the protection of the environment, the generation, storage, handling, transportation, treatment, disposal and remediation of hazardous substances and waste materials and numerous other environmental laws and regulations. In the ordinary course of business, we are subject to periodic environmental inspections and monitoring by various governmental agencies. In addition, certain of our production facilities require environmental permits that are subject to revocation, modification and renewal. As of the date of filing this Form 10-K, and based on current information, we believe that the probable costs of the remediation of company-owned property will not have a material adverse effect on our financial condition or results of operations. We believe that we have adequately reserved for our liability for these matters as of October 31, 2020.

As to the health and safety matters, our manufacturing operations involve the use of heavy equipment, machinery and chemicals and require the performance of activities that create safety exposures. The health and safety of our employees is our first and foremost priority, and we have established safety policies, programs, procedures, and training for our manufacturing operations. We are subject to extensive federal, state, local, and international laws, regulations, rules and ordinances relating to occupational health and safety, and our safety programs include measures required for compliance with these government laws and regulations. In addition, our safety programs include the ongoing identification and elimination of workplace exposures that can lead to injuries and sharing of health and safety best practices. We do not believe that future compliance with health and safety laws and regulations will have a material adverse effect on our capital expenditures, results of operations or financial condition.

We do not believe that compliance with federal, state, local and international laws and regulations that have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, has had or will have a material adverse effect upon our capital expenditures, competitive position, results of operations or financial condition. We do not anticipate any material capital expenditures related to environmental control in 2021. However, since 2017, three reconditioning facilities in the Milwaukee, Wisconsin area that are or were owned by Container Life Cycle Management LLC ("CLCM"), our U.S. reconditioning joint venture company, have been subject to investigations and proceedings conducted by federal, state and local governmental agencies concerning, among other matters, potential violations of environmental laws and regulations. One of these facilities was closed and its associated assets were sold during 2020. As a result of these investigations and proceedings, we have made, and in the future may need to make, capital expenditures at the two remaining facilities. But the costs associated with these capital expenditures have not been, and we do not expect the costs associated with any future capital expenditures will be, material. See Item 3 of this Form 10-K for additional information with respect to the proceedings involving these reconditioning facilities.

See also to Note 11 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional information concerning environmental expenses and cash expenditures for the periods ended October 31, 2020, 2019 and 2018, and our reserves for environmental liabilities as of October 31, 2020 and 2019.

Human Capital

Our Company's values and culture are critical to our ability to attract, hire and retain talented employees for our global businesses. We seek to engage, develop and incentivize our approximately 16,000 full-time employees, as of October 31, 2020, to pursue our vision: "In industrial packaging, be the best performing customer service company in the world." We depend on our employees to provide differentiated customer service and create value for our customers through a solutions-based approach with the goal of earning our customers' trust and loyalty. We work to accomplish this goal by looking to our values set forth in "The Greif Way" to establish a foundation for actions that support health and safety, diversity and inclusion, and talent development.

Health and Safety

Safeguarding the health and safety of our employees is our first and foremost priority. We are committed to providing a safe working environment for all our employees. In 2017, we implemented an incident tracking system that we call the LIFE program. We use data provided by the LIFE program to assist with identifying global and regional leading indicators and creating programs and safety action plans to reduce conditions and behaviors that lead to at-risk situations. To promote a continuous focus on safety, we have safety committees comprised of employees and management at all our facilities, and we conduct a safety meeting before every shift to help ensure our safety culture is understood and practiced every day. We are steadfast in our commitment to employee safety. For example, in 2019, we introduced a Global Safety Scorecard with standardized safety metrics within each business unit to help ensure that we are evaluating safety similarly across all or our operations.

In response to the COVID-19 global pandemic, we have remained focused on safeguarding the health of our employees by implementing new safety protocols and procedures across all our facilities. We have used a global task force and multiple regional task forces, all of which meet at least weekly and more often as needed, in addition to management at all levels to continuously monitor the impact of COVID-19 on our employees and proactively modify and adopt new measures and practices for the health and safety of our employees and in response to applicable local laws or ordinances.

Diversity and Inclusion

In accordance with our values, we encourage our employees to embrace diversity of culture, language, location and thought. Our success depends on maintaining a culture where every employee communicates with respect, candor and trust. We rely on the unique qualities and talents of our employees to help us meet our strategic priorities. As of October 31, 2020, our employees were located in the following geographic regions: 44% in North America; 40% in Europe, Middle East and Africa; 10% in Asia Pacific; and 6% in Latin America. Our global workforce is 23% female and 77% male, with approximately 43% represented by labor unions. Our efforts to continue to grow our global diversity and inclusion programs and to increase diversity within our Company is an organizational priority.

Talent Development

Attracting, developing, and retaining talented employees is an integral aspect of our human capital strategy and critical to our success. We have created a Global Talent Center, which is a centralized talent management platform focused on growing and developing our employees around the world. Our development and training programs are designed to enhance leadership, develop a customer service mindset and improve engagement. We have a performance development review and talent development process in which managers provide regular feedback and coaching to assist with the development of our employees, including the use of individual development plans to assist with individual career development. In 2019, 92% of eligible employees completed their annual performance development review. In 2021, we will continue to focus on improving our learning and development efforts, which includes the launch of "Greif University," a centralized training hub across our organization.

(d) Financial Information about Geographic Areas

Our operations are located in North and South America, Europe, the Middle East, Africa and the Asia Pacific regions. Information related to our geographic areas of operation is included in Note 15 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K. See also to Quantitative and Qualitative Disclosures about Market Risk included in Item 7A of this Form 10-K.

(e) Available Information

We maintain a website at www.greif.com. We file reports with the United States Securities and Exchange Commission ("SEC") and make available, free of charge, on or through our website, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy and information statements and amendments to these reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we have electronically filed such material with, or furnished it to, the SEC.

Any of the materials we file with the SEC may also be read and/or copied at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. Information on the operation of the SEC's Public Reference Room may be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov.

(f) Other Matters

Our Class A Common Stock and Class B Common Stock are listed on the New York Stock Exchange ("NYSE") under the symbols GEF and GEF.B, respectively. Our Chief Executive Officer has timely certified to the NYSE that, at the date of the certification, he was unaware of any violation by our Company of the NYSE's corporate governance listing standards. In addition, our Chief Executive Officer and Chief Financial Officer have provided certain certifications in this Form 10-K regarding the quality of our public disclosures. See Exhibits 31.1 and 31.2 to this Form 10-K.

ITEM 1A. RISK FACTORS

Statements contained in this Form 10-K may be "forward-looking" within the meaning of Section 21E of the Exchange Act. Such forward-looking statements are subject to certain risks and uncertainties that could cause our operating results to differ materially from those projected. The following factors, among others, in some cases have affected, and in the future could affect, our actual financial or operational performance, or both.

Risks Related to Market and Economic Factors

Historically, our Business has been Sensitive to Changes in General Economic or Business Conditions.

Our customers generally consist of other manufacturers and suppliers who purchase industrial packaging products and containerboard and related corrugated products for their own containment and shipping purposes. Because we supply a cross section of industries, such as chemicals, films, paints and pigments, food and beverage, petroleum, industrial coatings, carpeting, agricultural, pharmaceutical, mineral products, packaging, automotive, construction and building products industries and have operations in many countries, demand for our products and services has historically corresponded to changes in general economic and business conditions of the industries and countries in which we operate. The overall demand and prices for our products and services could decline as a result of a large number of factors outside our control, including economic recessions, the COVID-19 global pandemic and any future pandemics, changes in industrial production processes or consumer preference, changes in laws and regulations, inflation, tariffs, changes in published pricing indices, fluctuations in interest and currency exchange rates and changes in the fiscal or monetary policies of governments in the regions in which we operate. Accordingly, our financial performance is substantially dependent upon the general economic and business conditions existing in these industries and countries where we do business, and any prolonged or substantial economic downturn in the markets in which we operate could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our Global Operations Subject us to Currency Exchange and Political Risks that Could Adversely Affect our Results of Operations.

We have operations in over 40 countries with approximately 40.6% of our 2020 sales derived from non-U.S. operations. Management of global operations is extremely complex, and operations outside the United States are subject to additional risks that may not exist, or be as significant, in the United States. As a result of our global operations, we are subject to certain risks that could disrupt our operations or force us to incur unanticipated costs. These risks include the following:

- political, social, economic and labor instability
- war, invasion, civil disturbance or acts of terrorism;
- taking of property by nationalization or expropriation without fair compensation;
- changes in government policies and regulations and enforcement thereof, including selectivity or discrimination in the enforcement thereof;
- loss or non-renewal of treaties or similar agreements with foreign tax authorities and
- difficulties in enforcement of contractual obligations;
- imposition of limitations on conversions of currencies into United States dollars or remittance of dividends and other payments by international subsidiaries;
- imposition or increase of withholding and other taxes on income remittances and other payments by international subsidiaries;
- hyperinflation, currency devaluation or defaults in certain countries;
- impositions or increase of investment and other restrictions or requirements by non-U.S. governments;
- national and regional labor strikes, whether legal or illegal and other labor or social actions;
- restrictive governmental trade policies, customs, tariffs, trade-wars, international boycotts, sanctions, import/export and other trade compliance regulations; and
- financial uncertainties in our major international markets, including uncertainties surrounding the United Kingdom's withdrawal from the European Union.

We also have indebtedness, agreements to purchase raw materials and agreements to sell finished products that are denominated in Euros, Turkish Lira, Russian Rubles and other currencies. Our operating performance is affected by fluctuations in currency exchange rates by:

- translations into United States dollars for financial reporting purposes of the assets and liabilities of our Non-U.S. operations conducted in local currencies; and
- gains or losses from transactions conducted in currencies other than the operation's functional currency.

The COVID-19 Pandemic Could Continue to Impact Any Combination of our Business, Financial Condition, Results of Operations and Cash Flows.

The global impact of COVID-19 continues to rapidly evolve and is creating significant economic uncertainty and volatility in the world economy due to the severity of the virus, the duration of the pandemic, and what future actions may be taken by governmental authorities to attempt to mitigate the spread and contain potential new outbreaks. As a result, at this time, we cannot reasonably estimate the full impact of the COVID-19 pandemic.

The persistence of the virus and further deterioration of economic conditions, and continued disruption to our customers and their end markets or to the global supply chain due to the COVID-19 pandemic could have a significant negative impact on our financial condition, results of operations and cash flows. The products we manufacture and the services we provide have been deemed "essential" and, as a result, government authorities in every country in which we do business have allowed our operations to continue without significant disruption. In recent months, government restrictions have been relaxed on many businesses, but with recent resurgence of the virus in the Americas and EMEA, governments may seek to re-impose business shut downs and operational restrictions, which could further impact our customers, their end markets, and our suppliers, especially those that are deemed "nonessential" businesses. A lack of demand by our customers or a lack of demand for our customers' products may translate into a lack of demand for our products and in turn could have a material adverse effect on our business, financial condition, results of operations and cash flows.

To attempt to mitigate the financial risks directly related to the COVID-19 pandemic, we have developed and implemented operational plans that we believe will help us be prepared to continue supplying our products and services to our customers. Our primary concern is the health and safety of our workforce. In that regard, we have implemented precautionary measures that are designed to help minimize the risk of our employees being exposed to the virus. Some additional factors we believe could have a material adverse effect on our business, financial condition, results of operations and cash flows include: extended facility closures or operations at reduced capacities if employees are unable to work due to sickness or the need to quarantine; temporary downtime if demand for our products are dramatically reduced; costs of keeping our employees safe at work; loss of key customers; competitive pressures; supplier relationships; delay in cost savings and operating efficiency projects; cyber security threats; potential impact on our internal controls; reactions by federal and state governmental agencies; inflation; and access to capital markets.

The Current and Future Challenging Global Economy and Disruption and Volatility of the Financial and Credit Markets may Adversely Affect our Business.

Current global economic conditions are challenging to our global business operations. Such conditions have had, and may continue to have, a negative impact on our financial results. Future economic downturns, either in the United States, Europe or in other regions in which we do business could negatively affect our business and results of operations. The volatility of the current economic climate, especially in relation to ongoing uncertainties related to the COVID-19 pandemic and geopolitical events around the world, including the imposition of trade tariffs, makes it difficult for us to predict the complete impact of the forgoing matters on our business and results of operations. Due to these current and future economic conditions, our customers may face financial difficulties, disruption in their supply chains, and the unavailability of or reduction in commercial credit that may result in decreased sales by and revenues to our company. Certain of our customers may cease operations or seek bankruptcy protection, which would reduce our cash flows and adversely impact our results of operations. Our customers that are financially viable and not experiencing economic distress may nevertheless elect to reduce the volume of orders for our products or close facilities in an effort to remain financially stable or as a result of the unavailability of commercial credit which would negatively affect our results of operations. We may experience difficulties in servicing, renewing or repaying our outstanding debt due to continued volatility in the global economy. We may also have difficulty accessing the global credit markets if there is a tightening of commercial credit availability, which would result in decreased ability to fund capital-intensive strategic projects.

Further, we may experience challenges in forecasting revenues and operating results due to these global economic conditions. The difficulty in forecasting revenues and operating results may result in volatility in the market price of our common stock.

In addition, the lenders under our senior secured credit agreement and other borrowing facilities described in Item 7 of this Form 10-K under Liquidity and Capital Resources - Borrowing Arrangements and the counterparties with whom we maintain interest rate swap agreements, currency forward contracts and derivatives and other hedge agreements may be unable to perform their lending or payment obligations in whole or in part, or may cease operations or seek bankruptcy protection, which would negatively affect our cash flows and our results of operations.

A downgrade in our credit rating could also impact our ability to effectively finance our operations and could lead to increased borrowing costs and limits on our access to capital.

The equipment that we use in our manufacturing operations is expensive and requires continued maintenance. We require significant capital investment to maintain our equipment. If our existing sources of capital prove insufficient, there can be no assurance that we will be able to obtain capital to finance these expenditures on favorable terms, or at all. Any inability by us to maintain our equipment as needed or any inability to obtain capital for expenditures on equipment maintenance on favorable terms could have an adverse effect on our business, financial position and results of operations.

Risks Related to Industry Conditions

The Continuing Consolidation of our Customer Base and Suppliers may Intensify Pricing Pressure.

Over the last few years, many of our large industrial packaging, containerboard and corrugated products customers have acquired, or been acquired by, companies with similar or complementary product lines. In addition, many of our suppliers of raw materials such as steel, resin and paper, have undergone a similar process of consolidation. This consolidation has increased the concentration of our largest customers, resulting in increased pricing pressures from our customers. The consolidation of our largest suppliers has resulted in limited sources of supply and increased cost pressures from our suppliers. Any future consolidation of our customer base or our suppliers could negatively impact our business, financial condition, results of operations and cash flows. This consolidation could be accelerated by the impact of COVID-19 on our customers and suppliers. Furthermore, if one or more of our major customers reduces, delays or cancels substantial orders, if one or more of our major suppliers is unable to timely produce and deliver our orders our business, financial condition, results of operations and cash flows may be materially and adversely affected, particularly for the period in which the reduction, delay or cancellation occurs and also possibly for subsequent periods.

We Operate in Highly Competitive Industries.

Each of our business segments operates in highly competitive industries. The most important competitive factors we face are price, quality and service. To the extent any of our competitors become more successful with respect to any of these key competitive factors, we could lose customers and our sales could decline. In addition, due to the tendency of certain customers to diversify their suppliers, we could be unable to increase or maintain sales volumes with particular customers. Certain of our competitors are substantially larger and have significantly greater financial resources.

In addition, some of our products are made from raw materials that are subject to pronounced price fluctuations, such as steel, which is used in the manufacture of steel drums and containers, old corrugated containers, and oil, which in turn affects the price of resin for plastic drums and containers. Particularly in well-developed markets in Europe and in the United States, any substantial increases in the supply of industrial packaging resulting from capacity increases, the stockpiling of raw materials or other types of opportunistic behavior by our competitors in a period of high raw materials prices, or price wars, could adversely affect our margins and the profitability of our business. Although price is a significant basis of competition in our industry, we also compete on the basis of product reliability, the ability to deliver products on a global scale and our reputation for quality and customer service. If we fail to maintain our current standards for product quality, the scope of our distribution capabilities or our customer relationships, business, financial condition, results of operations and cash flows could be adversely affected.

Negative media reports about us or our businesses, whether accurate or inaccurate, could damage our reputation and relationships with our customers and suppliers, cause customers and suppliers to terminate their relationship with us, or impair our ability to effectively compete, which could adversely affect our business, financial condition, results of operations and cash flows.

Our Business is Sensitive to Changes in Industry Demands and Customer Preferences.

Industry demand for certain of our industrial packaging products in our United States, European and other international markets has varied in recent years causing competitive pricing pressures for those products. We compete in industries that are capital intensive, which generally leads to continued production as long as prices are sufficient to cover marginal costs. As a result, changes in industry demands (including any resulting industry over-capacity) and increased new capacity for production of industrial packaging products by competitors, may cause substantial price competition and, in turn, negatively impact our business, financial condition, results of operations and cash flows. Additionally, customer preferences are constantly changing based on, among other factors, cost, convenience, health, environmental and social concerns, and customers may choose to use different packaging products other than the products we manufacture as their business models change, or may choose to use alternative materials for their packaging products or simply forego the packaging of certain products entirely. For example, in the United States, sales of fibre drums continue to decline on a year over year basis as some customers select other packaging solutions for their products. Any shift away from packaging products we manufacture or changes in customer preferences may adversely affect our business, financial condition, results of operations and cash flows.

Raw Material, Energy and Transportation Price Fluctuations and Shortages may Adversely Impact our Manufacturing Operations and Costs.

The principal raw materials used in the manufacture of our products are steel, resin, pulpwood, and recycled pulp from old corrugated containers and recycled coated and uncoated paperboard, used industrial packaging for reconditioning, and containerboard, which we purchase or otherwise acquire in highly competitive, price sensitive markets. These raw materials have historically exhibited price and demand cyclicality. In addition, we manufacture certain component parts for our rigid industrial packaging products and those of some of our competitors. Some of these materials and component parts have been, and in the future may be, in short supply. For example, the availability of these raw materials and component parts and/or our ability to purchase and transport these raw materials and produce and transport these component parts may be unexpectedly disrupted by adverse weather conditions, natural disasters, man-made disasters, a substantial economic downturn in the industries that provide any of those raw materials, or competition for use of raw materials and component parts in other regions or countries. However, we have not recently experienced any significant difficulty in obtaining our principal raw materials or component parts, despite the COVID-19 pandemic. With the economic uncertainty surrounding the COVID-19 pandemic and its severity and duration, we could incur significant raw material prices increases in the future which would likely have an adverse effect on our operating margins. We have long-term supply contracts in place for obtaining a portion of our principal raw materials. The cost of producing our products is also sensitive to the price of energy (including its impact on transport costs). Energy prices, in particular oil and natural gas, have fluctuated in recent years, with a corresponding effect on our production costs. Potential legislation, regulatory action and international treaties related to climate change, especially those related to the regulation of greenhouse gases, may result in significant increases in raw material and energy costs. We are highly reliant on the trucking industry for the transportation of our products. The overall profitability of our operations may be negatively impacted by higher transportation costs as freight carriers raise prices to address the continued shortage of drivers and market tightness. There can be no assurance that we will be able to recoup any past or future increases in the cost of energy, transportation and raw materials.

The Frequency and Volume of our Timber and Timberland Sales Will Impact our Financial Performance.

We have a significant inventory of standing timber and timberland and approximately 18,800 acres of special use properties in the United States as of October 31, 2020. The frequency, demand for and volume of sales of timber, timberland and special use properties will have an effect on our financial condition, results of operations and cash flows. In addition, volatility in the real estate market for special use properties could negatively affect our results of operations.

Risks Related to our Operations

We may not Successfully Implement our Business Strategies, Including Achieving our Growth Objectives.

We may not be able to fully implement our business strategies or realize, in whole or in part within the expected time frames, the anticipated benefits of our growth and other initiatives. Our various business strategies and initiatives are subject to significant business, economic and competitive uncertainties and contingencies, many of which are beyond our control.

In addition, we may incur certain costs to achieve efficiency improvements and growth in our business and we may not meet anticipated implementation timetables or stay within budgeted costs. As these growth initiatives are undertaken, we may not fully achieve our expected cost savings and efficiency improvements or growth rates, or these initiatives could adversely impact our customer retention or our operations. Also, our business strategies may change from time to time in light of our ability to implement our new business initiatives, competitive pressures, economic uncertainties or developments, such as the COVID-19 pandemic, or other factors. A variety of risks could cause us not to realize some or all of the expected benefits of these initiatives. These risks include, among others, delays in the anticipated timing of activities related to such initiatives, strategies and operating plans; increased difficulty and costs in implementing these efforts; and the incurrence of other unexpected costs associated with operating the business. As a result, there can be no assurance that we will realize these benefits. If, for any reason, the benefits we realize are less than our estimates or the implementation of these growth initiatives and business strategies adversely affect our operations or cost more or take longer to effectuate than we expect, or if our assumptions prove inaccurate, our business, financial condition, results of operations and cash flows may be adversely affected.

We may Encounter Difficulties or Liabilities Arising from Acquisitions or Divestitures.

We have invested a substantial amount of capital in acquisitions, joint ventures and strategic investments and we expect that we will continue to do so in the foreseeable future. We are continually evaluating acquisitions and strategic investments that are significant to our business both in the United States and internationally. Acquisitions, joint ventures and strategic investments involve numerous risks, including the failure to identify suitable acquisition candidates, complete acquisitions on acceptable terms and conditions, retain key customers, employees and contracts, the inability to integrate businesses without material disruption, unanticipated costs incurred in connection with integrating businesses, the incurrence of liabilities greater than anticipated or operating results that are less than anticipated, the inability to realize the projected value, and the inability to realize projected synergies. In addition, acquisitions, joint ventures and strategic investments and associated integration activities require time and attention of management and other key personnel. There can be no assurance that any acquisitions, joint ventures and strategic investments will be successfully integrated into our operations, that competition for acquisitions will not intensify or that we will be able to complete such acquisitions, joint ventures and strategic investments on acceptable terms and conditions. The costs of unsuccessful acquisition, joint venture and strategic investment efforts may adversely affect our business, financial condition results of operations and cash flows.

Additionally, in connection with any acquisitions or divestitures, we may become subject to contingent liabilities or legal claims, including but not limited to third party liability and other tort claims; claims for breach of contract; employment-related claims; environmental, health and safety liabilities, conditions or damage; permitting, regulatory or other compliance with law issues; or tax liabilities. If we become subject to any of these liabilities or claims, and they are not adequately covered by insurance or an enforceable indemnity or similar agreement from a creditworthy counterparty, we may be responsible for significant out-of-pocket expenditures. These liabilities, if they materialize, could have an adverse effect on our business, financial condition, results of operations and cash flows.

The Acquisition of Caraustar Subjects us to Various Risks and Uncertainties.

The acquisition of Caraustar Industries, Inc. and its subsidiaries (“Caraustar”) on February 11, 2019 (the “Caraustar Acquisition”) was the largest acquisition in our history. As a result of this acquisition, we are subject to various risks and uncertainties, including the failure to retain key customers, employees and contracts, the inability to integrate businesses without material disruption, unanticipated costs incurred in connection with integrating businesses, the incurrence of liabilities greater than anticipated or operating results that are less than anticipated, the inability to realize the projected value, and the inability to realize projected synergies, cost savings, operating efficiencies and other benefits, especially as a result of the COVID-19 pandemic, we may experience a delay in the anticipated timing and increased difficulty and costs in implementing these efforts. We may encounter difficulties with integrating Caraustar’s operations into our operations, including inconsistencies in standards, systems and controls, which may divert management’s focus and resources from ordinary business activities and opportunities. We may encounter unforeseen internal control, regulatory or compliance issues. Any of the foregoing could adversely affect our business, financial condition, results of operations and cash flows.

We may Incur Additional Restructuring Costs and there is no Guarantee that our Efforts to Reduce Costs will be Successful.

We have restructured portions of our operations from time to time in recent years, particularly following acquisitions of businesses, and periods of economic downturn due to local, regional or global economic conditions. We will continue to implement continuous improvement initiatives necessary or desirable to improve our business portfolio, address underperforming assets and generate additional cash. These initiatives may include selling, general and administrative reductions throughout our Company and have and will likely continue to result in the rationalization of manufacturing facilities.

The rationalization of our manufacturing facilities may result in temporary constraints upon our ability to manufacture the quantity of products necessary to fill orders and thereby complete sales in a timely manner. In addition, system upgrades at our manufacturing facilities that impact ordering, production scheduling and other related manufacturing processes are complex, and could impact or delay production targets. A prolonged delay in our ability to fill orders on a timely basis could affect customer demand for our products and increase the size of our product inventories, causing future reductions in our manufacturing schedules and adversely affecting our results of operations. Moreover, our continuous development and production of new products will often involve the retooling of existing manufacturing facilities. This retooling may limit our production capacity at certain times in the future, which could adversely affect our business, financial condition, results of operations and cash flow. In addition, the expansion and reconfiguration of existing manufacturing facilities could increase the risk of production delays, as well as require significant investments of capital.

While we expect these initiatives to result in significant profit opportunities and savings throughout our organization, our estimated profits and savings are based on several assumptions that may prove to be inaccurate, and as a result, there can be no assurance that we will realize these profits and cost savings or that, if realized, these profits and cost savings will be sustained. Failure to achieve or delays in achieving projected levels of efficiencies and cost savings from such measures, or unanticipated inefficiencies resulting from manufacturing and administrative reorganization actions in progress or contemplated, could adversely affect our business, financial condition, results of operations and cash flows and harm our reputation.

Several Operations are Conducted by Joint Ventures that we Cannot Operate Solely for our Benefit.

Several operations, particularly in developing countries, are conducted through joint ventures, such as a significant joint venture in our Flexible Products & Services segment. In countries that require us to conduct business through a joint venture with a local joint venture partner, the loss of a joint venture partner or a joint venture partner's loss of its ability to conduct business in such country may impact our ability to conduct business in that country. Sanctions that apply to a partner of a joint venture or to a joint venture's directors or officers could also impact our ability to conduct business through that joint venture.

In joint ventures, we share ownership and, in some instances, management of a company with one or more parties who may or may not have the same goals, strategies, priorities or resources as we do. In general, joint ventures are intended to be operated for the benefit of all co-owners, rather than for our exclusive benefit. Operating a business as a joint venture often requires additional organizational formalities as well as time-consuming procedures for sharing information, accounting and making decisions. In certain cases, our joint venture partners must agree in order for the applicable joint venture to take certain actions, including acquisitions, the sale of assets, budget approvals, borrowing money and granting liens on joint venture property. Our inability to take unilateral action that we believe is in our best interests may have an adverse effect on the financial performance of the joint venture and the return on our investment. In joint ventures, we believe our relationship with our co-owners is an important factor to the success of the joint venture, and if a co-owner changes, our relationship may be adversely affected. In addition, the benefits from a successful joint venture are shared among the co-owners, so that we do not receive all the benefits from our successful joint ventures. Finally, we may be required on a legal or practical basis or both, to accept liability for obligations of a joint venture beyond our economic interest, including in cases where our co-owner becomes bankrupt or is otherwise unable to meet its commitments. For additional information with respect to the joint venture relating to our Flexible Products & Services segment, see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations - Variable Interest Entities.

Certain of the Agreements that Govern our Joint Ventures Provide our Partners With Put or Call Options.

The agreements that govern certain of our current joint ventures under certain circumstances provide the joint venture partner with the right to sell their participation in the joint venture to us or the right to acquire our participation in the joint venture. Some of the joint venture agreements provide that the joint venture partner can sell its participation for a certain purchase price calculated on the basis of a fixed multiple. Such put and call rights may result in financial risks for us. In addition, such rights could negatively impact our operations if as a result of their exercise we lose access to members of our management teams that are familiar with local markets or distribution and manufacturing channels.

Our Ability to Attract, Develop and Retain Talented and Qualified Employees, Managers and Executives is Critical to our Success.

Our ability to attract, develop and retain talented and qualified employees, including executives and other key managers, is critical to pursuing our vision of: "In industrial packaging, be the best performing customer service company in the world." We need an engaged workforce to serve our customers, and this becomes more challenging with more office employees working remotely and with production employees working with enhanced health and safety protocols. Hiring and effectively onboarding qualified employees is becoming more challenging due to the COVID-19 pandemic. The retirement of or unforeseen loss of key officers and employees without appropriate succession planning or the ability to develop or hire replacements could hinder our strategic planning and make it difficult to manage our business and meet our objectives, resulting in a material adverse effect on our business, financial condition, results of operations and cash flows.

Our Business may be Adversely Impacted by Work Stoppages and Other Labor Relations Matters.

We are subject to risk of work stoppages and other labor relations matters, with approximately 43% of our employees around the world represented by unions. We have experienced work stoppages and strikes in the past, and there may be work stoppages and strikes in the future. Any prolonged work stoppage or strike at any one of our principal manufacturing facilities could have a negative impact on our business, financial condition, results of operations and cash flows. In addition, upon the expiration of existing collective bargaining agreements, we may not reach new agreements without union action and any such new agreements may not be on terms satisfactory to us.

We may be Subject to Losses that Might not be Covered in Whole or in Part by Existing Insurance Reserves or Insurance Coverage and General Insurance Premium and Deductible Increases.

We are self-insured or carry large deductibles for certain of the claims made under our employee medical and dental insurance programs and for certain of our workers' compensation claims. We utilize outside actuarial services to establish reserves for estimated costs related to pending claims, administrative fees and claims incurred but not reported. Because establishing reserves is an inherently uncertain process involving estimates, currently established reserves may not be adequate to cover the actual liability for claims made under our employee medical and dental insurance programs and for certain of our workers' compensation and liability claims. If it is concluded that our estimates are incorrect and our reserves are inadequate for these claims, we will need to increase our reserves, which could adversely affect our financial condition, results of operations and cash flows.

We have comprehensive liability, fire and extended coverage insurance on our facilities and operations, with policy specifications and insured limits customarily carried for similar properties. However, there are certain types of losses, such as losses resulting from wars, acts of terrorism, windstorm, flood, earthquake or other natural disasters, or pollution, that may be uninsurable or subject to restrictive policy conditions or subject to very large deductibles. In these instances, should a loss occur in excess of insured limits, we could lose capital invested in that property, as well as the anticipated future revenues derived from the manufacturing activities conducted at that property, while remaining obligated for any financial obligations related to the property. Any such loss would adversely impact our business, financial condition, results of operations and cash flows. We purchase insurance policies covering general liability and product liability with substantial policy limits. However, there can be no assurance that any liability claim would be adequately covered by our applicable insurance policies or it would not be excluded from coverage based on the terms and conditions of the policy. This could also apply to any applicable contractual indemnity. We also purchase environmental liability policies where legally required and may elect to purchase coverage in other circumstances in order to transfer all or a portion of environmental liability risk through insurance. However, there can be no assurance that any environmental liability claim would be adequately covered by our applicable insurance policies or that it would not be excluded from coverage based on the terms and conditions of the policy. We do not purchase crop insurance for our timberland holdings, and a forest fire or other event could damage a material amount of timber.

The costs of insurance coverage continue to increase, along with increases in the level of deductibles, and the availability of some insurance coverages is decreasing due to extensive property damage caused by natural disasters, increased cyber security breaches, runaway jury verdicts and other business and employment litigation and losses. Any substantial increases in our insurance premiums or the availability of insurance policies could adversely affect our business, financial condition, results of operations and cash flows.

Our Business Depends on the Uninterrupted Operations of our Facilities, Systems and Business Functions, Including our Information Technology (''IT'') and Other Business Systems.

Our business is dependent upon our ability to execute, in an efficient and uninterrupted fashion, necessary business functions, such as accessing key business data, financial information, order processing, invoicing and the operation of IT dependent manufacturing equipment. In addition, a significant portion of the communication between our employees, customers and suppliers around the world depends on our IT systems. As a result of the COVID-19 pandemic, our reliance on our IT systems and Internet usage has increased significantly as substantially more employees are working remotely. A significant interruption or major failure of the Internet, a shut-down of or inability to access one or more of our facilities, a power outage, or a failure of one or more of our IT, telecommunications or other systems would substantially impair our ability to perform daily functions on a timely basis and could result in a material adverse impact on our operations.

We are in the process of implementing a standard IT platform across our business and have successfully completed implementation in over half of our locations. Though there are other locations globally, the locations acquired as part of the Caraustar Acquisition represent the majority of locations in which implementation is still in progress. The transition from many former systems, many of which were acquired in connection with business acquisitions, to a single system will reduce complexity and inefficiencies in monitoring business results and consolidating financial data. The transition could result in adverse business effects. This project has been ongoing for several years requiring significant human and financial resources and is expected to extend into 2022, with work at our Flexible Products & Services operations and former Caraustar operations being completed later in 2021. These projects may be further delayed as a result of the COVID-19 pandemic. There can be no assurance that this project will be successful, and even if successful, there can be no assurance that other difficulties and inefficiencies will not still exist in our systems.

We have established a business continuity plan in an effort to ensure the continuation of core business operations in the event that normal operations could not be performed due to a catastrophic event. While we continue to test and assess our business continuity plan to ensure it meets the needs of our core business operations and addresses multiple business interruption events, there is no assurance that core business operations could be performed upon the occurrence of such an event which may have a material adverse effect on our business, financial condition, results of operations and cash flows.

A Security Breach of Customer, Employee, Supplier or Company Information may have a Material Adverse Effect on our Business, Financial Condition, Results of Operations and Cash Flows.

In the conduct of our business, we collect, use, transmit, store and report data on information systems and interact with customers, vendors and employees. Increased global IT security threats and more sophisticated and targeted computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data. Despite our security measures, our IT systems and infrastructure may be vulnerable to computer viruses, cyber-attacks, security breaches caused by employee error or malfeasance or other disruptions, especially during the COVID-19 pandemic as significantly more office employees continue to work remotely. Any such threat could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. A security breach of our computer systems could interrupt or damage our operations or harm our reputation, or both. In addition, we could be subject to legal claims or proceedings, liability under laws that protect the privacy of personal information and regulatory penalties if confidential information relating to customers, suppliers, employees or other parties is misappropriated from our computer system. To date, we have seen no material impact on our business or operations from these threats. However, we cannot ensure that our security efforts will prevent unauthorized access or loss of functionality to our or our third-party providers' systems.

The regulatory framework for privacy issues is evolving worldwide, and various government and consumer agencies and public advocacy groups have called for new regulation and changes in industry practices. In May 2018, the EU enacted the General Data Protection Regulation, which provides for significantly increased responsibilities for companies that process EU personal data as well as significant penalties for noncompliance. In July 2020, the EU Courts invalidated the EU-US Privacy Shield as an appropriate transfer mechanism of personal data into the US. As a result, we may be unsuccessful in maintaining legitimate means of transferring and receiving personal data and face a risk of enforcement actions by data protection authorities. Any such enforcement actions could result in substantial costs and a material adverse effect on our business, financial condition, results of operations and cash flows. Furthermore, outside of the EU, we continue to see increased regulation of data privacy and security, creating a patchwork of U.S. state privacy laws, such as the California Consumer Privacy Act of 2018, and national laws regulating the collection and use of data, as well as security and data breach obligations.

Risks Related to Financial Reporting

Changes in U.S. Generally Accepted Accounting Principles (''GAAP'') and SEC Rules and Regulations Concerning the Maintenance of Effective Internal Controls Could Materially Impact our Reported Financial Results.

GAAP and SEC accounting and reporting changes have become more frequent and significant in the past several years. Due to the complexity and scope of our business segments, our joint ventures relationships, conducting business in over 40 countries and operating over 200 production facilities, these changes could have significant effects on our reported results when compared to prior periods and other companies and may even require us to retrospectively adjust prior periods from time to time. Additionally, material changes to the presentation of transactions in the consolidated financial statements could impact key ratios that analysts and credit rating agencies use to rate our company, increase our cost of borrowing and ultimately our ability to access the credit markets in an efficient manner.

The maintenance of effective internal controls is necessary to provide reliable financial reports and to assist in the prevention of fraud. We are required by the SEC rules and regulations to annually evaluate our internal control procedures and to assess the effectiveness of our internal controls. The number of facilities and our global footprint, as well as the acquisition from time to time of privately-held businesses, creates unique challenges for our maintenance of effective internal controls. As described in Item 9A of this Form 10-K, management has concluded that our internal controls over financial reporting were effective as of October 31, 2020. In the past, we have reported material weaknesses in the adequacy of our internal controls, and there is no assurance that, in the future, material weaknesses will not be identified that would cause management to change its current conclusion as to the effectiveness of our internal controls. If we fail to maintain effective internal controls, including as a result of the COVID-19 pandemic, we could report material weaknesses in the future, indicating that there is a reasonable possibility that a material misstatement may not be prevented or detected on a timely basis.

We Could be Subject to Changes in our Tax Rates, the Adoption of New U.S. or Foreign Tax Legislation or Exposure to Additional Tax Liabilities.

The multinational nature of our business subjects us to taxation in the United States and numerous foreign jurisdictions. Due to economic and political conditions, tax rates in various jurisdictions may be subject to significant change. Our future effective tax rates could be affected by changes in the mix of earnings in countries with differing statutory tax rates, changes in the valuation of deferred tax assets and liabilities, or changes in tax laws or their interpretation.

Tax laws are complex and subject to varying interpretations. At this time, we believe we are properly reflecting the provision for taxes on income using all current enacted global tax laws in every jurisdiction in which we operate. However, there can be no assurance that our tax positions will not be challenged by relevant tax authorities or that we would be successful in any such challenge.

Full Realization of our Deferred Tax Assets may be Affected by a Number of Factors.

We have deferred tax assets, including foreign net operating loss carryforwards and foreign capital loss carryforwards, employee and retiree benefit items, and other accruals not yet deductible for tax purposes. In certain cases, we have established valuation allowances to reduce those deferred tax assets to an amount that is more likely than not to be realized. Our ability to use these deferred tax assets depends in part upon our having future taxable income during the periods in which these temporary differences reverse or our ability to carry back any losses created by the deduction of these temporary differences. We expect to realize these assets over an extended period. However, if we were unable to generate sufficient future taxable income in the U.S. and certain foreign jurisdictions, or if there were a significant change in the time period within which the underlying temporary differences became taxable or deductible, we could be required to increase our valuation allowances against our deferred tax assets, which could have an adverse effect on our financial condition, results of operations and cash flows.

Our Level of Indebtedness Could Adversely Affect our Liquidity, Limit our Flexibility in Responding to Business Opportunities, and Increase our Vulnerability to Adverse Changes in Economic and Industry Conditions.

We incurred substantial indebtedness to finance the Caraustar Acquisition. As a result of our level of indebtedness, a substantial portion of our cash flows are dedicated to the payment of principal and interest on our indebtedness. This level of indebtedness also reduces our liquidity; limits our flexibility in responding to new business opportunities; reduces funds available for working capital, capital expenditures and other general corporate purposes; increases our vulnerability to adverse economic and industry conditions; exposes us to the risk of increased interest rates and corresponding increased interest expense, which may be exacerbated by the COVID-19 pandemic; limits our ability to obtain additional financing for working capital, capital expenditures, acquisitions and general corporate or other purposes; and could place us at a competitive disadvantage compared to our competitors who have less debt. In addition, the failure to comply with the financial and other restrictive covenants in our debt instruments could, if not cured or waived, have a material adverse effect on our ability to fulfill our debt obligations and on our business and prospects generally. Further, our debt instruments impose operating and financial restrictions on us, which may limit how we conduct our business and impact our ability to raise additional debt or equity financing to capitalize on available business opportunities.

We have a Significant Amount of Goodwill and Long-lived Assets Which, if Impaired in the Future, Would Adversely Impact our Results of Operations.

Our goodwill would be impaired if the fair value of any particular reporting unit is less than the carrying value of that reporting unit. Impairment of our goodwill would reduce our net income in the period of any such write down. We are required to evaluate goodwill reflected on our balance sheet at least annually, or when circumstances indicate a potential impairment. If we determine that the goodwill is impaired, we would be required to write off a portion or all of the goodwill. The adverse economic impacts of the COVID-19 pandemic and reduced demand for our products may increase the potential of a goodwill impairment. At October 31, 2020, the carrying value of our goodwill was $1,518.4 million.

We may be required to record future impairments of our long-lived assets as we continue to restructure our business. Decisions to sell or close plants could reduce the estimated useful life of an asset group or indicate that the fair value of the asset group is less than the carrying value. We may also experience declines in particular businesses due to competition or other outside forces indicating our long-lived assets are not recoverable. Any resulting impairments will impact net income in the period in which the triggering event, such as permanent or sustaining reduction in cash flows, occurs and could be significant, which could have an adverse effect on our financial condition and results of operations.

Our Pension and Post-retirement Plans are Underfunded and will Require Future Cash Contributions, and our Required Future Cash Contributions Could be Higher than we Expect, Each of Which Could Have a Material Adverse Effect on our Financial Condition and Liquidity.

We sponsor various pension and similar benefit plans worldwide. Our U.S. and non-U.S. pension and post-retirement plans were underfunded by an aggregate of $108.2 million and $11.6 million, respectively, as of October 31, 2020. We are legally required to make cash contributions to our pension plans in the future, and those cash contributions could be material.

In 2021, we expect, but are not obligated, to make cash contributions and direct benefit payments of approximately $28.7 million and $1.3 million to our U.S. and non-U.S. pension and post-retirement plans, respectively, which we believe will be sufficient to meet the minimum funding requirements under applicable laws. Our future funding obligations for our pension and post-retirement plans depend upon the levels of benefits provided for by these plans, the future performance of assets set aside for these plans, the rates of interest used to determine funding levels, the impact of potential business dispositions, actuarial data and experience, and any changes in government laws and regulations. Accordingly, our future funding requirements for our pension and post-retirement plans could be higher than expected, which could have a material adverse effect on our financial condition and liquidity.

In addition, our pension plans hold a significant amount of equity securities. If the market values of these securities decline, our pension expense and funding requirements will increase, which could have a material adverse effect on our financial condition and liquidity.

Any decrease in interest rates and asset returns, if and to the extent not offset by contributions, could increase our obligations under our pension plans. If the performance of assets held in these pension plans does not meet our expectations, our cash contributions for these plans could be higher than we expect, which could have a material adverse effect on our financial condition and liquidity.

Risks Related to Regulatory and Legal Costs

Legislation/Regulation Related to Environmental and Health and Safety Matters and Corporate Social Responsibility Could Negatively Impact our Operations and Financial Performance.

We must comply with extensive laws, rules and regulations in the United States and in each of the countries where we conduct business regarding environmental matters, such as air, soil and water quality and waste disposal. We must also comply with extensive laws, rules and regulations regarding safety, health and corporate responsibility matters. There can be no assurance that compliance with existing and new laws, rules and regulations will not require significant expenditures.

In addition, laws, rules and regulations, as well as the interpretation and administration of such laws and regulations by governmental agencies, can change and restrict or prohibit the manner in which we conduct our current operations, require additional permits to engage in some or all of our current operations, or increase the cost of some or all our operations. For example, certain of the remedies being sought by the U.S. EPA and the Wisconsin Department of Natural Resources in the proceedings relating to the CLCM facilities in the Milwaukee, Wisconsin area seek to implement changes in the way certain laws and regulations are interpreted and administered with respect to our reconditioning business. Such changes could adversely affect our business, financial condition, results of operations and cash flows.

We are also subject to transportation safety regulations promulgated by the U.S. Department of Transportation ("DOT") and agencies in other jurisdictions. Both the DOT regulations and standards issued by the United Nations and adopted by various jurisdictions outside the United States set forth requirements related to the transportation of both hazardous and nonhazardous materials in some of our packaging products and subject our company to random inspections and testing to ensure compliance. Failure to comply could result in fines to us and could affect our business, financial condition, results of operations and cash flows.

We are subject to laws, rules and regulations relating to certain raw materials used in our business. For example, certain resins and epoxy-based coatings used in our rigid container business may contain Bisphenol-A ("BPA"), a chemical monomer that can be toxic in sufficient quantities, and is used in several food contact applications. Regulatory agencies in several jurisdictions worldwide have found these materials to be safe for food contact at current levels, but a significant change in regulatory rulings concerning BPA could have an adverse effect on our business. These laws, rules and regulations, as well as resulting claims by individuals and other businesses, could adversely affect our business, financial condition, results of operations and cash flows.

At the EU-level, many laws and regulations are designed to protect human health and the environment. For example, Directive 2004/35/EC concerns obligations to remedy damages to the environment, which could require us to remediate contamination identified at sites we own or use. Other EU directives limit pollution from industrial activities, reduce emissions to air, water and soil, protect water resources, reduce waste, protect employee health and safety and regulate the registration, evaluation, authorization and restriction of chemicals. Failure to comply with these laws, or a change in the applicable legal framework, for example the increased enforcement of environmental regulations in the U.S., China or other countries, could affect our business, financial condition, results of operations and cash flows, in addition to those of our customers.

Our customers in the food industry are subject to increasing laws, rules and regulations relating to food safety. As a result, customers may demand that changes be made to our products or facilities, as well as other aspects of our production processes, that may require the investment of capital. The failure to comply with these requests could adversely affect our relationships with some customers and result in negative effects on our business, financial condition, results of operations and cash flows.

Product Liability Claims and Other Legal Proceedings Could Adversely Affect our Operations and Financial Performance.

We produce products and provide services related to other parties' products, including sensitive products such as food ingredients, pharmaceutical ingredients and hazardous substances. Incidents involving these product types can involve risk of recall, contamination, spillage, leakage, fires, and explosions, which can threaten individual health, impact the environment and cause the breakdown or failure of equipment or processes and the performance of facilities below expected levels of capacity. If any of our customers have such accidents involving our products, they may bring product liability claims against us. While we have built extensive operational processes to ensure that the design and manufacture of our products meet rigorous quality standards, there can be no assurance that we or our customers will not experience operational process failures that could result in potential product, safety, regulatory or environmental claims and associated litigation. We are also subject to a variety of legal proceedings and legal compliance risks in our areas of operation around the globe. Any such claims, whether with or without merit, could be time consuming and expensive to defend and could divert management's attention and resources. In accordance with customary practice, we maintain insurance against some, but not all, of these potential claims. In the future, we may not be able to maintain insurance at commercially acceptable premium and deductible levels at all. In addition, the levels of insurance we maintain may not be adequate to fully cover any and all losses or liabilities. If any significant judgment or claim is not fully insured or indemnified against, it could have a material adverse impact on our business, financial condition, results of operations and cash flows.

We may Incur Fines or Penalties, Damage to our Reputation or other Adverse Consequences if our Employees, Agents or Business Partners Violate, or are Alleged to have Violated, Anti-bribery, Competition or Other Laws.

We cannot provide assurance that our internal controls will always protect us from reckless or criminal acts committed by our employees, agents or business partners that would violate U.S. and non-U.S. laws, including anti-bribery, competition, trade sanctions and regulation, and other laws. Any such improper actions could subject us to civil or criminal investigations in the U.S. and in other jurisdictions, could lead to substantial civil or criminal monetary and non-monetary penalties against us or our subsidiaries, and could damage our reputation. Even the allegation or appearance of our employees, agents or business partners acting improperly or illegally could damage our reputation and result in significant expenditures in investigating and responding to such actions.

Changing Climate, Climate Change Regulations and Greenhouse Gas Effects may Adversely Affect our Operations and Financial Performance.

There is continuing concern from members of the scientific community and the general public that emissions of greenhouse gases ("GHG") and other human activities have or will cause significant changes in weather patterns and increase the frequency or severity of weather events, wildfires and flooding. Climate change creates physical and financial risk. Physical risks from climate change include an increase in sea level and changes in weather conditions, such as an increase in precipitation, droughts and extreme weather events. These types of events may adversely impact us, our suppliers, our customers and their ability to purchase our products and our ability to manufacture and transport our products on a timely basis and could result in a material adverse effect on our business, financial condition, results of operations and cash flows.

We believe it is likely that the scientific and political attention to issues concerning the extent and causes of climate change will continue, with the potential for further legislation and regulations that could affect our financial condition, results of operations and cash flows. Foreign, federal, state and local regulatory and legislative bodies have proposed various legislative and regulatory measures relating to climate change, regulating GHG emissions and energy policies. If such legislation or regulations are enacted, we could incur increased energy, environmental and other costs and capital expenditures to comply with the limitations. Failure to comply with these regulations could result in fines to our company and could affect our business, financial condition, results of operations and cash flows.

We, along with other companies in many business sectors, including our customers, are considering and implementing ways to reduce GHG emissions. As a result, our customers may request that changes be made to our products or facilities, as well as other aspects of our production processes, that increase costs and may require the investment of capital. The failure to comply with these requests could adversely affect our relationships with some customers, which in turn could adversely affect our business, financial condition, results of operations and cash flows.

We could face increased costs related to defending and resolving legal claims and other litigation related to climate change and the alleged impact of our operations on climate change.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

The following are our principal operating locations and the products manufactured at such facilities or the use of such facilities. We consider our operating properties to be in satisfactory condition and adequate to meet our present needs. However, we expect to make further additions, improvements and consolidations of our properties to support our business.

Location	Products or Use	Owned	Leased
RIGID INDUSTRIAL PACKAGING & SERVICES:			
Algeria	Steel drums	—	1
Argentina	Steel and plastic drums, pails and water bottles	2	1
Austria	Steel drums, intermediate bulk containers and reconditioned containers and services	—	1
Belgium	Steel and plastic drums	2	—
Brazil	Steel and plastic drums, steel lids and closures	5	2
Canada	Plastic drums and warehouse	1	1
Chile	Steel drums, water bottles and warehouse	1	1
China	Steel and plastic drums, closures and intermediate bulk containers and packaging services	7	—
Colombia	Steel and plastic drums and water bottles	—	1
Costa Rica	Steel drums	—	1
Czech Republic	Steel drums	1	—
Denmark	Fibre drums	—	1
Egypt	Steel drums	1	—
France	Steel and plastic drums, intermediate bulk containers, reconditioned containers and closures	3	—
Germany	Steel drums, water bottles, intermediate bulk containers and closures	4	—
Greece	Steel drums	1	—
Guatemala	Steel drums	1	—
Hungary	Steel drums	1	—
Israel	Steel, plastic and fibre drums and intermediate bulk containers	—	1
Italy	Steel and plastic drums, jerry cans, intermediate bulk containers and accessories and rebottling and post-consumer recycling	1	2
Kenya	Steel drums	—	1
Malaysia	Steel drums	1	1
Mexico	Steel, plastic and fibre drums and warehouse	1	2
Morocco	Steel and plastic drums	1	—
Netherlands	Steel drums and disks, paints and linings, intermediate bulk containers, reconditioned containers and closures	4	3
Nigeria	Corporate housing	1	—
Poland	Steel drums and water bottles	1	—

Location	Products or Use	Owned	Leased
Portugal	Steel drums	1	—
Russia	Steel drums, clovertainers, intermediate bulk containers and general office	6	4
Saudi Arabia	Steel drums	—	2
Singapore	Steel and plastic drums	—	1
South Africa	Steel and plastic drums	2	1
Spain	Steel drums and intermediate bulk containers	2	1
Sweden	Steel and plastic drums and intermediate bulk containers	1	1
Turkey	Steel drums	1	—
Ukraine	Water bottles and distribution center	—	1
United Kingdom	Steel drums and intermediate bulk containers	2	—
United States	Fibre, steel and plastic drums, intermediate bulk containers, reconditioned containers, closures, warehouse and packaging services	15	22
Vietnam	Steel drums	1	—
FLEXIBLE PRODUCTS & SERVICES:			
Belgium	Manufacturing plant	—	1
Brazil	General office	—	1
Chile	General office	—	1
China	Manufacturing plant	—	1
France	Manufacturing plant	1	—
Germany	General offices and warehouse	—	2
India	General office	—	1
Ireland	Distribution center	—	1
Mexico	Manufacturing plant	—	1
Netherlands	General offices and warehouse	—	1
Romania	Manufacturing plants	—	2
Turkey	Manufacturing plants	—	3
Ukraine	Manufacturing plant	1	—
United Kingdom	Manufacturing plant	—	1
United States	General offices and warehouse	—	2
Vietnam	Manufacturing plant	—	1
PAPER PACKAGING & SERVICES:			
Canada	Spiral-wound paper tubes and cores and warehouse	2	3
United States	Corrugated sheets and containers, spiral-wound paper tubes and cores, headers, adhesives, protect-a-board, containerboard, coated and uncoated recycled paperboard, recycled fibre plants, general offices and warehouses	59	46

Location	Products or Use	Owned	Leased
LAND MANAGEMENT:			
United States	General offices	2	2
CORPORATE:			
Belgium	General office	—	1
Hungary	Shared service center	—	1
Netherlands	General office	—	1
United States	Principal and general offices	3	—

We also own a substantial amount of timber properties. Our timber properties consisted of approximately 244,000 acres in the southeastern United States as of October 31, 2020.

ITEM 3. LEGAL PROCEEDINGS

We are not a party to any pending legal proceedings that are material to our business or financial condition.

From time to time, we have been a party to legal proceedings arising at the country, state or local level involving environmental sites to which we have shipped, directly or indirectly, small amounts of toxic waste, such as paint solvents. As of the filing date of this Form 10-K, we have been classified only as a "de minimis" participant in such proceedings. We are not a party to any legal proceedings involving a governmental authority and arising under any federal, state or local provisions that have been enacted or adopted regulating the discharge of materials into the environment or primarily for the purpose of protecting the environment and involving potential monetary sanctions in excess of $300,000, other than as described below.

In July 2017, the Wisconsin Department of Natural Resources ("WDNR") issued Notices of Violation to us and CLCM with respect to three reconditioning facilities in the Milwaukee, Wisconsin area that are or were owned by CLCM regarding violations of Wisconsin laws related to hazardous waste, air management and industrial storm water. In November 2017, the United States Environmental Protection Agency ("U.S. EPA") issued a Notice of Violation to us and CLCM with respect to these same reconditioning facilities regarding violations of the federal Resource Conservation and Recovery Act ("RCRA"), primarily related to the unlawful storage and treatment of hazardous wastes without RCRA licenses and violations of RCRA's requirements related to hazardous waste determinations and hazardous waste activity notifications, and Wisconsin laws related to hazardous waste. In November 2017, the U.S. EPA issued Notices and Findings of Violations to CLCM with respect to two of these reconditioning facilities regarding violations of the federal Clean Air Act, primarily related to air management, and Wisconsin laws related to air management. The remedies being sought in these proceedings include compliance with the applicable environmental laws and regulations as being interpreted by the U.S. EPA and WDNR and monetary sanctions. We have cooperated with the governmental agencies in these investigations and proceedings. As of the filing date of this Form 10-K, no citations have been issued or fines assessed with respect to any of these proceedings. With respect to one or more of these proceedings, monetary sanctions may be imposed by the U.S. EPA or the WNDR and those monetary sanctions may exceed $300,000 individually or in the aggregate.

ITEM 4. MINE SAFETY DISCLOSURES

None.

PART II

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

Shares of our Class A and Class B Common Stock are listed on the New York Stock Exchange under the symbols GEF and GEF.B, respectively.

Financial information regarding our two classes of common stock, as well as the number of holders of each class and the high, low and closing sales prices for each class for each quarterly period for the two most recent years, is included in Note 17 of the Notes to Consolidated Financial Statements in Item 8 of this Form 10-K.

We pay quarterly dividends of varying amounts computed on the basis described in Note 12 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K. The annual dividends paid for the last two years are as follows:

2020 Dividends per Share – Class A $1.76; Class B $2.63

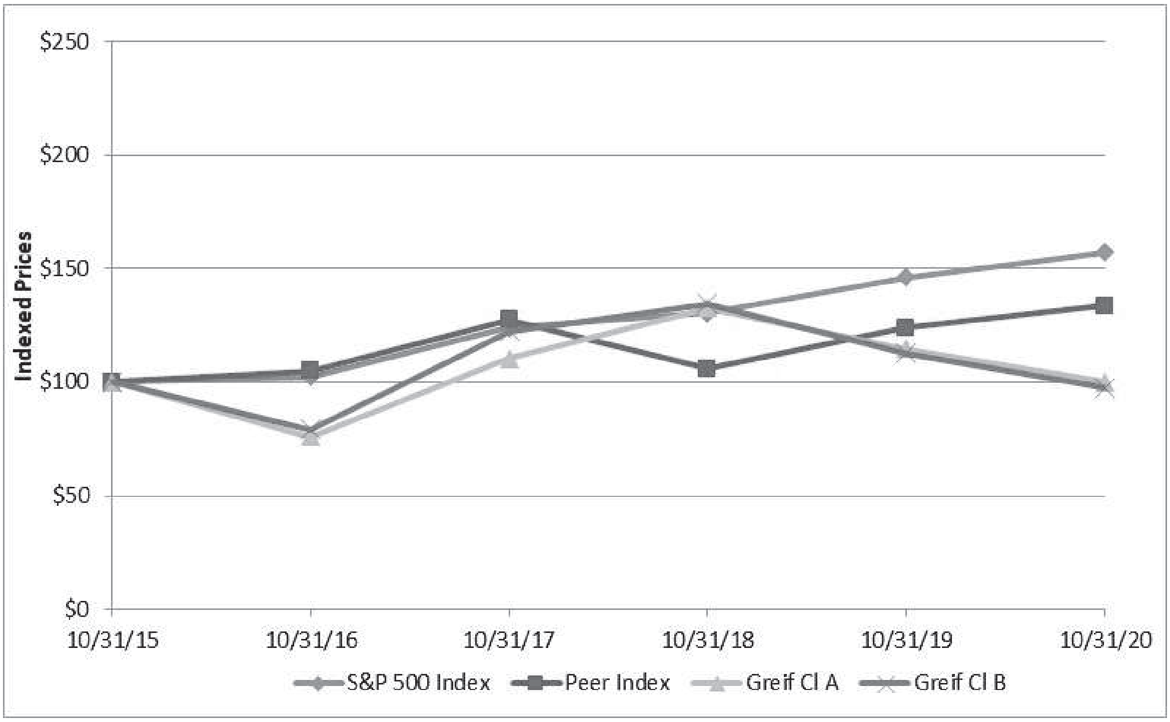
2019 Dividends per Share – Class A $1.76; Class B $2.63

The terms of our current secured credit facilities, United States accounts receivable credit facility and the indenture governing our Senior Notes due 2027 limit our ability to make restricted payments, which include dividends and purchases, redemptions and acquisitions of our equity interests. The payment of dividends and other restricted payments are subject to the condition that certain defaults not exist under the terms of our current secured credit facilities, United States accounts receivable credit facility and the indenture governing our Senior Notes due 2027 and, in the event that certain defaults exist, are limited in amount by a formula based, in part, on our consolidated net income. See "Liquidity and Capital Resources – Borrowing Arrangements" in Item 7 of this Form 10-K.

We did not repurchase any shares of our Class A or Class B Common Stock during 2020 or 2019.

Performance Graph

The following graph compares the performance of shares of our Class A and B Common Stock to that of the Standard and Poor's 500 Index and our industry group (Peer Index) assuming $100 invested on October 31, 2015 and reinvestment of dividends for each subsequent year. The graph does not purport to represent our value.



The Peer Index comprises the containers and packaging index as shown by Dow Jones.

ITEM 6. SELECTED FINANCIAL DATA

The five-year selected financial data is as follows:

	Year Ended October 31,				
(in millions, except per share amounts)	2020	2019[(1)]	2018	2017	2016
Net sales	$4,515.0	$4,595.0	$3,873.8	$3,638.2	$3,323.6
Net income attributable to Greif, Inc.	$ 108.8	$ 171.0	$ 209.4	$ 118.6	$ 74.9
Total assets	$5,510.9	$5,426.7	$3,194.8	$3,232.3	$3,153.0
Long-term debt, including current portion of long-term debt	$2,469.7	$2,756.3	$ 907.6	$ 952.8	$ 974.6
Basic earnings per share:					
Class A common stock	$ 1.83	$ 2.89	$ 3.56	$ 2.02	$ 1.28
Class B common stock	$ 2.74	$ 4.33	$ 5.33	$ 3.02	$ 1.90
Diluted earnings per share:					
Class A common stock	$ 1.83	$ 2.89	$ 3.55	$ 2.02	$ 1.28
Class B common stock	$ 2.74	$ 4.33	$ 5.33	$ 3.02	$ 1.90
Dividends per share:					
Class A common stock	$ 1.76	$ 1.76	$ 1.70	$ 1.68	$ 1.68
Class B common stock	$ 2.63	$ 2.63	$ 2.54	$ 2.51	$ 2.51

(1) Includes the results and components of the Caraustar Acquisition from February 11, 2019 through October 31, 2019.

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

The terms "Greif," the "Company," "we," "us" and "our" as used in this discussion refer to Greif, Inc. and its subsidiaries.

COVID-19

The impact of COVID-19 on our future results of operations and financial condition is highly uncertain at this time and outside of our control. The scope, duration and magnitude of the effects of COVID-19 are evolving rapidly and in ways that are difficult or impossible to anticipate.

RESULTS OF OPERATIONS

The discussion and analysis of our financial condition and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with GAAP. The preparation of these consolidated financial statements, in accordance with these principles, require us to make estimates and assumptions that affect the reported amount of assets and liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities at the date of our consolidated financial statements.

Historical revenues and earnings may or may not be representative of future operating results due to various economic and other factors.

The non-GAAP financial measures of EBITDA and Adjusted EBITDA are used throughout the following discussion of our results of operations, both for our consolidated and segment results. For our consolidated results, EBITDA is defined as net income, plus interest expense, net, plus debt extinguishment charges, plus income tax expense, plus depreciation, depletion and amortization, and Adjusted EBITDA is defined as EBITDA plus restructuring charges, plus acquisition and integration related costs, plus non-cash asset impairment charges, plus non-cash pension settlement (income) charges, plus incremental COVID-19 costs, net, less (gain) loss on disposal of properties, plants, equipment and businesses, net. Since we do not calculate net income by business segment, EBITDA and Adjusted EBITDA by business segment are reconciled to operating profit by business segment. In that case, EBITDA is defined as operating profit by business segment less other (income) expense, net, less non-cash pension settlement (income) charges, less equity earnings of unconsolidated affiliates, net of tax, plus depreciation, depletion and amortization expense for that business segment, and Adjusted EBITDA is defined as EBITDA plus restructuring charges, plus acquisition and integration related costs, plus non-cash asset impairment charges, plus non-cash pension settlement (income) charges, plus incremental COVID-19 costs, net, less (gain) loss on disposal of properties, plants, equipment and businesses, net, for that business segment. We use EBITDA and Adjusted EBITDA as financial measures to evaluate our historical and ongoing operations and believe that these non-GAAP financial measures are useful to enable investors to perform meaningful comparisons of our historical and current performance. In addition, we present our U.S. and non-U.S. income before income taxes after eliminating the impact of non-cash asset impairment charges, non-cash pension settlement (income) charges, restructuring charges, acquisition and integration related costs, plus incremental COVID-19 costs, net, and (gains) losses on sales of businesses, net, which are non-GAAP financial measures. We believe that excluding the impact of these adjustments enable investors to perform a meaningful comparison of our current and historical performance that investors find valuable. The foregoing non-GAAP financial measures are intended to supplement and should be read together with our financial results. These non-GAAP financial measures should not be considered an alternative or substitute for, and should not be considered superior to, our reported financial results. Accordingly, users of this financial information should not place undue reliance on the non-GAAP financial measures.

The following table sets forth the net sales, operating profit (loss), EBITDA and Adjusted EBITDA for each of our business segments for 2020, 2019 and 2018:

Year Ended October 31, *(in millions)*	**2020**	**2019**	**2018**
Net sales:			
Rigid Industrial Packaging & Services	$2,298.9	$2,490.6	$2,623.6
Paper Packaging & Services	1,916.9	1,780.0	898.5
Flexible Products & Services	272.9	297.5	324.2
Land Management	26.3	26.9	27.5
Total net sales	$4,515.0	$4,595.0	$3,873.8
Operating profit:			
Rigid Industrial Packaging & Services	$ 209.9	$ 179.6	$ 183.2
Paper Packaging & Services	71.0	184.3	158.3
Flexible Products & Services	15.5	25.3	19.4
Land Management	8.5	9.9	9.6
Total operating profit	$ 304.9	$ 399.1	$ 370.5
EBITDA:			
Rigid Industrial Packaging & Services	$ 284.6	$ 251.6	$ 249.0
Paper Packaging & Services	225.9	307.0	191.8
Flexible Products & Services	22.4	32.7	25.7
Land Management	13.0	14.2	14.2
Total EBITDA	$ 545.9	$ 605.5	$ 480.7
Adjusted EBITDA:			
Rigid Industrial Packaging & Services	$ 297.5	$ 269.9	$ 273.4
Paper Packaging & Services	306.4	348.3	192.3
Flexible Products & Services	26.8	28.6	25.6
Land Management	11.9	12.1	11.9
Total Adjusted EBITDA	$ 642.6	$ 658.9	$ 503.2

The following table sets forth EBITDA and Adjusted EBITDA, reconciled to net income and operating profit, for our consolidated results for 2020, 2019 and 2018:

Year Ended October 31, *(in millions)*	**2020**	**2019**	**2018**
Net income	$124.3	$194.2	$229.5
Plus: interest expense, net	115.8	112.5	51.0
Plus: debt extinguishment charges	—	22.0	—
Plus: income tax expense	63.3	70.7	73.3
Plus: depreciation, depletion and amortization expense	242.5	206.1	126.9
EBITDA	$545.9	$605.5	$480.7
Net income	$124.3	$194.2	$229.5
Plus: interest expense, net	115.8	112.5	51.0
Plus: debt extinguishment charges	—	22.0	—
Plus: income tax expense	63.3	70.7	73.3
Plus: non-cash pension settlement charges	0.3	—	1.3
Plus: other expense, net	2.7	2.6	18.4
Plus: equity earnings of unconsolidated affiliates, net of tax	(1.5)	(2.9)	(3.0)
Operating profit	304.9	399.1	370.5
Less: other expense, net	2.7	2.6	18.4
Less: non-cash pension settlement charges	0.3	—	1.3
Less: equity earnings of unconsolidated affiliates, net of tax	(1.5)	(2.9)	(3.0)
Plus: depreciation, depletion and amortization expense	242.5	206.1	126.9
EBITDA	545.9	605.5	480.7
Plus: restructuring charges	38.7	26.1	18.6
Plus: acquisition and integration related costs	17.0	29.7	0.7
Plus: non-cash asset impairment charges	18.5	7.8	8.3
Plus: non-cash pension settlement charges	0.3	—	1.3
Plus: incremental COVID-19 costs, net	2.6	—	—
Less: (gain) loss on disposal of properties, plants, equipment, and businesses, net	19.6	(10.2)	(6.4)
Adjusted EBITDA	$642.6	$658.9	$503.2

The following table sets forth EBITDA and Adjusted EBITDA for each of our business segments, reconciled to the operating profit for each segment, for 2020, 2019 and 2018:

Year Ended October 31, *(in millions)*	**2020**	**2019**	**2018**
Rigid Industrial Packaging & Services			
Operating profit	$209.9	$179.6	$183.2
Less: other expense, net	5.3	7.2	17.1
Less: non-cash pension settlement charges	0.4	—	1.3
Less: equity earnings of unconsolidated affiliates, net of tax	(1.5)	(2.9)	(3.0)
Plus: depreciation and amortization expense	78.9	76.3	81.2
EBITDA	284.6	251.6	249.0
Plus: restructuring charges	26.0	18.8	17.3
Plus: acquisition and integration related costs	—	0.6	0.7
Plus: non-cash asset impairment charges	5.1	2.7	8.3
Plus: non-cash pension settlement charges	0.4	—	1.3
Plus: incremental COVID-19 costs, net	0.1	—	—
Less: gain on disposal of properties, plants, equipment, and businesses, net	(18.7)	(3.8)	(3.2)
Adjusted EBITDA	$297.5	$269.9	$273.4
Paper Packaging & Services			
Operating profit	$ 71.0	$184.3	$158.3
Less: other (income) expense, net	(1.3)	(3.4)	0.7
Less: non-cash pension settlement charges	(0.1)	—	—
Plus: depreciation and amortization expense	153.5	119.3	34.2
EBITDA	225.9	307.0	191.8
Plus: restructuring charges	9.9	6.2	0.4
Plus: acquisition and integration related costs	17.0	29.1	—
Plus: non-cash asset impairment charges	12.5	5.1	—
Plus: non-cash pension settlement charges	(0.1)	—	—
Plus: incremental COVID-19 costs, net	1.9	—	—
Less: loss on disposal of properties, plants, equipment, and businesses, net	39.3	0.9	0.1
Adjusted EBITDA	$306.4	$348.3	$192.3
Flexible Products & Services			
Operating profit	$ 15.5	$ 25.3	$ 19.4
Less: other (income) expense, net	(1.3)	(1.2)	0.6
Plus: depreciation and amortization expense	5.6	6.2	6.9
EBITDA	22.4	32.7	25.7
Plus: restructuring charges	2.8	1.0	0.9
Plus: non-cash asset impairment charges	0.9	—	—
Plus: incremental COVID-19 costs, net	0.6	—	—
Less: (gain) loss on disposal of properties, plants, equipment, and businesses, net	0.1	(5.1)	(1.0)
Adjusted EBITDA	$ 26.8	$ 28.6	$ 25.6
Land Management			
Operating profit	$ 8.5	$ 9.9	$ 9.6
Plus: depreciation, depletion and amortization expense	4.5	4.3	4.6
EBITDA	13.0	14.2	14.2
Plus: restructuring charges	—	0.1	—
Less: gain on disposal of properties, plants, equipment, and businesses, net	(1.1)	(2.2)	(2.3)
Adjusted EBITDA	$ 11.9	$ 12.1	$ 11.9

Year 2020 Compared to Year 2019

Net Sales

Net sales were $4,515.0 million for 2020 compared with $4,595.0 million for 2019. The $80.0 million decrease was primarily due to decreased volumes and sale prices across the segments, the impact to net sales resulting from the Consumer Packaging Group ("CPG") divestiture, and the negative impacts of foreign currency translation, partially offset by a full year contribution from the acquired Caraustar operations.

Gross Profit

Gross profit was $914.7 million for 2020 compared with $959.9 million for 2019. The respective reasons for the improvement or decline in gross profit, as the case may be, for each segment are described below in the "Segment Review." Gross profit margin was 20.3 percent for 2020 compared to 20.9 percent for 2019.

Selling, General and Administrative Expenses

Selling, general and administrative ("SG&A") expenses increased $8.6 million to $516.0 million for 2020 from $507.4 million for 2019. SG&A expenses were 11.4 percent of net sales for 2020 compared with 11.0 percent of net sales for 2019.

Restructuring Charges

Restructuring charges were $38.7 million for 2020 compared with $26.1 million for 2019. The increase in restructuring charges was primarily due to increased strategic restructuring efforts within the Rigid Industrial Packaging & Services segment. See Note 4 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional information.

Acquisition and Integration Related Costs

Acquisition and integration related costs were $17.0 million for 2020 compared with $29.7 million for 2019. The decrease was primarily due to fewer expenses incurred in connection with the Caraustar Acquisition and related integration activities.

Impairment Charges

There were no goodwill impairment charges for 2020 and 2019.

Non-cash asset impairment charges were $18.5 million for 2020 compared with $7.8 million for 2019. In 2020, these charges were primarily related to plant closures. See Note 7 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional information.

Gain on Disposal of Properties, Plants and Equipment, net

The gain on disposal of properties, plants, and equipment, net was $19.2 million and $13.9 million for 2020 and 2019, respectively.

Loss on Disposal of Businesses, net

The loss on disposal of business, net was $38.8 million for 2020 and $3.7 million for 2019. The current year disposal of business, net was primarily due to goodwill allocated to the divestiture of the CPG business. See Note 2 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional information.

Financial Measures

Operating profit was $304.9 million for 2020 compared with $399.1 million for 2019. Net income was $124.3 million for 2020 compared with $194.2 million for 2019. Adjusted EBITDA was $642.6 million for 2020 compared with $658.9 million for 2019. The respective reasons for the improvement or decline in Adjusted EBITDA, as the case may be, for each segment are described below in the "Segment Review."

Trends

We anticipate demand growth in the industrial manufacturing businesses but continued lingering uncertainty in the global economy to continue in early 2021. Raw material prices for old corrugated containers are expected to increase, while prices for steel, resin and recycled coated and uncoated paperboard are expected to remain relatively stable after the first quarter of 2021. Additionally, we expect higher transportation and insurance costs due to tighter market conditions and higher incentive accruals to impact costs of goods sold and SG&A.

Segment Review

Rigid Industrial Packaging & Services

Key factors influencing profitability in the Rigid Industrial Packaging & Services segment are:

- Selling prices, product mix, customer demand and sales volumes;
- Raw material costs, primarily steel, resin, containerboard and used industrial packaging for reconditioning;
- Energy and transportation costs;
- Benefits from executing the Greif Business System;
- Restructuring charges;
- Acquisition of businesses and facilities;
- Divestiture of businesses and facilities; and
- Impact of foreign currency translation.

Net sales were $2,298.9 million for 2020 compared with $2,490.6 million for 2019. The $191.7 million decrease in net sales was due primarily to decreased volumes and decreased average sale prices driven by contractual price adjustment mechanisms related to raw material price decreases, as well as negative impacts of foreign currency translation.

Gross profit was $465.3 million for 2020 compared with $460.1 million for 2019. The $5.2 million increase in gross profit was primarily due to lower priced raw materials, the timing of contractual pass through arrangements, product mix shifts, and strategic pricing actions. Gross profit margin increased to 20.2 percent in 2020 from 18.5 percent in 2019.

Operating profit was $209.9 million for 2020 compared with $179.6 million for 2019. The $30.3 million increase was primarily attributable to a decrease in the segment's SG&A expenses due to strategic cost management efforts. Adjusted EBITDA was $297.5 million for 2020 compared with $269.9 million for 2019. The $27.6 million increase was primarily due to the same factors that impacted operating profit. Depreciation and amortization expense was $78.9 million and $76.3 million for 2020 and 2019, respectively.

Paper Packaging & Services

Key factors influencing profitability in the Paper Packaging & Services segment are:

- Selling prices, product mix, customer demand and sales volumes;
- Raw material costs, primarily old corrugated containers;
- Energy and transportation costs;
- Benefits from executing the Greif Business System;
- Acquisition of businesses and facilities;
- Restructuring charges; and
- Divestiture of businesses and facilities.

Net sales were $1,916.9 million for 2020 compared with $1,780.0 million for 2019. The $136.9 million increase was primarily due to full year contribution from the acquired Caraustar operations, partially offset by lower published containerboard and boxboard prices, decreased volumes, and the impact to net sales resulting from the CPG divestiture.

Gross profit was $382.7 million for 2020 compared with $425.4 million for 2019. The decrease in gross profit was primarily due to the same factors that impacted net sales and higher old corrugated container input costs. Gross profit margin decreased 20.0 percent in 2020 from 23.9 percent 2019.

Operating profit was $71.0 million for 2020 compared with $184.3 million for 2019. The decrease in operating profit was primarily due to the factors discussed above in gross profit, the loss on sale of the CPG divestiture and the segment receiving a greater portion of allocated corporate costs. Adjusted EBITDA was $306.4 million for 2020 compared with $348.3 million for 2019. The decrease was due primarily to the same factors that impacted gross profit and the segment receiving a greater portion of allocated corporate costs. Depreciation and amortization expense was $153.5 million and $119.3 million for 2020 and 2019, respectively.

Flexible Products & Services

Key factors influencing profitability in the Flexible Products & Services segment are:

- Selling prices, product mix, customer demand and sales volumes;
- Raw material costs, primarily resin;
- Energy and transportation costs;
- Benefits from executing the Greif Business System;
- Restructuring charges;
- Divestiture of businesses and facilities; and
- Impact of foreign currency translation.

Net sales were $272.9 million for 2020 compared with $297.5 million for 2019. The $24.6 million decreased was primarily due to continued lower volumes and lower average sale prices primarily as a result of raw material price decreases and corresponding contractual price adjustment mechanisms.

Gross profit was $57.5 million for 2020 compared with $64.2 million for 2019. The decrease was primarily attributable to the same factors that impacted net sales. Gross profit margin decreased to 21.1 percent in 2020 from 21.6 percent in 2019.

Operating profit was $15.5 million for 2020 compared with $25.3 million for 2019. The decrease in operating profit was primarily due to the same factors that impacted gross profit, partially offset by a reduction in segment SG&A expenses. Adjusted EBITDA was $26.8 million for 2020 compared with $28.6 million for 2019. The decrease was due to lower gross profit. Depreciation and amortization expense was $5.6 million for 2020 compared with $6.2 million for 2019.

Land Management

As of October 31, 2020, our Land Management segment consisted of approximately 244,000 acres of timber properties in the southeastern United States. Key factors influencing profitability in the Land Management segment are:

- Planned level of timber sales;
- Selling prices and customer demand;
- Gains on timberland sales; and
- Gains on the disposal of development, surplus and HBU properties (“special use property”).

In order to maximize the value of our timber properties, we continue to review our current portfolio and explore the development of certain of these properties. This process has led us to characterize our property as follows:

- Surplus property, meaning land that cannot be efficiently or effectively managed by us, whether due to parcel size, lack of productivity, location, access limitations or for other reasons;
- HBU property, meaning land that in its current state has a higher market value for uses other than growing and selling timber;
- Development property, meaning HBU land that, with additional investment, may have a significantly higher market value than its HBU market value; and
- Core Timberland, meaning land that is best suited for growing and selling timber.

We report the sale of timberland property in “timberland gains,” the sale of HBU and surplus property in “gain on disposal of properties, plants and equipment, net” and the sale of timber and development property under “net sales” and “cost of products sold” in our consolidated statements of income. All HBU and development property, together with surplus property, is used to productively grow and sell timber until the property is sold.

Whether timberland has a higher value for uses other than growing and selling timber is a determination based upon several variables, such as proximity to population centers, anticipated population growth in the area, the topography of the land, aesthetic considerations, including access to lakes or rivers, the condition of the surrounding land, availability of utilities, markets for timber and economic considerations both nationally and locally. Given these considerations, the characterization of land is not a static process, but requires an ongoing review and re-characterization as circumstances change.

As of October 31, 2020, we estimated that there were 18,800 acres in the United States of special use property, which we expect will be available for sale in the next four to six years.

Net sales decreased to $26.3 million for 2020 compared with $26.9 million for 2019.

Operating profit decreased to $8.5 million for 2020 from $9.9 million for 2019.

Adjusted EBITDA was $11.9 million and $12.1 million for 2020 and 2019, respectively. Depreciation, depletion and amortization expense was $4.5 million and $4.3 million for 2020 and 2019, respectively.

sU.S. and Non-U.S. Income before Income Tax Expense

See the following tables for details of the U.S. and non-U.S. income before income taxes and U.S. and non-U.S. income before income taxes after eliminating the impact of non-cash asset impairment charges, non-cash pension settlement income, restructuring charges, acquisition and integration related costs, debt extinguishment charges, and losses on sales of businesses (collectively, "Adjustments").

Summary

	Year ended October 31,	
	2020	2019
Non-U.S. % of Consolidated Net Sales	38.9%	40.6%
U.S. % of Consolidated Net Sales	61.1%	59.4%
	100.0%	100.0%
Non-U.S. % of Consolidated I.B.I.T.	86.3%	50.4%
U.S. % of Consolidated I.B.I.T.	13.7%	49.6%
	100.0%	100.0%
Non-U.S. % of Consolidated I.B.I.T. before Adjustments	60.0%	44.0%
U.S. % of Consolidated I.B.I.T. before Adjustments	40.0%	56.0%
	100.0%	100.0%

Non-U.S. I.B.I.T. Reconciliation

	Year ended October 31,	
	2020	2019
Non-U.S. I.B.I.T.	$160.6	$132.1
Non-cash asset impairment charges	5.5	2.7
Non-cash pension settlement charge	0.4	—
Restructuring charges	12.0	16.3
Acquisition and integration related costs	0.1	0.5
Loss on sale of businesses	0.9	2.9
Total Non-U.S. Adjustments	18.9	22.4
Non-U.S. I.B.I.T. before Adjustments	$179.5	$154.5

U.S. I.B.I.T. Reconciliation

	Year ended October 31,	
	2020	2019
U.S. I.B.I.T.	$ 25.5	$ 129.9
Non-cash asset impairment charges	13.0	5.1
Non-cash pension settlement charge	(0.1)	—
Restructuring charges	26.7	9.8
Acquisition and integration related costs	16.9	29.2
Debt extinguishment charges	—	22.0
Loss on sale of businesses	37.9	0.8
Total U.S. Adjustments	94.4	66.9
U.S. I.B.I.T. before Adjustments	$ 119.9	$ 196.8

* Income Before Income Tax expense = I.B.I.T.

Income Tax Expense

We had operations in over 40 countries during 2020. Operations outside the United States are subject to additional risks that may not exist, or be as significant, within the United States. Because of our global operations in numerous countries we are required to address different and complex tax systems and issues which are constantly changing.

Preparation of our financial statements requires the use of estimates and assumptions that affect the reported amounts of our assets and liabilities; and revenues and expenses as of the balance sheet date. The numerous tax jurisdictions in which we operate, along with the variety and complexity of the various tax laws, creates a level of uncertainty, and requires judgment when addressing the impact of complex tax issues. Our effective tax rate and the amount of tax expense are dependent upon various factors, including the following: the tax laws of the jurisdictions in which income is earned; the ability to realize deferred tax assets; negotiation and dispute resolution with taxing authorities in the U.S. and international jurisdictions; and changes in tax laws.

The provision for income taxes is computed using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized currently based on the anticipated future tax consequences of changes in the temporary differences between the book and tax bases of assets and liabilities. This method includes an estimate of the future realization of tax benefits associated with tax losses. Deferred tax assets and liabilities are measured using the currently enacted tax rates that apply to taxable income in effect for the years in which those assets are expected to be realized or settled.

Income tax expense for 2020 was $63.3 million on $186.1 million of pretax income and for 2019 was $70.7 million on $262.0 million of pretax income. For 2020, the mix of income and losses among various jurisdictions resulted in a net tax decrease of $17.0 million on $75.9 million less of pretax income, which was offset by additional tax expense of $7.5 million related to non-deductible goodwill allocated to the CPG divestiture. Various other items resulted in a net tax increase of $2.1 million.

Included in the net tax decrease of $17.0 million noted in the previous paragraph was a $28.4 million net decrease in valuation allowances. This decrease was primarily due to the ability to utilize foreign tax credits for which a valuation allowance had previously been provided. The release of the valuation allowance related to foreign tax credits resulted in the reduction of the valuation allowance and a tax benefit of $21.5 million. Other decreases in the valuation allowances related to foreign jurisdictions resulted in an additional decrease of $6.9 million. The valuation allowance activity resulted in an overall decrease in the valuation allowance account from 2019 to 2020 of $34.7 million. Offsetting these amounts was tax expense of $31.0 million as a result of a one-time elimination related to an intra-company sale. This one-time activity was the primary driver that resulted in an overall net increase in permanent items for 2019 to 2020 of $28.3 million

We analyze potential income tax liabilities related to uncertain tax positions in the United States and international jurisdictions. The analysis of potential income tax liabilities results in estimates of income tax liabilities recognized for uncertain tax positions following the guidance of ASC 740, "Income Taxes." The estimation of potential tax liabilities related to uncertain tax positions involves significant judgment in evaluating the impact of uncertainties in the application of ASC 740 and complex tax laws. We periodically analyze both potential income tax liabilities and existing liabilities for uncertain tax positions resulting in both new reserves and adjustments to existing reserves in light of changing facts and circumstances. This includes the release of existing liabilities for uncertain tax positions based on the expiration of statutes of limitation. During 2020, lapses in the statute of limitations, which were partially offset by the recognition of new uncertain tax position liabilities recorded during the current year, resulted in an overall net decrease in our uncertain tax position liability.

The ultimate resolution of potential income tax liabilities may result in a payment that is materially different from our current estimates. If our estimates recognized under ASC 740 prove to be different than what is ultimately resolved, such resolution could have a material impact on our financial condition and results of operations. While predicting the final outcome or the timing of the resolution of any particular tax matter is subject to various risks and uncertainties, we believe that our tax accounts related to uncertain tax positions are appropriately stated.

See Note 9 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for further information.

Net Income Attributable to Noncontrolling Interests

Net income attributable to noncontrolling interests represents the portion of earnings from the operations of our non-wholly owned, consolidated subsidiaries that belongs to the noncontrolling interests in those subsidiaries. Net income attributable to noncontrolling interests was $15.5 million and $23.2 million for 2020 and 2019, respectively. The decrease in net income attributable to noncontrolling interests was due primarily to decreased earnings of the joint venture ("Flexible Packaging JV") formed in 2010, with Dabbagh Group Holdings Company Limited and one of its subsidiaries, originally National Scientific Company Limited and now Gulf Refined Packaging for Industrial Packaging Company LTD.

Year 2019 Compared to Year 2018

Results of year 2019 compared to year 2018 are included in our Annual Report on Form 10-K for the year ended October 31, 2019, File No. 001-00566 (see Item 7 therein).

OTHER COMPREHENSIVE INCOME CHANGES

Other comprehensive loss, net of tax for 2020 and 2019 was $6.7 million and $55.9 million, respectively. The components of those other comprehensive income changes were as follows:

Foreign Currency Translation

In accordance with ASC 830, "Foreign Currency Matters," the assets and liabilities denominated in a foreign currency are translated into United States Dollars at the rate of exchange existing at the end of the current period, and revenues and expenses are translated at average exchange rates over the month in which they are incurred. The cumulative translation adjustments, which represent the effects of translating assets, liabilities and operations of our international subsidiaries, are presented in the consolidated statements of changes in equity in accumulated other comprehensive loss. Other comprehensive loss resulting from foreign currency translation for 2020 and 2019 was $9.8 million and $4.5 million, respectively.

Derivative Financial Instruments

The change in derivative financial instruments, net of tax for 2020 and 2019 was a loss of $12.0 million and a loss of $26.1 million, respectively. The other comprehensive loss in 2020 resulting from the change in derivative financial instruments, net, was primarily due to decreases in market interest rates on the swaps.

Minimum Pension Liability, net

The change in minimum pension liability, net of tax for 2020 and 2019 was an income of $15.1 million and loss of $25.3 million, respectively. The other comprehensive income in 2020 resulting from the change in minimum pension liability, net was primarily due to higher actual returns compared to assumptions on plan assets and amortization of prior net plan losses.

BALANCE SHEET CHANGES

Working Capital Changes

The $27.6 million decrease in accounts receivable to $636.6 million as of October 31, 2020 from $664.2 million as of October 31, 2019 was primarily due to the CPG divestiture and decrease in net sales.

The $64.6 million decrease in inventories to $293.6 million as of October 31, 2020 from $358.2 million as of October 31, 2019 was primarily due to the CPG divestiture and strong demand at the end of the year.

The $15.5 million increase in accounts payable to $450.7 million as of October 31, 2020 from $435.2 million as of October 31, 2019 was primarily due to the timing of payments, offset by the CPG divestiture.

LIQUIDITY AND CAPITAL RESOURCES

Our primary sources of liquidity are operating cash flows and borrowings under our senior secured credit facilities, proceeds from the senior notes we have issued, and proceeds from our trade accounts receivable credit facilities. We use these sources to fund our working capital needs, capital expenditures, cash dividends, common stock repurchases and acquisitions. We anticipate continuing to fund these items in a like manner. We currently expect that operating cash flows, borrowings under our senior secured credit facilities, and proceeds from our trade accounts receivable credit facilities will be sufficient to fund our anticipated working capital, capital expenditures, cash dividends, stock purchases, debt repayment, potential acquisitions of businesses and other liquidity needs for at least 12 months.

Capital Expenditures

During 2020 and 2019, we invested $131.4 million (excluding $5.4 million for purchases of and investments in timber properties) and $156.9 million (excluding $5.4 million for purchases of and investments in timber properties), respectively, in capital expenditures.

United States Trade Accounts Receivable Credit Facility

On September 24, 2020, we amended our existing receivables facility in the United States (the "U.S. Receivables Facility") to decrease the available financing amount from $275.0 million to $250.0 million. The U.S. Receivables Facility matures on September 24, 2021. As of October 31, 2020, $232.8 million, net of deferred financing costs of $0.2 million, was outstanding under the U.S. Receivable Facility, which was reported in long-term debt in the consolidated balance sheets because we intend to refinance the obligation on a long-term basis and have the intent and ability to consummate a long-term refinancing by exercising the renewal option in the agreement or entering into a new financing arrangement.

We may terminate the U.S. Receivables Facility at any time upon five days prior written notice. The U.S. Receivables Facility is secured by certain of our United States trade accounts receivables and bears interest at a variable rate based on the London Interbank Offered Rate ("LIBOR") or an applicable base rate, plus a margin, or a commercial paper rate plus a margin. Interest is payable on a monthly basis and the principal balance is payable upon termination of the U.S. Receivables Facility. The U.S. Receivables Facility also contains certain covenants and events of default, which are substantially the same as the covenants under the 2019 Credit Agreement. See "Borrowing Arrangements - 2019 Credit Agreement" below for a description of these covenants. As of October 31, 2020, we were in compliance with these covenants. Proceeds of the U.S. Receivables Facility are available for working capital and general corporate purposes.

See Note 6 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional information regarding the U.S. Receivables Facility.

International Trade Accounts Receivable Credit Facilities

On April 17, 2020, Cooperage Receivables Finance B.V. and Greif Coordination Center BVBA, an indirect wholly owned subsidiary of Greif, Inc., amended and restated the Nieuw Amsterdam Receivables Financing Agreement (the "European RFA"). The European RFA provides an accounts receivable financing facility of up to €100.0 million ($117.5 million as of October 31, 2020) secured by certain European accounts receivable. The $77.2 million outstanding on the European RFA as of October 31, 2020 is reported as 'Long-term debt' on the interim condensed consolidated balance sheets because we intend to refinance these obligations on a long-term basis and have the intent and ability to consummate a long-term refinancing by exercising the renewal option in the respective agreement or entering into new financing arrangements.

See Note 6 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional information regarding the European RFA.

Borrowing Arrangements

Long-term debt is summarized as follows:

(in millions)	October 31, 2020	October 31, 2019
2019 Credit Agreement - Term Loans	$1,429.8	$1,612.2
Senior Notes due 2027	495.1	494.3
Senior Notes due 2021	234.8	221.7
Accounts receivable credit facilities	310.0	351.6
2019 Credit Agreement - Revolving Credit Facility	—	76.1
Other debt	—	0.4
	2,469.7	2,756.3
Less current portion	123.1	83.7
Less deferred financing costs	11.1	13.6
Long-term debt, net	$2,335.5	$2,659.0

2019 Credit Agreement

On February 11, 2019, we and certain of our subsidiaries entered into an amended and restated senior secured credit agreement (the "2019 Credit Agreement") with a syndicate of financial institutions. Our obligations under the 2019 Credit Agreement are guaranteed by certain of our U.S. and non-U.S. subsidiaries.

The 2019 Credit Agreement provides for (a) an $800.0 million secured revolving credit facility, consisting of a $600.0 million multicurrency facility and a $200.0 million U.S. dollar facility, maturing on February 11, 2024, (b) a $1,275.0 million secured term A-1 loan with quarterly principal installments commencing on April 30, 2019 and continuing through maturity on January 31, 2024, and (c) a $400.0 million secured term A-2 loan with quarterly principal installments commencing on April 30, 2019 and continuing through maturity on January 31, 2026. In addition, we have an option to add an aggregate of $700.0 million to the secured revolving credit facility under the 2019 Credit Agreement with the agreement of the lenders. As of October 31, 2020, we had $538.1 million of available borrowing capacity under the $800.0 million secured revolving credit facility provided by the 2019 Credit Agreement. The available borrowing capacity is determined by the lesser of the available capacity or the amount that could be borrowed without causing the Company's leverage ratio to exceed 4.50 to 1.00.

On November 13, 2020, we and certain of our U.S. subsidiaries entered into an incremental term loan agreement (the "Incremental Term A-3 Loan Agreement") with a syndicate of farm credit institutions. The Incremental Term A-3 Loan Agreement constitutes an amendment to the 2019 Credit Agreement. The Incremental Term A-3 Loan Agreement provides for a loan commitment in the aggregate principal amount of $225.0 million that must be funded in a single draw on a business day occurring on or before July 15, 2021 (the "Incremental Term A-3 Loan"). The Incremental Term A-3 Loan matures on July 15, 2026, with quarterly installments of principal payable on the last day of each of our fiscal quarters commencing with the first such date to occur after the funding date. The Incremental Term A-3 has, for all material purpose, the identical terms and provisions as the term A-1 and the term A-2 loans under the 2019 Credit Agreement, discussed above. Our obligations with respect to the Incremental Term A-3 Loan will constitute obligations under the 2019 Credit Agreement and will be secured and guaranteed with the other obligations as provided under the 2019 Credit Facility on a *pari passu* basis. We intend to draw upon Incremental Term A-3 Loan prior to July 15, 2021, and use the loan proceeds to pay all of the outstanding principal of and interest on the Senior Notes due 2021, discussed below.

The 2019 Credit Agreement contains certain covenants, which include financial covenants that require us to maintain a certain leverage ratio and an interest coverage ratio. The leverage ratio generally requires that, at the end of any quarter, we will not permit the ratio of (a) our total consolidated indebtedness, to (b) our consolidated net income plus depreciation, depletion and amortization, interest expense (including capitalized interest), income taxes, and minus certain extraordinary gains and non-recurring gains (or plus certain extraordinary losses and non-recurring losses) and plus or minus certain other items for the preceding twelve months (as used in this paragraph only, "EBITDA") to be greater than 4.75 to 1.00 and stepping down annually by 0.25 increments beginning on July 31, 2020 to 4.00 on July 31, 2023. The current leverage ratio covenant requirement was 4.50 as of October 31, 2020. The interest coverage ratio generally requires that, at the end of any quarter, we will not permit the ratio of (a) our consolidated EBITDA, to (b) our consolidated interest expense to the extent paid or payable, to be less than 3.00 to 1.00, during the applicable preceding twelve month period. As of October 31, 2020, we were in compliance with the covenants and other agreements in the 2019 Credit Agreement.

See Note 6 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional disclosures regarding the 2019 Credit Agreement.

Senior Notes

On February 11, 2019, we issued $500.0 million of 6.50% Senior Notes due March 1, 2027 (the "Senior Notes due 2027"). Interest on the Senior Notes due 2027 is payable semi-annually commencing on September 1, 2019. Our obligations under the Senior Notes due 2027 are guaranteed by our U.S. subsidiaries that guarantee the 2019 Credit Agreement, as described above. The Senior Notes due 2027 are governed by an Indenture that contains various covenants. Certain of these covenants will be suspended if the Senior Notes due 2027 achieve investment grade ratings from both Moody's Investors Service, Inc. and Standard & Poor's Global Ratings and no default or event of default has occurred and is continuing. As of October 31, 2020, we were in compliance with these covenants.

Our Luxembourg subsidiary has issued €200.0 million of 7.375% Senior Notes due July 15, 2021 (the "Senior Notes due 2021"). Interest on the Senior Notes due 2021 is payable semi-annually. The Senior Notes due 2021 are guaranteed on a senior basis by Greif, Inc. The Senior Notes due 2021 are governed by an Indenture that contains various covenants. As of October 31, 2020, we were in compliance with these covenants. As discussed above, we intend to draw upon the Incremental Term A-3 Loan prior to July 15, 2021, and use the loan proceeds to pay all of the outstanding principal of and interest on the Senior Notes due 2021.

See Note 6 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional disclosures regarding the Senior Notes discussed above.

Financial Instruments

Interest Rate Derivatives

We have various borrowing facilities which charge interest based on the one-month U.S. dollar LIBOR rate plus a spread. Refer to Note 1 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for discussion of ASU 2020-04 "Reference Rate Reform" for the our considerations of the impact of reference rate reform on contracts utilizing LIBOR rates.

In 2020, we entered into four forward starting interest rate swaps with a total notional amount of $200.0 million effective July 15, 2021. We receive variable rate interest payments based upon one-month U.S. dollar LIBOR, and in return we are obligated to pay interest at a weighted-average interest rate of 0.90% plus a spread.

In 2019, we entered into six interest rate swaps with a total notional amount of $1,300.0 million that amortize to $200.0 million over a five-year term. The outstanding notional amount was $600.0 million as of October 31, 2020. We receive variable rate interest payments based upon one-month U.S. dollar LIBOR, and in return we are obligated to pay interest at a weighted-average interest rate of 2.49%.

In 2017, we entered into an interest rate swap with a notional amount of $300.0 million and received variable rate interest payments based upon one-month U.S. dollar LIBOR, and in return we are obligated to pay interest at a fixed rate of 1.19% plus a spread.

These derivatives are designated as cash flow hedges for accounting purposes. Accordingly, the gain or loss on these derivative instruments are reported as a component of other comprehensive income and reclassified into earnings in the same line item associated with the forecasted transactions and in the same period during which the hedged transaction affects earnings.

See Note 7 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional disclosures regarding our interest rate derivatives.

Foreign Exchange Hedges

We conduct business in international currencies and are subject to risks associated with changing foreign exchange rates. Our objective is to reduce volatility associated with foreign exchange rate changes to allow management to focus its attention on business operations. Accordingly, we enter into various contracts that change in value as foreign exchange rates change to protect the value of certain existing foreign currency assets and liabilities, commitments and anticipated foreign currency cash flows.

As of October 31, 2020, and 2019, we had outstanding foreign currency forward contracts in the notional amount of $268.6 million and $275.0 million, respectively.

See Note 7 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional disclosures regarding our foreign exchange hedges.

Cross Currency Swap

We have operations and investments in various international locations and are subject to risks associated with changing foreign exchange rates. On March 6, 2018, we entered into a cross currency interest rate swap agreement that synthetically swaps $100.0 million of fixed rate debt to Euro denominated fixed rate debt at a rate of 2.35%. The agreement is designated as a net investment hedge for accounting purposes and will mature on March 6, 2023. Accordingly, the gain or loss on this derivative instrument is included in the foreign currency translation component of other comprehensive income until the net investment is sold, diluted, or liquidated. Interest payments received from the cross currency swap are excluded from the net investment hedge effectiveness assessment and are recorded in interest expense, net on the consolidated statements of income.

See Note 7 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional disclosures regarding our cross currency swap.

Contractual Obligations

As of October 31, 2020, we had the following contractual obligations:

		Payments Due by Period			
(in millions)	Total	Less than 1 year	1-3 years	3-5 years	After 5 years
Long-term debt, net of deferred financing costs	$2,335.5	$ 541.8	$ 270.8	$ 780.3	$ 742.6
Short-term borrowings	28.4	28.4			
Operating and capital lease obligations	447.4	67.0	120.7	87.6	172.1
Liabilities held by special purpose entities	43.3	43.3			
Legal and environmental reserves	20.2	0.3	12.0	0.5	7.4
Current portion of long-term debt	123.1	123.1			
Mandatorily redeemable noncontrolling interests	8.4	—	5.0	3.4	
Deferred purchase price of Tholu	28.1	3.3	24.8		
Total	$3,034.4	$ 807.2	$ 433.3	$ 871.8	$ 922.1

Environmental reserves are estimates based on current remediation plans; actual liabilities could significantly differ from the reserve estimates.

We have no near-term post-retirement benefit plan funding obligations. Because the amount of such obligations in future years is not reasonably estimable, they have been excluded from the contractual obligations table. We intend to make post-retirement benefit plan contributions of $30.0 million during 2021, which consists of $24.7 million of employer contributions and $5.3 million of benefits paid directly by the employer. These contributions are not contractually obligated, and therefore are not included in the table above.

Our unrecognized tax benefits under ASC 740, "Income Taxes" have been excluded from the contractual obligations table because of the inherent uncertainty and the inability to reasonably estimate the timing of cash outflows.

Stock Repurchase Program and Other Share Acquisitions

Our Board of Directors has authorized the repurchase of Class A Common Stock or Class B Common Stock or any combination of the foregoing. As of October 31, 2020, the remaining number of shares that could be repurchased under this authorization was 4,703,487 shares. See Note 12 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for additional information regarding this program and the repurchase of shares of Class A and Class B Common Stock.

Effects of Inflation

We generally identify hyper-inflationary markets as those markets whose cumulative inflation rate over a three-year period exceeds 100%. During the third quarter of 2018, Argentina was deemed as a hyper-inflationary market and our Argentine operations changed functional currency from Argentine Pesos to U.S. Dollars for GAAP reporting purposes. As a result, non-U.S. Dollar denominated monetary assets and liabilities of our Argentine operations are subject to re-measurement and recorded in Other Expense, Net, within the Consolidated Statements of Income. During 2020, foreign currency losses, net recorded in Other expense, net, related to our Argentine operations were $2.8 million. Inflation did not have a material impact on our operations during 2020.

Critical Accounting Policies

A summary of our significant accounting policies is included in Note 1 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K. We believe that the consistent application of these policies enables us to provide readers of the consolidated financial statements with useful and reliable information about our results of operations and financial condition. The following are the accounting policies that we believe are most important to the portrayal of our results of operations and financial condition and require our most difficult, subjective or complex judgments.

Other items that could have a significant impact on the financial statements include the risks and uncertainties listed in Part I, Item 1A – Risk Factors. Actual results could differ materially using different estimates and assumptions, or if conditions are significantly different in the future.

Goodwill and Indefinite-Lived Intangibles Impairment Testing. We account for goodwill in accordance with ASC 350, "Intangibles – Goodwill and Other." Under ASC 350, purchased goodwill is not amortized, but instead is tested for impairment either annually on August 1 or when events and circumstances indicate an impairment may have occurred. Our goodwill impairment assessment is performed by reporting unit. A reporting unit is the operating segment, or a business one level below that operating segment (the component level) if discrete financial information is prepared and regularly reviewed by segment management. However, components are aggregated as a single reporting unit if they have similar economic characteristics. In conducting the annual impairment tests, the estimated fair value of each of our reporting units is compared to its carrying amount including goodwill. If the estimated fair value exceeds the carrying amount, then no impairment exists. If the carrying amount exceeds the estimated fair value we record an impairment of goodwill equal to the amount by which the carrying value exceeds the fair value of the reporting unit, not to exceed the recorded amount of goodwill.

The Rigid Industrial Packaging & Services reportable segment consists of five operating segments: Rigid Industrial Packaging & Services – North America; Rigid Industrial Packaging & Services – Latin America; Rigid Industrial Packaging & Services – Europe, Middle East and Africa; Rigid Industrial Packaging & Services – Asia Pacific; and Rigid Industrial Packaging & Services – Tri-Sure. Each of these operating segments also qualify as a component that has discrete financial information available that is reviewed by segment management on a regular basis. As such, these components also represent our reporting units for purposes of goodwill impairment testing.

The Paper Packaging & Services reportable segment is also an operating segment. This operating segment consists of multiple components that have discrete financial information available that is reviewed by segment management on a regular basis. We have evaluated those components and concluded that they are economically similar and should be aggregated into single reporting unit. For the purpose of aggregating our components, we review the long-term performance of gross profit margin and operating profit margin. Additionally, we review qualitative factors such as common customers, similar products, similar manufacturing processes, sharing of resources, level of integration, and interdependency of processes across components. We place greater weight on the qualitative factors outlined in ASC 280 "Segment Reporting" and consider the guidance in ASC 350 in determining whether two or more components of an operating segment are economically similar and can be aggregated into a single reporting unit. However, our assessment of the aggregation includes both qualitative and quantitative factors and is based on the facts and circumstances specific to the components.

The estimated fair value of the reporting units utilized in the impairment test is based on a discounted cash flow analysis or income approach and market multiple approach. Under this method, the principal valuation focus is on the reporting unit's cash-generating capabilities. The discount rates used for impairment testing are based on a market participant's weighted average cost of capital. The use of alternative estimates, peer groups or changes in the industry, or adjusting the discount rate, earnings before interest, taxes, depreciation, depletion and amortization multiples or price earnings ratios used could affect the estimated fair value of the assets and potentially result in impairment. Any identified impairment would result in an adjustment to our results of operations.

In performing the test, we first evaluate qualitative factors, such as macroeconomic conditions and our overall financial performance to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, including goodwill. We then evaluate how significant each of the identified factors could be to the fair value or carrying amount of a reporting unit and weigh those factors in totality in forming a conclusion of whether or not it is more likely than not that the fair value of a reporting unit is less than its carrying amount (the Step 0 Test). If necessary, the next step in the goodwill impairment test involves comparing the fair value of each of the reporting units to the carrying value of those reporting units. If the carrying value of a reporting unit exceeds the fair value of the reporting unit, an impairment loss would be recognized (not to exceed the carrying amount of goodwill). We did not utilize any Step 0 tests in 2020.

For our Rigid Industrial Packaging & Services - North America; Rigid Industrial Packaging & Services - Europe, Middle East and Africa; Rigid Industrial Packaging & Services - Asia Pacific; Rigid Industrial Packaging & Services - Tri-Sure; and Paper Packaging & Services reporting unit, we proceeded directly to the quantitative impairment testing. The fair value of each reporting unit was substantially in excess of its respective carrying value, with a minimum cushion of 27% for the Paper Packaging & Services reporting unit, so no impairment was deemed to exist. Discount rates, revenue growth rates and other cash flow projections are the assumptions that are most sensitive and susceptible to change as they require significant management judgment. In addition, certain future events and circumstances, including deterioration of market conditions, higher cost of capital, a decline in actual and expected consumption and demand, could result in changes to those assumptions and judgments. A revision of those assumptions could cause the fair value of the reporting unit to fall below its respective carrying value. As for all of our reporting units, if in future years, the reporting unit's actual results are not consistent with our estimates and assumptions used to calculate fair value, we may be required to recognize material impairments to goodwill.

The following table summarizes the carrying amount of goodwill by reporting unit for the year ended October 31, 2020 and 2019:

	Goodwill Balance	
(in millions)	October 31, 2020	October 31, 2019
Rigid Industrial Packaging & Services		
North America	$ 252.0	$ 252.9
Europe, Middle East and Africa	331.4	313.0
Asia Pacific	89.0	88.6
Tri-Sure	78.1	77.2
Paper Packaging & Services	767.9	786.1
Total	$1,518.4	$1,517.8

* The Rigid Industrial Packaging & Services: Latin America, Flexible Products & Services, and Land Management reporting units have no goodwill balance at either reporting period.

We test for impairment of indefinite-lived intangible assets during the fourth quarter of each year as of August 1, or more frequently if certain indicators are present or changes in circumstances suggest that impairment may exist.

Recent Accounting Standards

See Note 1 of the Notes to Consolidated Financial Statements included in Item 8 of this Form 10-K for a detailed description of recently issued and newly adopted accounting standards.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk

We are subject to interest rate risk related to our financial instruments that include borrowings under the 2019 Credit Agreement and proceeds from our Senior Notes, U.S. Receivables Facility and the European RFA (collectively, "Accounts Receivables Facilities"), and cross currency and interest rate swap agreements. We do not enter into financial instruments for trading or speculative purposes. The interest rate swap agreements have been entered into to manage our exposure to variability in interest rates.

We have six interest rate swap agreements with an aggregate notional amount of $600.0 million as of October 31, 2020. Under these agreements, we receive variable rate interest payments based upon one month U.S. dollar LIBOR, and in return we are obligated to pay interest at a weighted-average interest rate of 2.49%, plus an interest spread.

We have another interest rate swap agreement with an aggregate notional amount of $300.0 million as of October 31, 2020. Under this agreement, we receive interest monthly from the counterparties equal to LIBOR and pay interest at a fixed rate over the life of the contracts.

(Losses)/Gains reclassified to earnings under these interest rate swaps were recorded in the amount of $(16.5) million, $3.0 million and $1.8 million for the years ended October 31, 2020, 2019 and 2018, respectively.

We have a cross currency interest rate swap agreement that synthetically swaps $100.0 million of fixed rate debt to Euro denominated fixed rate debt at a rate of 2.35%. The gain or loss on this derivative instrument is included in the foreign currency translation component of other comprehensive income until the net investment is sold, diluted, or liquidated. Interest payments received for the cross currency swap are excluded from the net investment hedge effectiveness assessment and are recorded in interest expense, net on the consolidated statements of income. A gain on the cross currency swap agreement was recorded in interest expense for the amount of $2.4 million, $2.4 million and $1.6 million for the years ended October 31, 2020, 2019 and 2018, respectively.

The tables below provide information about our derivative financial instruments and other financial instruments that are sensitive to changes in interest rates. For our 2019 Credit Agreement, Senior Notes and Accounts Receivables Facilities, the tables present scheduled amortizations of principal and the weighted average interest rate by contractual maturity dates as of October 31, 2020 and 2019.

The fair values of our 2019 Credit Agreement, Senior Notes and Accounts Receivables Facilities are based on rates available to us for debt of the same remaining maturity as of October 31, 2020 and 2019.

Financial Instruments

As of October 31, 2020

(Dollars in millions)

	Expected Maturity Date							
	2021	2022	2023	2024	2025	After 2025	Total	Fair Value
2019 Credit Agreement:								
Scheduled amortizations	$ 123	$ 138	$ 138	$ 48	$ 19	$ 5	$ 471	$471
Scheduled maturity	$ —	—	—	716	—	$ 243	$ 959	$959
Average interest rate(1)	2.49%	2.49%	2.49%	2.49%	2.49%	2.49%	2.49%	
Senior Notes due 2021:								
Scheduled maturity	$ 235	$ —	—	—	—	—	$ 235	$242
Average interest rate	7.38%	—	—	—	—	—	7.38%	
Senior Notes due 2027:								
Scheduled maturity	—	—	—	—	—	$ 500	$ 500	$524
Average interest rate	—	—	—	—	—	6.50%	6.50%	
Receivables Facilities:								
Scheduled maturity	$ 310	—	—	—	—	—	$ 310	$310
Weighted average interest rate	2.06%	—	—	—	—	—	2.06%	

(1) Variable rate specified is based on LIBOR or an alternative base rate plus a calculated margin as of October 31, 2020. The rates presented are not intended to project our expectations for the future.

As of October 31, 2019

(Dollars in millions)

	Expected Maturity Date							
	2020	2021	2022	2023	2024	After 2024	Total	Fair Value
2019 Credit Agreement:								
Scheduled amortizations	$ 84	$ 131	$ 148	$ 148	$ 51	$ 25	$ 587	$ 587
Scheduled maturity	—	—	—	—	$ 841	$ 260	$1,101	$1,101
Average interest rate(1)	3.71%	3.71%	3.71%	3.71%	3.71%	—	3.71%	
Senior Notes due 2021:								
Scheduled maturity	—	$ 222	—	—	—	—	$ 222	$ 248
Average interest rate	—	7.38%	—	—	—	—	7.38%	
Senior Notes due 2027:								
Scheduled maturity	—	—	—	—	—	$ 500	$ 500	$ 538
Average interest rate	—	—	—	—	—	6.50%	6.50%	
Receivables Facility:								
Scheduled maturity	$ 352	—	—	—	—	—	$ 352	$ 352
Weighted average interest rate	2.00%	—	—	—	—	—	2.00%	

(1) Variable rate specified is based on LIBOR or an alternative base rate plus a calculated margin as of October 31, 2019. The rates presented are not intended to project our expectations for the future.

Currency Risk

As a result of our international operations, our operating results are subject to fluctuations in currency exchange rates. The geographic presence of our operations mitigates this exposure to some degree. Additionally, our transaction exposure is somewhat limited because we produce and sell a majority of our products in local currency within most countries in which we operate.

As of October 31, 2020, and 2019 we had outstanding foreign currency forward contracts in the notional amount of $268.6 million and $275.0 million, respectively. The purpose of these contracts is to hedge our exposure to foreign currency transactions and short-term intercompany loan balances in our international businesses. The fair value of these contracts resulted in realized (losses) gains recorded in other expense, net of $(3.2) million, $4.6 million and $(9.2) million for the years ended October 31, 2020, 2019 and 2018, respectively.

A sensitivity analysis (with respect only to these instruments) to changes in the foreign currencies hedged indicates that if the U.S. dollar strengthened by 10 percent, the fair value of these instruments would increase by $3.1 million to a net asset of $2.9 million. Conversely, if the U.S. dollar weakened by 10 percent, the fair value of these instruments would decrease by $4.4 million to a net liability of $4.6 million.

Commodity Price Risk

We purchase commodities such as steel, resin, containerboard, pulpwood and energy. We do not currently engage in material hedging of commodities, although in the past we have sometimes engaged in hedges in natural gas. There were no commodity hedging contracts outstanding as of October 31, 2020 and 2019.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

GREIF, INC. AND SUBSIDIARY COMPANIES

CONSOLIDATED STATEMENTS OF INCOME

Year Ended October 31, *(in millions, except per share amounts)*	**2020**	**2019**	**2018**
Net sales	$4,515.0	$4,595.0	$3,873.8
Costs of products sold	3,600.3	3,635.1	3,084.9
Gross profit	914.7	959.9	788.9
Selling, general and administrative expenses	516.0	507.4	397.2
Restructuring charges	38.7	26.1	18.6
Acquisition and integration related costs	17.0	29.7	0.7
Non-cash asset impairment charges	18.5	7.8	8.3
Gain on disposal of properties, plants and equipment, net	(19.2)	(13.9)	(5.6)
(Gain) loss on disposal of businesses, net	38.8	3.7	(0.8)
Operating profit	304.9	399.1	370.5
Interest expense, net	115.8	112.5	51.0
Debt extinguishment charges	—	22.0	—
Non-cash pension settlement charges	0.3	—	1.3
Other expense, net	2.7	2.6	18.4
Income before income tax expense and equity earnings of unconsolidated affiliates, net	186.1	262.0	299.8
Income tax expense	63.3	70.7	73.3
Equity earnings of unconsolidated affiliates, net of tax	(1.5)	(2.9)	(3.0)
Net income	124.3	194.2	229.5
Net income attributable to noncontrolling interests	(15.5)	(23.2)	(20.1)
Net income attributable to Greif, Inc.	$ 108.8	$ 171.0	$ 209.4
Basic earnings per share attributable to Greif, Inc. common shareholders:			
Class A common stock	$ 1.83	$ 2.89	$ 3.56
Class B common stock	$ 2.74	$ 4.33	$ 5.33
Diluted earnings per share attributed to Greif, Inc. common shareholders:			
Class A common stock	$ 1.83	$ 2.89	$ 3.55
Class B common stock	$ 2.74	$ 4.33	$ 5.33

GREIF, INC. AND SUBSIDIARY COMPANIES

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

Year Ended October 31, *(in millions)*	**2020**	**2019**	**2018**
Net income	$124.3	$194.2	$229.5
Other comprehensive income (loss), net of tax:			
Foreign currency translation	(9.8)	(4.5)	(45.5)
Derivative financial instruments	(12.0)	(26.1)	7.7
Minimum pension liabilities	15.1	(25.3)	16.3
Other comprehensive income (loss), net of tax	(6.7)	(55.9)	(21.5)
Comprehensive income	117.6	138.3	208.0
Comprehensive income attributable to noncontrolling interests	2.6	23.9	18.1
Comprehensive income attributable to Greif, Inc.	$115.0	$114.4	$189.9

See accompanying Notes to Consolidated Financial Statements.

GREIF, INC. AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEETS

(in millions)	October 31, 2020	October 31, 2019
ASSETS		
Current assets		
Cash and cash equivalents	$ 105.9	$ 77.3
Trade accounts receivable, less allowance of $9.4 in 2020 and $6.8 in 2019	636.6	664.2
Inventories:		
Raw materials	208.4	238.4
Work-in-process	5.4	11.3
Finished goods	79.8	108.5
Assets held for sale	57.0	4.1
Assets held by special purpose entities	50.9	—
Prepaid expenses	43.0	44.0
Other current assets	115.8	101.2
	1,302.8	1,249.0
Long-term assets		
Goodwill	1,518.4	1,517.8
Other intangible assets, net of amortization	715.3	776.5
Deferred tax assets	11.3	15.9
Assets held by special purpose entities	—	50.9
Pension assets	29.5	35.4
Operating lease assets	307.5	—
Other long-term assets	99.2	90.9
	2,681.2	2,487.4
Properties, plants and equipment		
Timber properties, net of depletion	224.5	272.4
Land	162.6	178.0
Buildings	524.7	531.0
Machinery and equipment	1,930.6	1,866.2
Capital projects in progress	120.6	170.4
	2,963.0	3,018.0
Accumulated depreciation	(1,436.1)	(1,327.7)
	1,526.9	1,690.3
Total assets	$ 5,510.9	$ 5,426.7

See accompanying Notes to Consolidated Financial Statements.

GREIF, INC. AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEETS

(in millions)	October 31, 2020	October 31, 2019
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 450.7	$ 435.2
Accrued payroll and employee benefits	122.3	142.4
Restructuring reserves	21.6	11.3
Current portion of long-term debt	123.1	83.7
Short-term borrowings	28.4	9.2
Liabilities held by special purpose entities	43.3	—
Current portion of operating lease liabilities	52.3	—
Other current liabilities	158.4	143.6
	1,000.1	825.4
Long-term liabilities		
Long-term debt	2,335.5	2,659.0
Operating lease liabilities	257.7	—
Deferred tax liabilities	339.2	313.0
Pension liabilities	137.7	177.6
Post-retirement benefit obligations	11.6	12.2
Liabilities held by special purpose entities	—	43.3
Contingent liabilities and environmental reserves	20.2	18.7
Mandatorily redeemable noncontrolling interests	8.4	8.4
Long-term income tax payable	27.8	27.8
Other long-term liabilities	152.0	128.9
	3,290.1	3,388.9
Commitments and Contingencies (Note 11)		
Redeemable Noncontrolling Interests (Note 18)	20.0	21.3
Equity		
Common stock, without par value	170.2	162.6
Treasury stock, at cost	(134.4)	(134.8)
Retained earnings	1,543.9	1,539.0
Accumulated other comprehensive income (loss), net of tax:		
Foreign currency translation	(294.9)	(298.0)
Derivative financial instruments	(24.7)	(12.7)
Minimum pension liabilities	(107.9)	(123.0)
Total Greif, Inc. shareholders' equity	1,152.2	1,133.1
Noncontrolling interests	48.5	58.0
Total shareholders' equity	1,200.7	1,191.1
Total liabilities and shareholders' equity	$5,510.9	$5,426.7

See accompanying Notes to Consolidated Financial Statements.

GREIF, INC. AND SUBSIDIARY COMPANIES

CONSOLIDATED STATEMENTS OF CASH FLOWS

Year Ended October 31, *(in millions)*	**2020**	**2019**	**2018**
Cash flows from operating activities:			
Net income	$ 124.3	$ 194.2	$ 229.5
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation, depletion and amortization	242.5	206.1	126.9
Non-cash asset impairment charges	18.5	7.8	8.3
Non-cash pension settlement charges	0.3	—	1.3
Gain on disposals of properties, plants and equipment, net	(19.2)	(13.9)	(5.6)
(Gain) loss on disposals of businesses, net	38.8	3.7	(0.8)
Unrealized foreign exchange (gain) loss	(4.2)	3.0	(0.7)
Deferred income tax (benefit) expense	16.7	2.1	(44.8)
Transition tax (benefit) expense	—	(0.8)	52.8
Debt extinguishment charges	—	14.0	—
Non-cash lease expense	57.4	—	—
Other, net	(3.0)	4.2	(2.8)
Increase (decrease) in cash from changes in certain assets and liabilities:			
Trade accounts receivable	(9.1)	55.1	(34.0)
Inventories	27.1	33.9	(24.8)
Deferred purchase price on sold receivables	—	(6.9)	2.1
Accounts payable	38.1	(69.9)	24.3
Restructuring reserves	10.2	6.7	(0.8)
Operating leases	(56.8)	—	—
Pension and post-retirement benefit liabilities	(13.3)	(15.3)	(66.8)
Other, net	(13.6)	(34.5)	(11.1)
Net cash provided by operating activities	454.7	389.5	253.0
Cash flows from investing activities:			
Acquisitions of companies, net of cash acquired	—	(1,857.9)	—
Purchases of properties, plants and equipment	(131.4)	(156.8)	(140.2)
Purchases of and investments in timber properties	(5.4)	(5.4)	(8.9)
Purchases of equity method investments	(3.6)	—	—
Proceeds from the sale of properties, plants, equipment and other assets	33.4	28.7	12.5
Proceeds from the sale of businesses	80.9	1.5	1.4
Proceeds on insurance recoveries	0.9	0.6	—
Net cash used in investing activities	(25.2)	(1,989.3)	(135.2)
Cash flows from financing activities:			
Proceeds from issuance of long-term debt	1,319.9	3,732.3	1,020.7
Payments on long-term debt	(1,578.4)	(2,075.6)	(1,065.4)
Proceeds (payments) on short-term borrowings, net	17.0	2.2	(11.0)
Proceeds from trade accounts receivable credit facility	76.8	181.4	2.8
Payments on trade accounts receivable credit facility	(122.9)	(89.2)	(2.8)
Dividends paid to Greif, Inc. shareholders	(104.3)	(104.0)	(100.0)
Dividends paid to noncontrolling interests	(13.4)	(9.2)	(4.6)
Payments for debt extinguishment and issuance costs	—	(44.1)	—
Purchases of redeemable noncontrolling interest	—	(11.9)	—
Cash contribution from noncontrolling interest holder	—	1.6	2.0
Net cash provided (used in) by financing activities	(405.3)	1,583.5	(158.3)
Effects of exchange rates on cash	4.4	(0.6)	(7.6)
Net increase (decrease) in cash and cash equivalents	28.6	(16.9)	(48.1)
Cash and cash equivalents at beginning of year	77.3	94.2	142.3
Cash and cash equivalents at end of year	$ 105.9	$ 77.3	$ 94.2
Supplemental information:			
Non-cash transactions:			
Capital expenditures included in accounts payable	$ 17.2	$ 18.6	$ 11.4
Schedule of interest and income taxes paid:			
Cash payments for interest expense	$ 119.9	$ 161.8	$ 58.3
Cash payments for taxes	$ 65.1	$ 71.4	$ 65.2

See accompanying Notes to Consolidated Financial Statements.

GREIF, INC. AND SUBSIDIARY COMPANIES

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

(Amounts in millions, except shares amounts in thousands and per share amounts)	Capital Stock		Treasury Stock		Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Greif, Inc. Equity	Noncontrolling Interests	Total Equity
	Shares	Amount	Shares	Amount					
As of October 31, 2017	47,843	$144.2	28,999	$(135.6)	$1,360.5	$(358.2)	$1,010.9	$ 36.6	$1,047.5
Net income					209.4		209.4	20.1	229.5
Other comprehensive income (loss):									
– Foreign currency translation						(43.5)	(43.5)	(2.0)	(45.5)
– Derivative financial instruments, net of income tax expense of $3.3 million					(0.6)	8.3	7.7		7.7
– Minimum pension liability adjustment, net of income tax expense of $4.1 million						16.3	16.3		16.3
Comprehensive income							189.9		208.0
Current period mark to redemption value of redeemable noncontrolling interest					0.5		0.5		0.5
Net income allocated to redeemable noncontrolling interests								(3.7)	(3.7)
Dividends paid to Greif, Inc., Shareholders ($1.70 per Class A share and $2.54 per Class B share)					(100.0)		(100.0)		(100.0)
Dividends paid to noncontrolling interests								(4.6)	(4.6)
Restricted stock executives and directors	21	1.2	(21)	—			1.2		1.2
Long-term incentive shares issued	85	5.1	(85)	0.2			5.3		5.3
As of October 31, 2018	47,949	$150.5	28,893	$(135.4)	$1,469.8	$(377.1)	$1,107.8	$ 46.4	$1,154.2
Net income					171.0		171.0	23.2	194.2
Other comprehensive income (loss):									
– Foreign currency translation						(5.2)	(5.2)	0.7	(4.5)
– Derivative financial instruments, net of income tax expense of $8.6 million						(26.1)	(26.1)		(26.1)
– Minimum pension liability adjustment, net of income tax benefit of $1.1 million						(25.3)	(25.3)		(25.3)
Comprehensive income							114.4		138.3
Adoption of ASU 2016-16					(2.1)		(2.1)		(2.1)
Current period mark to redemption value of redeemable noncontrolling interest					4.9		4.9		4.9
Net income allocated to redeemable noncontrolling interests								(2.3)	(2.3)
Dividends paid to Greif, Inc., Shareholders ($1.76 per Class A share and $2.63 per Class B share)					(104.0)		(104.0)		(104.0)
Dividends paid to noncontrolling interests								(7.9)	(7.9)
Acquisition of noncontrolling interest and other					(0.6)		(0.6)	(2.1)	(2.7)
Restricted stock directors	25	1.1	(25)	—			1.1		1.1
Long-term incentive shares issued	292	11.0	(292)	0.6			11.6		11.6
As of October 31, 2019	48,266	$162.6	28,576	$(134.8)	$1,539.0	$(433.7)	$1,133.1	$ 58.0	$1,191.1
Net income					108.8		108.8	15.5	124.3
Other comprehensive income (loss):									
– Foreign currency translation						3.1	3.1	(12.9)	(9.8)
– Derivative financial instruments, net of $4.0 million income tax benefit						(12.0)	(12.0)		(12.0)
– Minimum pension liability adjustment, net of $4.8 million income tax expense						15.1	15.1		15.1
Comprehensive income							115.0		117.6
Current period mark to redemption value of redeemable noncontrolling interest					0.4		0.4		0.4
Net income allocated to redeemable noncontrolling interests								(0.1)	(0.1)
Dividends paid to Greif, Inc., Shareholders ($1.76 and $2.63 per Class A share and Class B share, respectively)					(104.3)		(104.3)		(104.3)
Dividends paid to noncontrolling interests and other								(12.0)	(12.0)
Long-term incentive shares issued	153	5.0	(153)	0.3			5.3		5.3
Share based compensation	—	1.5	—	—			1.5		1.5
Restricted stock, executive	3	0.1	(3)	—			0.1		0.1
Restricted stock, directors	28	1.0	(28)	0.1			1.1		1.1
As of October 31, 2020	48,450	$170.2	28,392	$(134.4)	$1,543.9	$(427.5)	$1,152.2	$ 48.5	$1,200.7

See accompanying Notes to Consolidated Financial Statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 – BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The Business

Greif, Inc. and its subsidiaries (collectively, "Greif," "our," or the "Company"), principally manufacture rigid industrial packaging products, such as steel, fibre and plastic drums, rigid intermediate bulk containers, closure systems for industrial packaging products, transit protection products, water bottles and remanufactured and reconditioned industrial containers, and provides services, such as container life cycle management, filling, logistics, warehousing and other packaging services. The Company produces containerboard, corrugated sheets, corrugated containers and other corrugated and specialty products to customers in North America. The Company also produces coated and uncoated recycled paperboard, along with tubes and cores which are used in a variety of applications that include industrial products (construction products, protective packaging, and adhesives). In addition, we also purchase and sell recycled fiber. The Company is a leading global producer of flexible intermediate bulk containers. In addition, the Company owns timber properties in the southeastern United States which are actively harvested and regenerated. The Company has operations in over 40 countries.

Due to the variety of its products, the Company has many customers buying different products and due to the scope of the Company's sales, no one customer is considered principal in the total operations of the Company.

The Company supplies a cross section of industries, such as chemicals, paints and pigments, food and beverage, petroleum, industrial coatings, agricultural, pharmaceutical, mineral, packaging, automotive and building products, and makes spot deliveries on a day-to-day basis as its products are required by its customers. The Company does not operate on a backlog to any significant extent and maintains only limited levels of finished goods. Many customers place their orders weekly for delivery during the same week.

The Company's raw materials are principally steel, resin, containerboard, old corrugated containers, pulpwood, recycled coated and uncoated paperboard and used industrial packaging for reconditioning.

There were approximately 16,000 full time employees of the Company as of October 31, 2020.

Principles of Consolidation and Basis of Presentation

The consolidated financial statements include the accounts of Greif, Inc., all wholly-owned and majority-owned subsidiaries, joint ventures controlled by the Company or for which the Company is the primary beneficiary, including the joint venture relating to the Flexible Products & Services segment, and equity earnings of unconsolidated affiliates. All intercompany transactions and balances have been eliminated in consolidation. Investments in unconsolidated affiliates are accounted for using the equity method based on the Company's ownership interest in the unconsolidated affiliate.

The Company's consolidated financial statements are presented in accordance with accounting principles generally accepted in the United States ("GAAP"). Certain prior year amounts have been reclassified to conform to the current year presentation.

The Company's fiscal year begins on November 1 and ends on October 31 of the following year. Any references to years or to any quarter of those years, relates to the fiscal year or quarter, as the case may be, ended in that year, unless otherwise stated.

Argentina Currency

The Company's results with respect to the business of its Argentinian subsidiary have been reported under highly inflationary accounting in accordance with Accounting Standards Codification ("ASC") 830, "Foreign Currency Matters," beginning on August 1, 2018. As of October 31, 2020, the Company's Argentina subsidiary represented approximately 1% of the Company's consolidated net revenues and less than 1% of its consolidated total assets.

Use of Estimates

The preparation of consolidated financial statements in conformity with GAAP requires management to make certain estimates, judgments and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. The most significant estimates are related to the expected useful lives assigned to properties, plants and equipment, goodwill and other intangible assets, estimates of fair value, environmental liabilities, pension and post-retirement benefits, including plan assets, income taxes, net assets held for sale and contingencies. Actual amounts could differ from those estimates.

Cash and Cash Equivalents

The Company considers highly liquid investments with an original maturity of three months or less to be cash equivalents. The carrying value of cash equivalents approximates fair value.

Allowance for Doubtful Accounts

Trade receivables represent amounts owed to the Company through its operating activities and are presented net of allowance for doubtful accounts. The allowance for doubtful accounts totaled $9.4 million and $6.8 million as of October 31, 2020 and 2019, respectively. The Company evaluates the collectability of its accounts receivable based on a combination of factors. In circumstances where the Company is aware of a specific customer's inability to meet its financial obligations to the Company, the Company records a specific allowance for bad debts against amounts due to reduce the net recognized receivable to the amount the Company reasonably believes will be collected. In addition, the Company recognizes allowances for bad debts based on the length of time receivables are past due with allowance percentages, based on its historical experiences, applied on a graduated scale relative to the age of the receivable amounts. If circumstances such as higher than expected bad debt experience or an unexpected material adverse change in a major customer's ability to meet its financial obligations to the Company were to occur, the recoverability of amounts due to the Company could change by a material amount. Amounts deemed uncollectible are written-off against an established allowance for doubtful accounts.

Concentration of Credit Risk and Major Customers

The Company maintains cash depository accounts with banks throughout the world and invests in high quality short-term liquid instruments. Such investments are made only in instruments issued by high quality institutions. These investments mature within three months and the Company has not incurred any related losses for the years ended October 31, 2020, 2019, and 2018.

Trade receivables can be potentially exposed to a concentration of credit risk with customers or in particular industries. Such credit risk is considered by management to be limited due to the Company's many customers, none of which are considered principal in the total operations of the Company, and its geographic scope of operations in a variety of industries throughout the world. The Company does not have an individual customer that exceeds 10 percent of total revenue. In addition, the Company performs ongoing credit evaluations of its customers' financial conditions and maintains reserves for credit losses. Such losses historically have been within management's expectations.

Inventory

The Company primarily uses the FIFO method of inventory valuation. Reserves for slow moving and obsolete inventories are provided based on historical experience, inventory aging and product demand. The Company continuously evaluates the adequacy of these reserves and makes adjustments to these reserves as required.

The Paper Packaging & Services segment trades certain inventories with third parties. These inventory trades are accounted for as non-monetary exchanges and any unfavorable imbalances, resulting from these trades, are recorded as a liability.

Net Assets Held for Sale

Net assets held for sale represent land, buildings and other assets and liabilities for locations that have met the criteria of "held for sale" accounting, as specified by ASC 360, "Property, Plant, and Equipment," at the lower of carrying value or fair value less cost to sell. Fair value is based on the estimated proceeds from the sale of the assets utilizing recent purchase offers, market comparables and/or reliable third party data. The Company's estimate as to fair value is regularly reviewed and assets are subject to changes, such as in the commercial real estate markets and the Company's continuing evaluation as to the asset's acceptable sale price. As of October 31, 2020, there was one asset group within the Rigid Industrial Packaging & Services, four asset groups within Paper Packaging & Services segment, one asset group within Land Management segment and zero asset groups within the Corporate and Other segment classified as assets and liabilities held for sale. The effect of suspending depreciation and depletion on the facilities and timberlands, respectively, held for sale is immaterial to the results of operations. The net assets held for sale are being marketed for sale and it is the Company's intention to complete the sales of these assets within the upcoming year, assuming offers deemed sufficient by management are received as result of marketing efforts. See Note 7 herein for additional information regarding assets and liabilities held for sale.

Goodwill and Indefinite-Lived Intangibles

Goodwill is the excess of the purchase price of an acquired entity over the amounts assigned to tangible and intangible assets and liabilities assumed in the business combination. The Company accounts for purchased goodwill and indefinite-lived intangible assets in accordance with ASC 350, "Intangibles – Goodwill and Other." Under ASC 350, purchased goodwill and intangible assets with indefinite lives are not amortized, but instead are tested for impairment at least annually. The Company tests for impairment of goodwill and indefinite-lived intangible assets as of August 1, or more frequently if certain indicators are present or changes in circumstances suggest that impairment may exist.

In accordance with ASC 350, the Company has the option to first assess qualitative factors to determine whether it is necessary to perform the quantitative test for goodwill impairment. If the Company believes, as a result of its qualitative assessment, that it is more-likely-than-not that the fair value of a reporting unit is less than its carrying amount, the quantitative impairment test is required. The quantitative test for goodwill impairment is conducted at the reporting unit level by comparing the carrying value of each reporting unit to the estimated fair value of the unit. If the carrying value of a reporting unit exceeds its estimated fair value, then the goodwill of the reporting unit is impaired. Goodwill impairment is recognized as the amount that the carrying value exceeds the fair value; not to exceed the balance of goodwill attributable to the reporting unit. When a portion of a reporting unit is disposed of, goodwill is allocated to the gain or loss on that disposition based on the relative fair values of the portion of the reporting unit subject to disposition and the portion of the reporting unit that will be retained.

The Company's determinations of estimated fair value of the reporting units are based on both the market approach and a discounted cash flow analysis utilizing the income approach. Under the market approach, the principal inputs are market prices and valuation multiples for public companies engaged in businesses that are considered comparable to the reporting unit. Under the income approach, the principal inputs are the reporting unit's cash-generating capabilities and the discount rate. The discount rates used in the income approach are based on a market participant's weighted average cost of capital. The use of alternative estimates, including different peer groups or changes in the industry, or adjusting the discount rate, earnings before interest, taxes, depreciation, depletion and amortization forecasts or cash flow assumptions used could affect the estimated fair value of the reporting units and potentially result in goodwill impairment. Any identified impairment would result in an expense to the Company's results of operations. See Note 3 for additional information regarding goodwill and other intangible assets.

Other Intangibles

The Company accounts for intangible assets in accordance with ASC 350. Definite lived intangible assets are amortized over their useful lives on a straight-line basis. The useful lives for definite lived intangible assets vary depending on the type of asset and the terms of contracts or the valuation performed. Amortization expense on intangible assets is recorded on the straight-line method over their useful lives as follows:

	Years
Trade names	1-15
Customer relationships	5-25
Non-compete agreements	1-10
Other intangibles	1-20

Acquisitions

From time to time, the Company acquires businesses and/or assets that augment and complement its operations. In accordance with ASC 805, "Business Combinations," these acquisitions are accounted for under the purchase method of accounting. Under this method, the Company allocates the fair value of purchase consideration transferred to the tangible and intangible assets acquired and liabilities assumed based on their estimated fair values on the date of the acquisition. The excess purchase consideration over the aggregate fair value of tangible and intangible assets, net of liabilities assumed, is recorded as goodwill. The Company's estimates of fair value are based upon assumptions believed to be reasonable, but which are inherently uncertain and unpredictable and, as a result, actual results may differ from estimates.

During the measurement period, not to exceed one year from the date of acquisition, the Company may record adjustments to the assets acquired and liabilities assumed, with a corresponding offset to goodwill if new information is obtained related to facts and circumstances that existed as of the acquisition date. After the measurement period, any subsequent adjustments are reflected in the consolidated statements of operations. Acquisition costs, such as legal and consulting fees, are expensed as incurred.

The Company classifies costs incurred in connection with acquisitions and their integration as acquisition and integration related costs. These costs are expensed as incurred and consist primarily of transaction costs, legal and consulting fees, integration costs and changes in the fair value of contingent payments (earn-outs) and are recorded within Acquisition and Integration related Costs line item presented on the consolidated income statement. Acquisition transaction costs are incurred during the initial evaluation of a potential targeted acquisition and primarily relate to costs to analyze, negotiate and consummate the transaction as well as financial and legal due diligence activities. Post-acquisition integration activities are costs incurred to combine the operations of an acquired enterprise into the Company's operations.

The consolidated financial statements include the results of operations from these business combinations from the date of acquisition.

Internal Use Software

Internal use software is accounted for under ASC 985, "Software." Internal use software is software that is acquired, internally developed or modified solely to meet the Company's needs and for which, during the software's development or modification, a plan does not exist to market the software externally. Costs incurred to develop the software during the application development stage and for upgrades and enhancements that provide additional functionality are capitalized and then amortized over a three to ten year period. Internal use software is capitalized as a component of machinery and equipment on the Consolidated Balance Sheets.

Long-Lived Assets

Properties, plants and equipment are stated at cost. Depreciation on properties, plants and equipment is provided on the straight-line method over the estimated useful lives of the assets as follows:

	Years
Buildings	30-40
Machinery and equipment	5-15

Depreciation expense was $169.1 million, $149.0 million and $107.5 million in 2020, 2019 and 2018, respectively. Expenditures for repairs and maintenance are charged to expense as incurred. When properties are retired or otherwise disposed of, the cost and accumulated depreciation are eliminated from the asset and related allowance accounts. Gains or losses are credited or charged to income as incurred.

The Company capitalizes interest on long-term fixed asset projects using a rate that approximates the weighted average cost of borrowing. For the years ended October 31, 2020, 2019, and 2018, the Company capitalized interest costs of $4.5 million, $5.6 million, and $4.5 million, respectively.

The Company tests for impairment of properties, plants and equipment if certain indicators are present to suggest that impairment may exist. Long-lived assets are grouped together at the lowest level, generally at the plant level, for which identifiable cash flows are largely independent of cash flows of other groups of long-lived assets. As events warrant, the Company evaluates the recoverability of long-lived assets, other than goodwill and indefinite-lived intangible assets, by assessing whether the carrying value can be recovered over their remaining useful lives through the expected future undiscounted operating cash flows of the underlying business. Impairment indicators include, but are not limited to, a significant decrease in the market price of a long-lived asset; a significant adverse change in the manner in which the asset is being used or in its physical condition; a significant adverse change in legal factors or the business climate that could affect the value of a long-lived asset; an accumulation of costs significantly in excess of the amount originally expected for the acquisition or construction of a long-lived asset; current period operating or cash flow losses combined with a history of operating or cash flow losses associated with the use of the asset; or a current expectation that it is more likely than not that a long-lived asset will be sold or otherwise disposed of significantly before the end of its previously estimated useful life. Future decisions to change our manufacturing processes, exit certain businesses, reduce excess capacity, temporarily idle facilities and close facilities could also result in material impairment losses. Any impairment loss that may be required is determined by comparing the carrying value of the assets to their estimated fair value.

As of October 31, 2020, the Company's timber properties consisted of approximately 244,000 acres, all of which were located in the southeastern United States. The Company's land costs are maintained by tract. Upon acquisition of a new timberland tract, the Company records separate amounts for land, merchantable timber and pre-merchantable timber allocated as a percentage of the values being purchased. The Company begins recording pre-merchantable timber costs at the time the site is prepared for planting. Costs capitalized during the establishment period include site preparation by aerial spray, costs of seedlings, including refrigeration rental and trucking, planting costs, herbaceous weed control, woody release, and labor and machinery use. The Company does not capitalize interest costs in the process. Property taxes are expensed as incurred. New road construction costs are capitalized as land improvements and depreciated over 20 years. Road repairs and maintenance costs are expensed as incurred. Costs after establishment of the seedlings, including management costs, pre-commercial thinning costs and fertilization costs, are expensed as incurred. Once the timber becomes merchantable, the cost is transferred from the pre-merchantable timber category to the merchantable timber category in the depletion block.

Merchantable timber costs are maintained by five product classes: pine sawtimber, pine chip-n-saw, pine pulpwood, hardwood sawtimber and hardwood pulpwood, within a depletion block, with each depletion block based upon a geographic district or subdistrict. Currently, the Company has eight depletion blocks. These same depletion blocks are used for pre-merchantable timber costs. Each year, the Company estimates the volume of the Company's merchantable timber for the five product classes by each depletion block and depletion costs recognized upon sales are calculated as volumes sold times the unit costs in the respective depletion block. Depletion expense was $4.0 million, $3.7 million and $4.0 million in 2020, 2019 and 2018, respectively.

Contingencies

Various lawsuits, claims and proceedings have been or may be instituted or asserted against the Company, including those pertaining to environmental, product liability and safety and health matters. While the amounts claimed may be substantial, the ultimate liability cannot currently be determined because of the considerable uncertainties that exist.

All lawsuits, claims and proceedings are considered by the Company in establishing reserves for contingencies in accordance with ASC 450, "Contingencies." In accordance with the provisions of ASC 450, the Company accrues for a litigation-related liability when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Based on currently available information known to the Company, the Company believes that its reserves for these litigation-related liabilities are reasonable and that the ultimate outcome of any pending matters is not likely to have a material effect on the Company's financial position or results of operations.

Environmental Cleanup Costs

The Company accounts for environmental cleanup costs in accordance with ASC 410, "Asset Retirement and Environmental Obligations." The Company expenses environmental expenditures related to existing conditions resulting from past or current operations and from which no current or future benefit is discernible. Expenditures that extend the life of the related property or mitigate or prevent future environmental contamination are capitalized. The Company determines its liability on a site-by-site basis and records a liability at the time when it is probable and can be reasonably estimated. The Company's estimated liability is reduced to reflect the anticipated participation of other potentially responsible parties in those instances where it is probable that such parties are legally responsible and financially capable of paying their respective shares of the relevant costs.

Self-insurance

The Company is self-insured for certain of the claims made under its employee medical and dental insurance programs. The Company had recorded liabilities totaling $7.2 million and $7.6 million for estimated costs related to outstanding claims as of October 31, 2020 and 2019, respectively. These costs include an estimate for expected settlements on pending claims, administrative fees and an estimate for claims incurred but not reported. These estimates are based on management's assessment of outstanding claims, historical analyses and current payment trends. The Company recorded an estimate for the claims incurred, but not reported using an estimated lag period based upon historical information.

The Company has certain deductibles applied to various insurance policies including general liability, product, vehicle and workers' compensation. The Company maintains liabilities totaling $24.7 million and $27.5 million for anticipated costs related to general liability, product, vehicle and workers' compensation claims as of October 31, 2020 and 2019, respectively. These costs include an estimate for expected settlements on pending claims, defense costs and an estimate for claims incurred but not reported. These estimates are based on the Company's assessment of its deductibles, outstanding claims, historical analysis, actuarial information and current payment trends.

Income Taxes

Income taxes are accounted for under ASC 740, "Income Taxes." In accordance with ASC 740, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, as measured by enacted tax rates that are expected to be in effect in the periods when the deferred tax assets and liabilities are expected to be settled or realized. Valuation allowances are established when management believes it is more likely than not that some portion of the deferred tax assets will not be realized.

The Company's effective tax rate is impacted by the amount of income generated in each taxing jurisdiction, statutory tax rates and tax planning opportunities available to the Company in the various jurisdictions in which the Company operates. Significant judgment is required in determining the Company's effective tax rate and in evaluating its tax positions.

Tax benefits from uncertain tax positions are recognized when it is more likely than not that the position will be sustained upon examination, including resolutions of any related appeals or litigation processes, based on the technical merits. The amount recognized is measured as the largest amount of tax benefit that is greater than 50 percent likely of being realized upon settlement. The Company's effective tax rate includes the impact of reserve provisions and changes to reserves on uncertain tax positions that are not more likely than not to be sustained upon examination as well as related interest and penalties.

A number of years may elapse before a particular matter, for which the Company has established a reserve, is audited and finally resolved. The number of years with open tax audits varies depending on the tax jurisdiction. While it is often difficult to predict the final outcome or the timing of resolution of any particular tax matter, the Company believes that its reserves reflect the probable outcome of known tax contingencies. Unfavorable settlement of any particular issue would require use of the Company’s cash. Favorable resolution would be recognized as a reduction to the Company’s effective tax rate in the period of resolution.

Equity earnings of unconsolidated affiliates, net of tax

Equity earnings of unconsolidated affiliates, net of tax represent the Company’s share of earnings of affiliates in which the Company does not exercise control, but has significant influence. Investments in such affiliates are accounted for using the equity method of accounting. The Company has an equity interest in three such affiliates as of October 31, 2020. If the fair value of an investment in an affiliate is below its carrying value and the difference is deemed to be other than temporary, the difference between the fair value and the carrying value is charged to earnings.

Other Comprehensive Income

The Company's other comprehensive income is significantly impacted by foreign currency translation, effective cash flow hedges and defined benefit pension and post-retirement benefit adjustments.

The impact of foreign currency translation is affected by the translation of assets, liabilities and operations of the Company's foreign subsidiaries which are denominated in functional currencies other than the U.S. dollar and the recognition of accumulated foreign currency translation upon the disposal of foreign entities. The primary assets and liabilities affecting the adjustments are: cash and cash equivalents; accounts receivable; inventory; properties, plants and equipment; accounts payable; pension and other post-retirement benefit obligations; and certain intercompany loans payable and receivable. The primary currencies in which these assets and liabilities are denominated are the Euro, Brazilian real, and Chinese yuan.

The impact of effective cash flow hedges is reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. Currently, interest rate swaps are held by the Company to effectively convert a portion of floating rate debt to a fixed rate basis, thus reducing the impact of interest rate increases on future interest expense. The Company uses the regression method for assessing the effectiveness of the swaps.

The impact of defined benefit pension and post-retirement benefit adjustments is primarily affected by unrecognized actuarial gains and losses related to the Company's defined benefit and other post-retirement benefit plans, as well as the subsequent amortization of gains and losses from accumulated other comprehensive income in periods following the initial recording of such items. These actuarial gains and losses are determined using various assumptions, the most significant of which are (i) the weighted average rate used for discounting the liability, (ii) the weighted average expected long-term rate of return on pension plan assets, (iii) the method used to determine market-related value of pension plan assets, (iv) the weighted average rate of future salary increases and (v) the anticipated mortality rate tables.

Restructuring Charges

The Company accounts for all exit or disposal activities in accordance with ASC 420, “Exit or Disposal Cost Obligations.” Under ASC 420, a liability is measured at its fair value and recognized as incurred.

Employee-related costs primarily consist of one-time termination benefits provided to employees who have been involuntarily terminated. A one-time benefit arrangement is an arrangement established by a plan of termination that applies for a specified termination event or for a specified future period. A one-time benefit arrangement exists at the date the plan of termination meets all of the following criteria and has been communicated to employees:

(1) Management, having the authority to approve the action, commits to a plan of termination.

(2) The plan identifies the number of employees to be terminated, their job classifications or functions and their locations, and the expected completion date.

(3) The plan establishes the terms of the benefit arrangement, including the benefits that employees will receive upon termination (including but not limited to cash payments), in sufficient detail to enable employees to determine the type and amount of benefits they will receive if they are involuntarily terminated.

(4) Actions required to complete the plan indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

Facility exit and other costs consist of equipment relocation costs and project consulting fees. A liability for other costs associated with an exit or disposal activity is recognized and measured at its fair value in the period in which the liability is incurred (generally, when goods or services associated with the activity are received). The liability is no recognized before it is incurred, even if the costs are incremental to other operating costs and will be incurred as a direct result of a plan.

Pension and Post-retirement Benefits

Under ASC 715, "Compensation – Retirement Benefits," the Company recognizes the funded status of its defined benefit pension and other post-retirement plans on the consolidated balance sheet and records as a component of other comprehensive income, net of tax, the gains or losses and prior service costs or credits that have not been recognized as components of the net periodic benefit cost.

Stock-Based Compensation Expense

The Company recognizes stock-based compensation expense in accordance with ASC 718, "Compensation – Stock Compensation." ASC 718 requires the measurement and recognition of compensation expense, based on estimated fair values, for all share-based awards made to employees and directors, including stock options, restricted stock, restricted stock units and participation in the Company's employee stock purchase plan.

Revenue Recognition

Revenue is measured as the amount of consideration the Company expects to be entitled to in exchange for transferring goods or providing services. Customer payment terms are typically less than one year and as such, transaction prices are not adjusted for the effects of a significant financing component. Standalone selling prices for each performance obligation are generally stated in the contract. Variable consideration in the form of volume rebates is estimated based on contract terms and historical experience of actual results limited to the amount which is probable will not result in reversal of cumulative revenue recognized when the variable consideration is resolved. Taxes collected from customers and remitted to governmental authorities are excluded from net sales.

For the vast majority of revenues, contracts with customers are either a purchase order or the combination of a purchase order with a master supply agreement. A performance obligation is considered an individual unit sold. The Company does not bundle products. Prices negotiated with each individual customer are representative of the stand-alone selling price of the product. The Company typically satisfies the performance obligation at a point in time when control is transferred to customers. The point in time when control of goods is transferred is largely dependent on delivery terms.

Contract liabilities relate primarily to prepayments received from the Company's customers before revenue is recognized and from volume rebates to customers. These amounts are included in other current liabilities in the consolidated balance sheets. The Company does not have any material contract assets. Freight charged to customers is included in net sales in the income statement.

The Company's contracts with customers are broadly similar in nature throughout its reportable segments, but the amount, timing and uncertainty of revenue and cash flows may vary in each reportable segment due to geographic factors. See Note 15 herein for additional disclosures of revenue disaggregated by geography for each reportable segment.

Shipping and Handling Fees and Costs

The Company includes shipping and handling fees and costs in cost of products sold.

Other Expense, net

Other expense, net primarily represents foreign currency transaction gains and losses, non-service cost components of net periodic post-retirement benefit costs and other infrequent non-operating items.

Currency Translation

In accordance with ASC 830, "Foreign Currency Matters," the assets and liabilities denominated in a foreign currency are translated into United States dollars at the rate of exchange existing at period-end, and revenues and expenses are translated at average exchange rates.

The cumulative translation adjustments, which represent the effects of translating assets and liabilities of the Company's international operations, are presented in the consolidated statements of changes in shareholders' equity in accumulated other comprehensive income (loss). Transaction gains and losses on foreign currency transactions denominated in a currency other than an entity's functional currency are credited or charged to income. The amounts included in other expense, net related to foreign currency transaction losses were \$4.2 million, \$2.1 million and \$8.8 million in 2020, 2019 and 2018, respectively.

Derivative Financial Instruments

In accordance with ASC 815, "Derivatives and Hedging," the Company records all derivatives in the consolidated balance sheet as either assets or liabilities measured at fair value. Dependent on the designation of the derivative instrument, changes in fair value are recorded to earnings or shareholders' equity through other comprehensive income (loss).

The Company may from time to time use interest rate swap agreements to hedge against changing interest rates. For interest rate swap agreements designated as cash flow hedges, the net gain or loss on the derivative instrument is reported as a component of other comprehensive income (loss) and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. The Company's interest rate swap agreements effectively convert a portion of floating rate debt to a fixed rate basis, thus reducing the impact of interest rate increases on future interest expense.

The Company's cross currency interest rate swap agreement synthetically swaps U.S. dollar denominated fixed rate debt for Euro denominated fixed rate debt and is designated as a net investment hedge for accounting purposes. The gain or loss on this derivative instrument is included in the foreign currency translation component of other comprehensive income until the net investment is sold, diluted, or liquidated. Interest payments received for the cross currency swap are excluded from the net investment hedge effectiveness assessment and are recorded in interest expense, net on the consolidated statements of income.

The Company enters into currency forward contracts to hedge certain currency transactions and short-term intercompany loan balances with its international businesses. Such contracts limit the Company's exposure to both favorable and unfavorable currency fluctuations. These contracts are adjusted to reflect market value as of each balance sheet date, with the resulting changes in fair value being recognized in other expense, net.

Any derivative contract that is either not designated as a hedge, or is so designated but is ineffective, has its changes to market value recognized in earnings immediately. If a cash flow or fair value hedge ceases to qualify for hedge accounting, the contract would continue to be carried on the balance sheet at fair value until settled and have the adjustments to the contract's fair value recognized in earnings. If a forecasted transaction were no longer probable to occur, amounts previously deferred in accumulated other comprehensive income (loss) would be recognized immediately in earnings.

Variable Interest Entities

The Company evaluates whether an entity is a variable interest entity ("VIE") and determines if the primary beneficiary status is appropriate on a quarterly basis. The Company consolidates VIEs for which it is the primary beneficiary. If the Company is not the primary beneficiary and an ownership interest is held, the VIE is accounted for under the equity method of accounting. When assessing the determination of the primary beneficiary, the Company considers all relevant facts and circumstances, including: the power to direct the activities of the VIE that most significantly impact the VIE's economic performance; the obligation to absorb the expected losses; and/or the right to receive the expected returns of the VIE.

Fair Value

The Company uses ASC 820, "Fair Value Measurements and Disclosures" to account for fair value. ASC 820 defines fair value, establishes a framework for measuring fair value in GAAP and expands disclosures about assets and liabilities measured at fair value. Additionally, this standard established a three-level fair value hierarchy that prioritizes the inputs used to measure fair value. This hierarchy requires entities to maximize the use of observable inputs and minimize the use of unobservable inputs.

The three levels of inputs used to measure fair values are as follows:

- Level 1 – Observable inputs such as unadjusted quoted prices in active markets for identical assets and liabilities.
- Level 2 – Observable inputs other than quoted prices in active markets for identical assets and liabilities.
- Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets and liabilities.

The Company presents various fair value disclosures in Note 7 and Note 10 of the Notes to the consolidated financial statements.

Newly Adopted Accounting Standards

In February 2016 and July 2018, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-02 and ASU 2018-11, "Leases (Topic 842)," or ASC 842, which amends the lease accounting and disclosure requirements in ASC 840, "Leases." The objective of this update is to increase transparency and comparability among organizations recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about lease arrangements. The Company adopted ASU 2018-11 on November 1, 2019, utilizing a modified retrospective approach and did not adjust its comparative period financial information. The Company adopted the practical expedient package which permits the Company to not reassess previous conclusions whether a contract is or contains a lease, lease classification, or treatment of indirect costs for existing contracts as of the adoption date. The Company also adopted the short-term lease recognition exemption and the practical expedient allowing for the combination of lease and non-lease components for all leases except real estate, for which these components are presented separately. The Company has completed the lease collection and evaluation process, implemented a technology tool to assist with the accounting and reporting requirements of the new standard, and designed new processes and controls around leases. On the day of adoption, the Company capitalized onto the balance sheet $301.2 million of right-of-use assets and $305.8 million of lease liabilities related to operating leases. The adoption did not have a material impact on the Company's financial position, results of operations, comprehensive income, cash flows, or disclosures, other than as set forth above and in Note 14 of the Notes to Consolidated Financial Statements.

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." The objective of this ASU is to provide optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The amendments in ASU 2020-04 were effective for all entities as of March 12, 2020 and will generally no longer be available to apply after December 31, 2022. The Company adopted this ASU as of the effective date and will utilize the optional expedients to the extent that they apply to the Company. The Company currently applies expedient guidance related to hedging relationships, which allowed the Company to amend hedge documentation, without dedesignating and redesignating, for all outstanding hedging relationships linked to expiring reference rates. The Company also has long-term debt and interest rate derivatives, as described in Note 6 and Note 7 of the Notes to Consolidated Financial Statements, respectively, which rely upon use of LIBOR. The Company applies additional practical expedients to these relationships during the remaining relief period. The adoption did not have a material impact on the Company's financial position, results of operations, comprehensive income, cash flows, or disclosures.

Recently Issued Accounting Standards

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments – Credit Losses". The ASU sets forth a current expected credit loss model which requires the Company to measure all expected credit losses for financial instruments held at the reporting date based on historical experience, current conditions, and reasonable supportable forecasts. This replaces the existing incurred loss model and is applicable to the measurement of credit losses on financial assets measured at amortized cost and applies to some off-balance sheet credit exposures. This ASU is effective for years beginning after December 15, 2019, including interim periods within those years, with early adoption permitted. The Company plans to adopt this ASU on November 1, 2020. The Company does not anticipate the adoption of this guidance to have a material impact on its financial position, results of operations, comprehensive income, cash flows and disclosures.

In December 2019, the FASB issued ASU 2019-12, "Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes", which is intended to simplify various aspects related to accounting for income taxes. This ASU is effective for years beginning after December 15, 2020, including interim periods within those years, with early adoption permitted. The effective date for the Company to adopt this ASU is November 1, 2021. The Company is in the process of determining the potential impact of adopting this guidance on its financial position, results of operations, comprehensive income, cash flow and disclosures.

NOTE 2 – ACQUISITIONS AND DIVESTITURES

Caraustar Acquisition

The Company completed its acquisition of Caraustar Industries, Inc. and its subsidiaries ("Caraustar") on February 11, 2019 (the "Caraustar Acquisition"). Caraustar was a leader in the production of coated and uncoated recycled paperboard, which is used in a variety of applications that include industrial products (tubes and cores, construction products, protective packaging, and adhesives) and consumer packaging products (folding cartons, set-up boxes, and packaging services). The total purchase price for this acquisition, net of cash acquired, was $1,834.9 million.

In connection with the preparation of the Company's consolidated financial statements for the year ended October 31, 2020, the Company identified a prior period error related to the initial purchase accounting for the Caraustar Acquisition. The error was a $14.6 million understatement of deferred tax liability that remained as of October 31, 2019. The error was corrected during the fourth quarter of 2020 by an adjustment to increase deferred tax liabilities with the offset as a correction to goodwill. The Company believes that the correction of this error was not material to the consolidated financial statements as of and for the years ended October 31, 2020 and 2019, respectively.

The following table, as revised from the closing of the measurement period as presented in the second quarter of 2020 and to account for the increase in deferred tax liabilities and goodwill acquired as discussed above, summarizes the consideration transferred to acquire Caraustar and the final valuation of identifiable assets acquired and liabilities assumed at the acquisition date, as well as measurement period adjustments made since the acquisition in 2019 through the close of measurement period:

(in millions)	Amounts Recognized as of the Acquisition Date	Measurement Period Adjustments(1)	Amount Recognized as of Acquisition Date (as Adjusted)
Fair value of consideration transferred			
Cash consideration	$1,834.9	$ —	1,834.9
Recognized amounts of identifiable assets acquired and liabilities assumed			
Accounts receivable	147.0	—	147.0
Inventories	103.9	(4.4)	99.5
Prepaid and other current assets	21.5	(9.3)	12.2
Intangibles	717.1	8.4	725.5
Other long-term assets	1.3	4.3	5.6
Properties, plants and equipment	521.3	(17.6)	503.7
Total assets acquired	1,512.1	(18.6)	1,493.5
Accounts payable	(99.5)	—	(99.5)
Accrued payroll and employee benefits	(42.9)	(7.2)	(50.1)
Other current liabilities	(21.8)	4.5	(17.3)
Long-term deferred tax liability	(185.7)	37.4	(148.3)
Pension and post-retirement obligations	(67.1)	—	(67.1)
Other long-term liabilities	(12.7)	(7.5)	(20.2)
Total liabilities assumed	(429.7)	27.2	(402.5)
Total identifiable net assets	$1,082.4	$ 8.6	$1,091.0
Goodwill	$ 752.5	$ (8.6)	$ 743.9

(1) The measurement adjustments were primarily due to refinement to third party appraisals and carrying amounts of certain assets and liabilities, as well as adjustments to certain tax accounts based on, among other things, adjustments to deferred tax liabilities. The net impact of the measurement period adjustments resulted in a net $8.6 million decrease to Goodwill. The measurement adjustments recorded in 2020 did not have a significant impact on the Company's consolidated statements of income for the year ended October 31, 2020.

The Company recognized goodwill related to this acquisition of $743.9 million. The goodwill recognized in this acquisition is attributable to the acquired assembled workforce, expected synergies, and economies of scale, none of which qualify for recognition as a separate intangible asset. Caraustar is reported within the Paper Packaging & Services segment to which the goodwill was assigned. The goodwill is not expected to be deductible for tax purposes.

The cost approach was used to determine the fair value for buildings, improvements and equipment, and the market approach was used to determine the fair value for land. The cost approach measures the value by estimating the cost to acquire, or construct, comparable assets and adjusts for age and condition. The Company assigned buildings and improvements a useful life ranging from 1 year to 20 years and equipment a useful life ranging from 1 year to 15 years. Acquired property, plant and equipment will be depreciated over its estimated remaining useful lives on a straight-line basis.

The fair value for acquired customer relationship intangibles was determined as of the acquisition date based on estimates and judgments regarding expectations for the future after-tax cash flows arising from the revenue from customer relationships that existed on the acquisition date over their estimated lives, including the probability of expected future contract renewals and revenue, less a contributory assets charge, all of which is discounted to present value. The fair value of the trade name intangible assets were determined utilizing the relief from royalty method which is a form of the income approach. Under this method, a royalty rate based on observed market royalties is applied to projected revenue supporting the trade names and discounted to present value using an appropriate discount rate.

Acquired intangible assets will be amortized over the estimated useful lives, primarily on a straight-line basis. The following table summarizes the current preliminary purchase price allocation and weighted average remaining useful lives for identifiable intangible assets acquired:

(in millions)	**Current Preliminary Purchase Price Allocation**	**Weighted Average Estimated Useful Life**
Customer relationships	$708.0	15.0
Trademarks	15.0	3.0
Other	2.5	4.6
Total intangible assets	$725.5	

As of April 30, 2020, the Company had completed the determination of the fair value of assets acquired and liabilities assumed related to the Caraustar Acquisition.

Divestitures

For the year ended October 31, 2020, the Company completed its divestiture of a U.S. business in the Paper Packaging & Services segment, the Consumer Packaging Group ("CPG") business, for $85.0 million before final adjustments of $5.4 million, for final net cash proceeds of $79.6 million, of which $35.6 million of goodwill was allocated to the sold business. This divestiture did not qualify as discontinued operations as it did not represent a strategic shift that has had a major impact on the Company's operations or financial results.

NOTE 3 – GOODWILL AND OTHER INTANGIBLE ASSETS

The following table summarizes the changes in the carrying amount of goodwill by segment for the years ended October 31, 2020 and 2019:

(in millions)	**Rigid Industrial Packaging & Services (1)**	**Paper Packaging & Services**	**Total**
Balance at October 31, 2018	$716.5	$ 59.5	$ 776.0
Goodwill acquired	22.3	726.6	748.9
Goodwill allocated to divestitures and businesses held for sale	—	—	
Goodwill adjustments	—	—	—
Currency translation	(7.1)	—	(7.1)
Balance at October 31, 2019	$731.7	$786.1	$1,517.8
Goodwill acquired	—	—	—
Goodwill allocated to divestitures and businesses held for sale	(0.7)	(35.6)	(36.3)
Goodwill adjustments related to acquisitions	1.1	17.4	18.5
Currency translation	18.4	—	18.4
Balance at October 31, 2020	$750.5	$767.9	$1,518.4

(1) Accumulated goodwill impairment loss was $63.3 million as of October 31, 2020, 2019 and 2018. Included in the accumulated goodwill impairment loss was $13.0 million related to the Rigid Industrial Packaging & Services segment and $50.3 million related to the Flexible Products & Services segment.

The $36.3 million in adjustments related to divestitures and businesses held for sale was mainly composed of $35.6 million for the CPG divestiture in the Paper Packaging & Services segment. The $18.5 million in adjustments related to acquisitions was mainly composed of $2.8 million for measurement period adjustments and the $14.6 million revision in the opening balance sheet deferred tax liability related to the Caraustar Acquisition in the Paper Packaging & Services segment. See Note 2 herein for additional disclosure of goodwill allocated to acquisitions and divestitures.

The Company reviews goodwill by reporting unit and indefinite-lived intangible assets for impairment as required by ASC 350, "Intangibles – Goodwill and Other," either annually August 1, or whenever events and circumstances indicate impairment may have occurred. A reporting unit is the operating segment, or a business unit one level below that operating segment (the component level) if discrete financial information is prepared and regularly reviewed by segment management. The components are aggregated into reporting units for purposes of goodwill impairment testing to the extent they share similar qualitative and quantitative characteristics.

The Company performed its annual goodwill impairment test as of August 1, 2020. The fair value of the Company's goodwill reporting units exceeded the carrying value, resulting in no impairment. Discount rates, revenue growth rates and cash flow projections are the assumptions that are most sensitive and susceptible to change as they require significant management judgment. In addition, certain future events and circumstances, including deterioration of market conditions, higher cost of capital, a decline in actual and expected consumption and demand, could result in changes to these assumptions and judgments. A revision of these assumptions could cause the fair value of the reporting unit to fall below its respective carrying value. As for all of the Company's reporting units, if in future years, the reporting unit's actual results are not consistent with the Company's estimates and assumptions used to calculate fair value, the Company may be required to recognize material impairments to goodwill.

The following table summarizes the carrying amount of net intangible assets by class as of October 31, 2020 and 2019:

(in millions)	**Gross Intangible Assets**	**Accumulated Amortization**	**Net Intangible Assets**
October 31, 2020:			
Indefinite lived:			
Trademarks and patents	$ 13.5	$ —	$ 13.5
Definite lived:			
Customer relationships	$891.8	$204.9	$686.9
Trademarks and patents	27.4	14.9	12.5
Non-compete agreements	1.7	1.2	0.5
Other	20.9	19.0	1.9
Total	$955.3	$240.0	$715.3
October 31, 2019:			
Indefinite lived:			
Trademarks and patents	$ 13.1	$ —	$ 13.1
Definite lived:			
Customer relationships	$890.6	$150.3	$740.3
Trademarks and patents	27.0	9.3	17.7
Non-compete agreements	2.3	0.7	1.6
Other	21.9	18.1	3.8
Total	$954.9	$178.4	$776.5

Gross intangible assets increased by $0.4 million for the year ended October 31, 2020. The increase was attributable to $5.9 million from immaterial asset acquisitions and $5.3 million of currency fluctuations, offset by $0.9 million of impairment and the write-off of $9.9 million fully-amortized assets.

Amortization expense was $69.1 million, $53.2 million and $15.2 million for the years ended October 31, 2020, 2019 and 2018, respectively. Amortization expense for the next five years is expected to be $67.2 million in 2021, $59.1 million in 2022, $56.6 million in 2023, $53.3 million in 2024 and $50.8 million in 2025.

Definite lived intangible assets for the periods presented are subject to amortization and are being amortized using the straight-line method over periods that are contractually or legally determined, or over the period a market participant would benefit from the asset. Indefinite lived intangibles of approximately $13.5 million as of October 31, 2020, related primarily to the Tri-Sure trademark and trade names related to Closures, Blagden Express, Closed-loop, Box Board and Pachmas, are not amortized, but rather are tested for impairment at least annually

NOTE 4 – RESTRUCTURING CHARGES

The following is a reconciliation of the beginning and ending restructuring reserve balances for the years ended October 31, 2020 and 2019:

(in millions)	Employee Separation Costs	Other Costs	Total
Balance at October 31, 2018	$ 4.2	$ 0.2	$ 4.4
Costs incurred and charged to expense	22.5	3.6	26.1
Costs paid or otherwise settled	(17.2)	(2.0)	(19.2)
Balance at October 31, 2019	$ 9.5	$ 1.8	$ 11.3
Costs incurred and charged to expense	26.4	12.3	38.7
Costs paid or otherwise settled	(18.0)	(10.4)	(28.4)
Balance at October 31, 2020	$ 17.9	$ 3.7	$ 21.6

The focus for restructuring activities in 2020 was to optimize and integrate operations in the Paper Packaging & Services segment related to the Caraustar Acquisition and continue to rationalize operations and close underperforming assets in the Rigid Industrial Packaging & Services and the Flexible Products & Services segments. During the year ended October 31, 2020, the Company recorded restructuring charges of $38.7 million, as compared to $26.1 million of restructuring charges recorded during the year ended October 31, 2019. The restructuring activity for the year ended October 31, 2020 consisted of $26.4 million in employee separation costs and $12.3 million in other restructuring costs, primarily consisting of professional fees and other fees associated with restructuring activities. There were sixteen plants closed in 2020, and a total of 658 employees severed throughout 2020 as part of the Company's restructuring efforts.

The focus for restructuring activities in 2019 was to optimize and integrate operations in the Paper Packaging & Services segment related to the Caraustar Acquisition and continue to rationalize operations and close underperforming assets in the Rigid Industrial Packaging & Services and the Flexible Products & Services segments. During 2019, the Company recorded restructuring charges of $26.1 million, consisting of $22.5 million in employee separation costs and $3.6 million in other restructuring costs, primarily consisting of professional fees and other fees associated with restructuring activities. There were twelve plants closed and a total of 430 employees severed throughout 2019 as part of the Company's restructuring efforts.

The focus for restructuring activities in 2018 was to rationalize and close underperforming assets in the Rigid Industrial Packaging & Services and Flexible Products & Services segments. During 2018, the Company recorded restructuring charges of $18.6 million, consisting of $14.8 million in employee separation costs and $3.8 million in other restructuring costs, primarily consisting of professional fees incurred for services specifically associated with employee separation and relocation. There were five plants closed and a total of 322 employees severed throughout 2018 as part of the Company's restructuring efforts.

The following is a reconciliation of the total amounts expected to be incurred from open restructuring plans or plans that are being formulated and have not been announced as of the filing date of this Form 10-K. Remaining amounts expected to be incurred were $22.8 million as of October 31, 2020:

(in millions)	Total Amounts Expected to be Incurred	Amounts Incurred During the year ended October 31, 2020	Amounts Remaining to be Incurred
Rigid Industrial Packaging & Services:			
Employee separation costs	$31.6	$21.0	10.6
Other restructuring costs	10.9	5.3	5.6
	42.5	26.3	16.2
Flexible Products & Services:			
Employee separation costs	1.9	0.9	1.0
Other restructuring costs	2.4	1.9	0.5
	4.3	2.8	1.5
Paper Packaging & Services:			
Employee separation costs	4.5	4.5	—
Other restructuring costs	10.2	5.1	5.1
	14.7	9.6	5.1
Total	$61.5	$38.7	$22.8

NOTE 5 – CONSOLIDATION OF VARIABLE INTEREST ENTITIES

The Company evaluates whether an entity is a VIE whenever reconsideration events occur and performs reassessments of all VIEs quarterly to determine if the primary beneficiary status is appropriate. The Company consolidates VIEs for which it is the primary beneficiary. If the Company is not the primary beneficiary and an ownership interest is held, the VIE is accounted for under the equity or cost methods of accounting, as appropriate. When assessing the determination of the primary beneficiary, the Company considers all relevant facts and circumstances, including: the power to direct the activities of the VIE that most significantly impact the VIE's economic performance; and the obligation to absorb the expected losses and/or the right to receive the expected returns of the VIE.

Significant Nonstrategic Timberland Transactions

On March 28, 2005, Soterra LLC (a wholly owned subsidiary) entered into two real estate purchase and sale agreements with Plum Creek Timberlands, L.P. ("Plum Creek") to sell approximately 56,000 acres of timberland and related assets located primarily in Florida for an aggregate sales price of approximately $90.0 million, subject to closing adjustments. In connection with the closing of one of these agreements, Soterra LLC sold approximately 35,000 acres of timberland and associated assets in Florida, Georgia and Alabama for $51.0 million, resulting in a pretax gain of $42.1 million, on May 23, 2005. The purchase price was paid in the form of cash and a $50.9 million purchase note payable (the "Purchase Note") by an indirect subsidiary of Plum Creek (the "Buyer SPE"). Soterra LLC contributed the Purchase Note to STA Timber LLC ("STA Timber"), one of the Company's indirect wholly owned subsidiaries. The Purchase Note is secured by a Deed of Guarantee issued by Bank of America, N.A., London Branch, in an amount not to exceed $52.3 million (the "Deed of Guarantee"), as a guarantee of the due and punctual payment of principal and interest on the Purchase Note.

The Company completed the second and final phase of these transactions in the first and second quarters of 2006, respectively, with the sale of 15,300 acres and another approximately 5,700 acres.

On May 31, 2005, STA Timber issued in a private placement its 5.20% Senior Secured Notes due August 5, 2020 (the "Monetization Notes") in the principal amount of $43.3 million. In connection with the sale of the Monetization Notes, STA Timber entered into note purchase agreements with the purchasers of the Monetization Notes (the "Note Purchase Agreements") and related documentation. The Monetization Notes are secured by a pledge of the Purchase Note and the Deed of Guarantee. The Monetization Notes may be accelerated in the event of a default in payment or a breach of the other obligations set forth therein or in the Note Purchase Agreements or related documents, subject in certain cases to any applicable cure periods, or upon the occurrence of certain insolvency or bankruptcy related events. The proceeds from the sale of the Monetization Notes were primarily used for the repayment of indebtedness. Greif, Inc. and its other subsidiaries have not extended any form of guaranty of the principal or interest on the Monetization Notes. Accordingly, Greif, Inc. and its other subsidiaries will not become directly or contingently liable for the payment of the Monetization Notes at any time.

The Buyer SPE is deemed to be a VIE since the assets of the Buyer SPE are not available to satisfy the liabilities of the Buyer SPE. The Buyer SPE is a separate and distinct legal entity from the Company and no ownership interest in the Buyer SPE is held by the Company, but the Company is the primary beneficiary because it has (1) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, and (2) the obligation to absorb losses of the VIE that could potentially be significant to the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE. As a result, Buyer SPE has been consolidated into the operations of the Company.

As of October 31, 2020 and 2019, assets of the Buyer SPE consisted of $50.9 million of restricted bank financial instruments which are expected to be held to maturity, scheduled for November 5, 2020. The balance as of October 31, 2020 is presented in Assets held by special purpose entities' on the consolidated balance sheets. For each of the years ended October 31, 2020, 2019 and 2018, the Buyer SPE recorded interest income of $2.4 million.

As of October 31, 2020 and 2019, STA Timber had consolidated liabilities of $43.3 million, and the maturity date of the consolidated liabilities is November 5, 2020. The balance as of October 31, 2020 is presented in 'Liabilities held by special purpose entities' on the consolidated balance sheets. For each of the years ended October 31, 2020, 2019 and 2018, STA Timber recorded interest expense of $2.2 million. The intercompany borrowing arrangement between the two VIEs is eliminated in consolidation. STA Timber is exposed to credit-related losses in the event of nonperformance by the issuer of the Deed of Guarantee.

Subsequent to October 31, 2020, and prior to the filing of this Form 10-K, the Purchase Note and the Monetization Notes matured and were settled.

Flexible Packaging Joint Venture

On September 29, 2010, Greif, Inc. and one of its indirect subsidiaries formed a joint venture (referred to herein as the “Flexible Packaging JV” or “FPS VIE”) with Dabbagh Group Holding Company Limited and one of its subsidiaries, originally National Scientific Company Limited and now Gulf Refined Packaging for Industrial Packaging Company LTD (“GRP”). The Flexible Packaging JV owns the operations in the Flexible Products & Services segment. The Flexible Packaging JV has been consolidated into the operations of the Company since its formation date of September 29, 2010.

The Flexible Packaging JV is deemed to be a VIE since the total equity investment at risk is not sufficient to permit the legal entity to finance its activities without additional subordinated financial support. The major factors that led to the conclusion that the Company was the primary beneficiary of this VIE was that (1) the Company has the power to direct the most significant activities due to its ability to direct the operating decisions of the FPS VIE, which power is derived from the significant CEO discretion over the operations of the FPS VIE combined with the Company's sole and exclusive right to appoint the CEO of the FPS VIE, and (2) the significant variable interest through the Company's equity interest in the FPS VIE.

The economic and business purpose underlying the Flexible Packaging JV is to establish a global industrial flexible products enterprise through a series of targeted acquisitions and major investments in plant, machinery and equipment. All entities contributed to the Flexible Packaging JV were existing businesses acquired by an indirect subsidiary of the Company and that were reorganized under Greif Flexibles Asset Holding B.V. and Greif Flexibles Trading Holding B.V. (“Asset Co.” and “Trading Co.”), respectively. The Company has 51 percent ownership in Trading Co. and 49 percent ownership in Asset Co. However, the Company and GRP have equal economic interests in the Flexible Packaging JV, notwithstanding the actual ownership interests in the various legal entities.

All investments, loans and capital contributions are to be shared equally by the Company and GRP and each partner has committed to contribute capital of up to $150.0 million and obtain third party financing for up to $150.0 million as required.

The following table presents the Flexible Packaging JV total net assets:

(in millions)	**October 31, 2020**	**October 31, 2019**
Cash and cash equivalents	$ 19.0	$ 16.9
Trade accounts receivable, less allowance of $0.7 in 2020 and $0.7 in 2019	47.5	51.2
Inventories	36.0	46.4
Properties, plants and equipment, net	22.8	22.3
Other assets	20.3	29.3
Total assets	$145.6	$166.1
Accounts payable	$ 29.4	$ 28.9
Other liabilities	22.8	23.6
Total liabilities	$ 52.2	$ 52.5

Net income attributable to the noncontrolling interest in the Flexible Packaging JV for the years ended October 31, 2020, 2019 and 2018 were $6.4 million, $12.4 million and $9.9 million, respectively.

Paper Packaging Joint Venture

On April 20, 2018, Greif, Inc. and one of its indirect subsidiaries formed a joint venture (referred to herein as the “Paper Packaging JV” or “PPS VIE”) with a third party. The Paper Packaging JV has been consolidated into the operations of the Company since its formation date of April 20, 2018.

The Paper Packaging JV is deemed to be a VIE as the equity investors at risk, as a group, lack the characteristics of a controlling financial interest. The structure of the Paper Packaging JV has governing provisions that are the functional equivalent of a limited partnership whereby the Company is the managing member that makes all the decisions related to the activities that most significantly affect the economic performance of the PPS VIE. In addition, the third party does not have any substantive kick-out rights or substantive participating rights in the Paper Packaging JV. The major factors that led to the conclusion that the Paper Packaging JV is a VIE was that all limited partnerships are considered to be VIE’s unless the limited partners have substantive kick-out rights or substantive participating rights.

The following table presents the Paper Packaging JV total net assets:

(in millions)	October 31, 2020
Trade accounts receivable, less allowance of $0.0 in 2020	5.5
Inventories	6.3
Properties, plants and equipment, net	34.3
Other assets	0.6
Total assets	$46.7
Accounts payable	5.2
Other liabilities	1.3
Total liabilities	$ 6.5

As of October 31, 2019, the Paper Packaging JV's net assets consist mainly of properties, plants, and equipment, net of $29.4 million.

There was $1.8 million net loss for the year ended October 31, 2020. There was $0.1 million net loss for the year ended October 31, 2019.

Non-United States Accounts Receivable VIE

As further described in Note 6 of the Notes to Consolidated Financial Statements, Cooperage Receivables Finance B.V. is a party to the European RFA, as defined in Note 6 of the Notes to Consolidated Financial Statements. Cooperage Receivables Finance B.V. is deemed to be a VIE since this entity is not able to satisfy its liabilities without the financial support from the Company. While this entity is a separate and distinct legal entity from the Company and no ownership interest in this entity is held by the Company, the Company is the primary beneficiary because it has (1) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, and (2) the obligation to absorb losses of the VIE that could potentially be significant to the VIE. As a result, Cooperage Receivables Finance B.V. has been consolidated into the operations of the Company.

NOTE 6 – LONG-TERM DEBT

Long-term debt is summarized as follows:

(in millions)	October 31, 2020	October 31, 2019
2019 Credit Agreement - Term Loans	$1,429.8	$1,612.2
Senior Notes due 2027	495.1	494.3
Senior Notes due 2021	234.8	221.7
Accounts receivable credit facilities	310.0	351.6
2019 Credit Agreement - Revolving Credit Facility	—	76.1
Other debt	—	0.4
	2,469.7	2,756.3
Less current portion	123.1	83.7
Less deferred financing costs	11.1	13.6
Long-term debt, net	$2,335.5	$2,659.0

2019 Credit Agreement

On February 11, 2019, the Company and certain of its subsidiaries entered into an amended and restated senior secured credit agreement (the "2019 Credit Agreement") with a syndicate of financial institutions. The Company's obligations under the 2019 Credit Agreement are guaranteed by certain of its U.S. and non-U.S. subsidiaries.

The 2019 Credit Agreement provides for (a) an $800.0 million secured revolving credit facility, consisting of a $600.0 million multicurrency facility and a $200.0 million U.S. dollar facility, maturing on February 11, 2024, (b) a $1,275.0 million secured term A-1 loan with quarterly principal installments commencing on April 30, 2019 and continuing through maturity on January 31, 2024, and (c) a $400.0 million secured term A-2 loan with quarterly principal installments commencing on April 30, 2019 and continuing through maturity on January 31, 2026. In addition, the Company has an option to add an aggregate of $700.0 million to the secured revolving credit facility under the 2019 Credit Agreement with the agreement of the lenders. The revolving credit facility is available to fund ongoing working capital and capital expenditure needs, for general corporate purposes, and to finance acquisitions.

On November 13, 2020 the Company and certain of its U.S. subsidiaries entered into an incremental term loan agreement (the "Incremental Term A-3 Loan Agreement") with a syndicate of farm credit institutions. The Incremental Term A-3 Loan Facility provides for a loan commitment in the aggregate principal amount of $225.0 million that must be funded in a single draw on a business day occurring on or before July 15, 2021 (the "Incremental Term A-3 Loan"). The Incremental Term A-3 Loan matures on July 15, 2026, with quarterly installments of principal payable on the last day of each fiscal quarter commencing with the first such date to occur after the funding date. The Incremental Term A-3 Loan has, for all material purposes, the identical terms and provisions as the term A-1 and the term A-2 loans under the 2019 Credit Agreement, discussed above. The Company's obligations with respect to the Incremental Term A-3 Loan will constitute obligations under the 2019 Credit Agreement and will be secured and guaranteed with the other obligations as provided in the under the 2019 Credit Facility on a *pari passu* basis. The Company intends to draw upon the Incremental Term A-3 Loan prior to July 15, 2021, and use the loan proceeds to pay all of the outstanding principal of and interest on the Senior Notes due 2021, discussed below.

The 2019 Credit Agreement contains certain covenants, which include financial covenants that require the Company to maintain a certain leverage ratio and an interest coverage ratio. The leverage ratio generally requires that, at the end of any quarter, the Company will not permit the ratio of (a) its total consolidated indebtedness, to (b) its consolidated net income plus depreciation, depletion and amortization, interest expense (including capitalized interest), income taxes, and minus certain extraordinary gains and non-recurring gains (or plus certain extraordinary losses and non-recurring losses) and plus or minus certain other items for the preceding twelve months (as used in this paragraph only, "EBITDA") to be greater than 4.75 to 1.00 and stepping down annually by 0.25 increments beginning on July 31, 2020 to 4.00 on July 31, 2023. The current leverage ratio covenant requirement was 4.50 as of October 31, 2020. The interest coverage ratio generally requires that, at the end of any quarter, the Company will not permit the ratio of (a) its consolidated EBITDA, to (b) its consolidated interest expense to the extent paid or payable, to be less than 3.00 to 1.00, during the applicable preceding twelve month period. As of October 31, 2020, the Company was in compliance with the covenants and other agreements in the 2019 Credit Agreement.

As of October 31, 2020, $1,429.8 million was outstanding under the 2019 Credit Agreement. The current portion of such outstanding amount was $123.1 million, and the long-term portion was $1,306.7 million. The weighted average interest rate for borrowings under the 2019 Credit Agreement was 2.68% for the year ended October 31, 2020. The actual interest rate for borrowings under the 2019 Credit Agreement was 1.96% as of October 31, 2020. The deferred financing costs associated with the term loan portion of the 2019 Credit Agreement totaled $8.5 million as of October 31, 2020 and are recorded as a direct deduction from the balance sheet line Long-Term Debt. The deferred financing costs associated with the revolver portion of the 2019 Credit Agreement totaled $6.1 million as of October 31, 2020 and are recorded within Other Long-Term Assets.

Senior Notes due 2027

On February 11, 2019, the Company issued $500.0 million of 6.50% Senior Notes due March 1, 2027 (the "Senior Notes due 2027"). Interest on the Senior Notes due 2027 is payable semi-annually commencing on September 1, 2019. The Company's obligations under the Senior Notes due 2027 are guaranteed by its U.S. subsidiaries that guarantee the 2019 Credit Agreement, as described above. The Company used the net proceeds from the issuance of the Senior Notes due 2027, together with borrowings under the 2019 Credit Agreement, to fund the purchase price of the Caraustar Acquisition, to redeem all of the Senior Notes due 2019, to repay outstanding borrowings under the Company's then existing credit agreement, and to pay related fees and expenses. The deferred financing cost associated with the Senior Notes due 2027 totaled $2.3 million as of October 31, 2020 and are recorded as a direct deduction from the balance sheet line Long-Term Debt.

Senior Notes due 2021

On July 15, 2011, Greif, Inc.'s wholly-owned subsidiary, Greif Nevada Holdings, Inc., S.C.S. issued €200.0 million of 7.375% Senior Notes due July 15, 2021 (the "Senior Notes due 2021" and together with the Senior Notes due 2027, the "Senior Notes"). The Senior Notes due 2021 are guaranteed on a senior basis by Greif, Inc. Interest on the Senior Notes due 2021 is payable semiannually. As discussed above, the Company intends to draw upon the Incremental Term A-3 Loan prior to July 15, 2021, and to use the loan proceeds to pay all of the outstanding principal of and interest on Senior Notes due 2021.

United States Trade Accounts Receivable Credit Facility

On September 24, 2019, certain U.S. subsidiaries of Greif, Inc. (the "Company") amended and restated the existing receivables financing facility (the "U.S. Receivables Facility"). Greif Receivables Funding LLC ("Greif Funding"), Greif Packaging LLC ("Greif Packaging"), for itself and as servicer, and certain other U.S. subsidiaries of the Company entered into a Third Amended and Restated Transfer and Administration Agreement, dated as of September 24, 2019 (the "Third Amended TAA"), with Bank of America, N.A. ("BANA"), as the agent, managing agent, administrator and committed investor, and various investor groups, managing agents, and administrators, from time to time parties thereto. The Third Amended TAA provided for a $275.0 million U.S. Receivables Facility. On September 24, 2020, the Third Amended TAA was amended to reduce the U.S. Receivables Facility to $250.0 million. The financing costs associated with the U.S. Receivables Facility were $0.2 million as of October 31, 2020, and are recorded as a direct deduction from the balance sheet line Long-Term Debt.

Greif Funding is a direct subsidiary of Greif Packaging and is included in the Company's consolidated financial statements. However, because Greif Funding is a separate and distinct legal entity from the Company, the assets of Greif Funding are not available to satisfy the liabilities and obligations of the Company, Greif Packaging or other subsidiaries of the Company, and the liabilities of Greif Funding are not the liabilities or obligations of the Company or its other subsidiaries.

The Third Amended TAA provides for the ongoing purchase by BANA of receivables from Greif Funding, which Greif Funding will have purchased from Greif Packaging and certain other U.S. subsidiaries of the Company as the originators under the Third Amended and Restated Sale Agreement, dated as of September 24, 2019 (the "Third Amended Sale Agreement"). Greif Packaging will service and collect on behalf of Greif Funding those receivables sold to Greif Funding under the Third Amended Sale Agreement. The commitment termination date of the U.S. Receivables Facility is September 24, 2021, subject to earlier termination as provided in the Third Amended TAA (including acceleration upon an event of default as provided therein), or such later date to which the purchase commitment may be extended by agreement of the parties. In addition, Greif Funding may terminate the U.S. Receivables Facility at any time upon five days' prior written notice. The Company has guaranteed the performance by Greif Funding, Greif Packaging and its other participating subsidiaries of their respective obligations under the Third Amended TAA, the Fourth Amended Sale Agreement and related agreements thereto, but has not guaranteed the collectability of the receivables thereunder. A significant portion of the proceeds from the U.S. Receivables Facility was used to pay the obligations under the Third Amended TAA. The remaining proceeds were used to pay certain fees, costs and expenses incurred in connection with the U.S. Receivables Facility and to repay borrowings on our Revolving Credit Facility.

The U.S. Receivables Facility is secured by certain trade accounts receivables related to the Rigid Industrial Packaging & Services and the Paper Packaging & Services businesses of Greif Packaging and other subsidiaries of the Company in the United States and bears interest at a variable rate based on the London InterBank Offered Rate or an applicable base rate, plus a margin, or a commercial paper rate, all as provided in the Third Amended TAA. Interest is payable on a monthly basis and the principal balance is payable upon termination of the U.S. Receivables Facility. The $232.8 million outstanding balance under the U.S. Receivables Facility as of October 31, 2020 is reported in the balance sheet line Long-Term Debt in the condensed consolidated balance sheets because the Company intends to refinance this obligation on a long-term basis and has the intent and ability to consummate a long-term refinancing.

International Trade Accounts Receivable Credit Facilities

On April 17, 2020, Cooperage Receivables Finance B.V. and Greif Coordination Center BVBA, an indirect wholly owned subsidiary of Greif, Inc., amended and restated the Nieuw Amsterdam Receivables Financing Agreement (the "European RFA" and together with the U.S. Receivables Facility, the "Accounts Receivables Facility") with affiliates of a major international bank. The amended and restated European RFA will mature April 17, 2021. The European RFA provides an accounts receivable financing facility of up to €100.0 million ($117.5 million as of October 31, 2020) secured by certain European accounts receivable. The $77.2 million outstanding on the European RFA as of October 31, 2020 is reported in the balance sheet line Long-Term Debt on the consolidated balance sheets because the Company intends to refinance these obligations on a long-term basis and has the intent and ability to consummate a long-term refinancing by exercising the renewal option in the respective agreement or entering into new financing arrangements.

Other

In addition to the amounts borrowed under the 2019 Credit Agreement and proceeds from the Senior Notes and the Accounts Receivables Facilities, as of October 31, 2020, the Company had outstanding other debt of $28.4 million in short-term borrowings, compared to outstanding other debt of $9.2 million in short-term borrowings, as of October 31, 2019. There are no financial covenants associated with this other debt.

As of October 31, 2020, annual scheduled payments and maturities, including the current portion of long-term debt, were $667.9 million in 2021, $138.0 million in 2022, $138.0 million in 2023, $764.1 million in 2024, $18.7 million in 2025 and $747.7 million thereafter.

NOTE 7 – FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENTS

Recurring Fair Value Measurements

The following table presents the fair value of those assets and (liabilities) measured on a recurring basis as of October 31, 2020 and 2019:

	October 31, 2020				
	Fair Value Measurement				
(in millions)	Level 1	Level 2	Level 3	Total	Balance Sheet Location
Interest rate derivatives	$—	$(37.9)	$ —	$(37.9)	Other current liabilities and other long-term liabilities
Foreign exchange hedges	—	1.5	—	1.5	Other current assets
Foreign exchange hedges	—	(1.6)	—	(1.6)	Other current liabilities
Insurance annuity	—	—	21.4	21.4	Other long-term assets
Cross currency swap	—	8.9	—	8.9	Other current assets and other long-term assets
Total	$—	$(29.1)	$21.4	$ (7.7)	

	October 31, 2019				
	Fair Value Measurement				
(in millions)	Level 1	Level 2	Level 3	Total	Balance Sheet Location
Interest rate derivatives	$—	$ 1.3	$ —	$ 1.3	Other long-term assets and other current assets
Interest rate derivatives	—	(25.0)	—	(25.0)	Other long-term liabilities and other current liabilities
Foreign exchange hedges	—	0.9	—	0.9	Other current assets
Foreign exchange hedges	—	(0.2)	—	(0.2)	Other current liabilities
Insurance annuity	—	—	20.0	20.0	Other long-term assets
Cross currency swap	—	10.6	—	10.6	Other long-term assets and other current assets
Total	$—	$(12.4)	$20.0	$ 7.6	

The carrying amounts of cash and cash equivalents, trade accounts receivable, notes receivable, accounts payable, current liabilities and short-term borrowings as of October 31, 2020 and 2019 approximate their fair values because of the short-term nature of these items and are not included in this table.

Interest Rate Derivatives

The Company has various borrowing facilities which charge interest based on the one-month U.S. dollar LIBOR rate plus a spread.

In 2020, the Company entered into four forward starting interest rate swaps with a total notional amount of $200.0 million effective July 15, 2021. The Company receives variable rate interest payments based upon one-month U.S. dollar LIBOR, and in return the Company is obligated to pay interest at a weighted-average interest rate of 0.90% plus a spread. This effectively converted the borrowing rate on an amount of debt equal to the outstanding notional amount of the interest rate swap from a variable rate to a fixed rate.

In 2019, the Company entered into six interest rate swaps with a total notional amount of $1,300.0 million that amortize to $200.0 million over a five-year term. The outstanding notional as of October 31, 2020 is $600.0 million. The Company receives variable rate interest payments based upon one-month U.S. dollar LIBOR, and in return the Company is obligated to pay interest at a weighted-average interest rate of 2.49% plus a spread. This effectively converted the borrowing rate on an amount of debt equal to the outstanding notional amount of the interest rate swap from a variable rate to a fixed rate.

In 2017, the Company entered into an interest swap with a notional amount of $300.0 million. As of February 1, 2017, the Company began to receive variable rate interest payments based upon one-month U.S. dollar LIBOR and in return was obligated to pay interest at a fixed rate of 1.19% plus a spread. This effectively converted the borrowing rate on $300.0 million of debt from a variable rate to a fixed rate.

These derivatives are designated as cash flow hedges for accounting purposes. Accordingly, the gain or loss on these derivative instruments are reported as a component of other comprehensive income and reclassified into earnings in the same line item associated with the forecasted transaction and in the same period during which the hedged transaction affects earnings. See Note 16 herein for additional disclosures of the gain or loss included within other comprehensive income. The assumptions used in measuring fair value of these interest rate derivatives are considered level 2 inputs, which are based upon observable market rates, including LIBOR and interest paid based upon a designated fixed rate over the life of the swap agreements.

Gains (losses) reclassified to earnings under these contracts were $(16.5) million, $3.0 million and $1.8 million for the year ended October 31, 2020, 2019 and 2018. A derivative loss of $17.7 million, based upon interest rates at October 31, 2020, is expected to be reclassified from accumulated other comprehensive income (loss) to earnings in the next twelve months.

Foreign Exchange Hedges

The Company conducts business in various international currencies and is subject to risks associated with changing foreign exchange rates. The Company's objective is to reduce volatility associated with foreign exchange rate changes. Accordingly, the Company enters into various contracts that change in value as foreign exchange rates change to protect the value of certain existing foreign currency assets and liabilities, commitments and anticipated foreign currency cash flows. As of October 31, 2020, the Company had outstanding foreign currency forward contracts in the notional amount of $268.6 million ($275.0 million as of October 31, 2019). Adjustments to fair value are recognized in earnings, offsetting the impact of the hedged profits. The assumptions used in measuring fair value of foreign exchange hedges are considered level 2 inputs, which were based on observable market pricing for similar instruments, principally foreign exchange futures contracts.

Realized gains (losses) recorded in other expense, net under fair value contracts were $(3.2) million, $4.6 million and $(9.2) million for the years ended October 31, 2020, 2019 and 2018, respectively. The Company recognized in other expense, net an unrealized net gain (loss) of $(0.1) million, $0.7 million and $1.9 million in the years ended October 31, 2020, 2019 and 2018, respectively.

Cross Currency Swap

On March 6, 2018, the Company entered into a cross currency interest rate swap agreement that synthetically swaps $100.0 million of fixed rate debt to Euro denominated fixed rate debt at a rate of 2.35%. The agreement is designated as a net investment hedge for accounting purposes and will mature on March 6, 2023. Accordingly, the gain or loss on this derivative instrument is included in the foreign currency translation component of other comprehensive income until the net investment is sold, diluted, or liquidated. Interest payments received for the cross currency swap are excluded from the net investment hedge effectiveness assessment and are recorded in interest expense, net on the consolidated statements of income. For the year ended October 31, 2020, 2019 and 2018, gains recorded in interest expense, net under the cross currency swap agreement were $2.4 million, $2.4 million and $1.6 million, respectively. See Note 16 herein for additional disclosure of the gain or loss included within other comprehensive income. The assumptions used in measuring fair value of the cross currency swap are considered level 2 inputs, which are based upon the Euro to United States dollar exchange rate market.

Other Financial Instruments

The fair values of the Company's 2019 Credit Agreement and the Accounts Receivables Facilities do not materially differ from carrying value as the Company's cost of borrowing is variable and approximates current borrowing rates. The fair values of the Company's long-term obligations are estimated based on either the quoted market prices for the same or similar issues or the current interest rates offered for the debt of the same remaining maturities, which are considered level 2 inputs in accordance with ASC Topic 820, "Fair Value Measurements and Disclosures."

The following table presents the estimated fair values for the Company's Senior Notes and Assets held by special purpose entities:

(in millions)	**October 31, 2020**	**October 31, 2019**
Senior Notes due 2021 estimated fair value	242.0	248.1
Senior Notes due 2027 estimated fair value	524.4	537.9
Assets held by special purpose entities estimated fair value	50.9	51.9

Pension Plan Assets

On an annual basis the Company compares the asset holdings of its pension plan to targets it previously established. The pension plan assets are categorized as equity securities, debt securities, fixed income securities, insurance annuities or other assets, which are considered level 1, level 2 and level 3 fair value measurements. The typical asset holdings include:

- Common stock: Valued based on quoted prices and are primarily exchange-traded.
- Mutual funds: Valued at the Net Asset Value ("NAV") available daily in an observable market.
- Common collective trusts: Unit value calculated based on the observable NAV of the underlying investment.
- Pooled separate accounts: Unit value calculated based on the observable NAV of the underlying investment.

- Government and corporate debt securities: Valued based on readily available inputs such as yield or price of bonds of comparable quality, coupon, maturity and type.
- Insurance annuity: Value is derived based on the value of the corresponding liability.

Non-Recurring Fair Value Measurements

The Company recognized asset impairment charges of $18.5 million and $7.8 million for the years ended October 31, 2020 and 2019.

The following table presents quantitative information about the significant unobservable inputs used to determine the fair value of the impairment of long-lived assets held and used and net assets held for sale for the twelve months ended October 31, 2020 and 2019:

	Quantitative Information about Level 3 Fair Value Measurements			
(in millions)	Fair Value of Impairment	Valuation Technique	Unobservable Input	Range of Input Values
October 31, 2020				
Impairment of Long Lived Assets	18.5	Discounted Cash Flows, Indicative Bids	Discounted Cash Flows, Indicative Bids	N/A
Total	$18.5			
October 31, 2019				
Impairment of Net Assets Held for Sale	$ 2.1	Indicative Bids	Indicative Bids	N/A
Impairment of Long Lived Assets	5.7	Sales Value	Sales Value	N/A
Total	$ 7.8			

Long-Lived Assets

During the year ended October 31, 2020, the Company wrote down long-lived assets with a carrying value of $36.4 million to a fair value of $17.9 million, resulting in recognized asset impairment charges of $18.5 million. These charges include $4.2 million related to properties, plants and equipment, net, in the Rigid Industrial Packaging & Services segment, $0.9 million related to definite-lived intangibles in the Rigid Industrial Packaging & Services segment, $12.5 million related to properties, plants and equipment, net, in the Paper Packaging & Services segment and $0.9 million related to properties, plants and equipment, net, in the Flexible Products & Services segment.

During the year ended October 31, 2019, the Company wrote down long-lived assets with a carrying value of $5.9 million to a fair value of $0.2 million, resulting in recognized asset impairment charges of $5.7 million. These charges include $0.6 million related to properties, plants and equipment, net, in the Rigid Industrial Packaging & Services segment, and $5.1 million related to properties, plants and equipment, net, in the Paper Packaging & Services segment.

During the year ended October 31, 2018, the Company wrote down long-lived assets with a carrying value of $10.7 million to a fair value of $3.1 million, resulting in recognized asset impairment charges of $7.6 million. The $7.6 million of impairment charges was all related to properties, plants and equipment, net, in the Rigid Industrial Packaging & Services segment.

The assumptions used in measuring fair value of long-lived assets are considered level 3 inputs, which include bids received from third parties, recent purchase offers, market comparable information and discounted cash flows based on assumptions that market participants would use.

Assets and Liabilities Held for Sale

During the year ended October 31, 2020, the Company recorded no impairment charges related to assets and liabilities held for sale.

During the year ended October 31, 2019, the Company wrote down the assets and liabilities of one asset group that was held for sale with a carrying value of $2.1 million to a fair value of zero, resulting in recognized asset impairment charges of $2.1 million.

During the year ended October 31, 2018, the Company wrote down the assets and liabilities of one asset group that was held for sale with a carrying value of $2.9 million to a fair value of $2.2 million, resulting in recognized asset impairment charges of $0.7 million for goodwill allocated to the business classified as held for sale.

The assumptions used in measuring fair value of assets and liabilities held for sale are considered level 3 inputs, which include recent purchase offers, market comparables and/or data obtained from commercial real estate brokers.

Goodwill and Indefinite-Lived Intangibles

On an annual basis or when events or circumstances indicate impairment may have occurred, the Company performs impairment tests for goodwill and indefinite-lived intangibles as defined under ASC 350, "Intangibles-Goodwill and Other." During the year ended October 31, 2020, the Company allocated $35.6 million of goodwill to the CPG divestiture on a relative fair value basis. There was no goodwill impairment for the years ended October 31, 2020, 2019 or 2018.

NOTE 8 – STOCK-BASED COMPENSATION

Stock-based compensation is accounted for in accordance with ASC 718, "Compensation – Stock Compensation," which requires companies to estimate the fair value of share-based awards on the date of grant using an option-pricing model.

The Company's stock-based compensation plans include the Long-Term Incentive Plan, which is comprised of the 2020 Long-Term Incentive Plan (the "2020 LTIP") and the 2006 Amended and Restated Long-Term Incentive Plan (the "2006 LTIP"); the 2005 Outside Directors Equity Award Plan (the "2005 Directors Plan"); and the 2001 Management Equity Incentive and Compensation Plan (the "2001 Plan").

For the Company's stock-based compensation plans, no stock options were granted in 2020, 2019 or 2018 and no shares were forfeited in 2020, 2019 or 2018.

The total stock compensation expense (income) recorded under the plans were $(1.2) million, $12.7 million and $6.5 million for periods ended October 31, 2020, 2019 and 2018 respectively.

Long-Term Incentive Plan

The Long-Term Incentive Plan is intended to focus management on the key measures that drive superior performance over the longer term. The Long-Term Incentive Plan provides key employees with incentive compensation based upon consecutive and overlapping three-year performance periods that commence at the start of every year. For each three-year performance period, the performance goals are based on performance criteria as determined by the Special Subcommittee of the Compensation Committee of the Company's Board of Directors (the "Special Subcommittee").

For each of the three-year performance periods ending in fiscal 2019, 2020 and 2021, awards were or will be made under the 2006 LTIP, with the performance goals based on targeted levels of adjusted earnings before interest, taxes, depreciation, depletion and amortization. For each of these periods, awards are to be paid 50% in cash and 50% in restricted stock.

For the three-year performance periods ending after fiscal 2021, awards will be made under the 2020 LTIP, and participants may be granted restricted stock units ("RSUs") or performance stock units ("PSUs") or a combination thereof.

The Company grants RSUs based on a three-year vesting period on the basis of service only. The RSUs are an equity-classified plan measured at fair value on the grant date recognized ratably over the service period. Dividend-equivalent rights may be granted in connection with an RSU award and are recognized in conjunction with the Company's dividend issuance and settled upon vesting of the award.

The Company granted 147,325 RSUs on February 25, 2020, for the service period commencing on November 1, 2019 and ending October 31, 2022. Upon vesting, the RSUs are to be awarded in shares of Class A Common Stock. The weighted average fair value of the RSUs granted on that date was $37.42.

The Company grants PSUs for a three-year performance period based upon service, performance criteria and market conditions. The performance criteria are based on targeted levels of earnings before interest, taxes, depreciation, depletion and amortization and total shareholder return as determined by the Special Subcommittee. The PSUs are a liability-classified plan wherein the fair value of the PSUs awarded is determined at each reporting period using a Monte Carlo simulation. A Monte Carlo simulation uses assumptions including the risk-free interest rate, expected volatility of the Company's stock price and expected life of the awards to determine a fair value of the market condition throughout the vesting period.

The Company issued 258,519 PSUs on February 25, 2020, for the performance period commencing on November 1, 2019 and ending October 31, 2022. If earned, the PSUs are to be awarded in shares of Class A Common Stock. The weighted average fair value of the PSUs granted on that date was $35.58.

The following table summarizes the weighted average key assumptions used in estimating the value of PSUs:

	Performance Stock Units
Performance period	11/1/2019 - 10/31/2022
Valuation date stock price	$40.59
Risk-free rate	0.10% - 1.59%
Estimated volatility	46.4%

Under the 2006 LTIP, the Company granted 153,275 shares of restricted Class A Common Stock with a grant date fair value of $34.50 for 2020 and 291,520 shares of restricted Class A Common Stock with a grant date fair value of $39.83 for 2019. All restricted stock awards under the 2006 LTIP are fully vested at the date of award.

The total stock compensation expense (income) recorded under the Long-Term Incentive Plan was $(2.4) million, $11.6 million and $5.3 million for the periods ended October 31, 2020, 2019 and 2018, respectively.

2005 Directors Plan

Under the 2005 Directors Plan, the Company granted 27,768 shares of restricted Class A Common Stock with a grant date fair value of $38.89 in 2020 and 25,144 shares of restricted Class A Common Stock with a grant date fair value of $42.95 in 2019. The total expense recorded under the 2005 Directors Plan was $1.1 million, $1.1 million and $1.2 million for the periods ended October 31, 2020, 2019, and 2018, respectively. All restricted stock awards under the 2005 Directors Plan are fully vested at the date of award.

2001 Plan

During 2019, the Company awarded an officer, as part of the terms of the officer's initial employment arrangement, 9,000 shares of Class A Common Stock under the 2001 Plan. These shares were issued subject to vesting and post-vesting restrictions on the sale or transfer until November 5, 2023. These shares vest in equal installments of 3,000 on November 5, 2019, 2020 and 2021. Share-based compensation expense was $0.1 million and $0.1 million, for the period ended October 31, 2020 and 2019.

NOTE 9 – INCOME TAXES

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act") was enacted into law in response to the COVID-19 pandemic. The CARES Act contains numerous income tax provisions, such as enhanced interest deductibility, repeal of the 80% limitation with respect to net operating losses arising in taxable years 2018, 2019, and 2020, and additional depreciation deductions related to qualified improvement property. The Company has concluded the analysis of these provisions as of year-end and the CARES Act did not have a material impact on the Company's income taxes for 2020.

In addition, on December 22, 2017, the Tax Cuts and Jobs Act of 2017 (the "Tax Reform Act") was enacted into law. The Tax Reform Act also established new tax provisions that impacted the Company beginning in fiscal year 2018, including (1) eliminating the U.S. manufacturing deduction; (2) establishing new limitations on deductible interest expense and certain executive compensation; (3) creating the base erosion anti-abuse tax ("BEAT"); (4) creating a new provision designed to tax global intangible low-tax income ("GILTI"); (5) establishing a deduction for foreign-derived intangible income ("FDII"); and (6) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries. Regarding the new GILTI tax rules, the Company is allowed to make an accounting policy election to either (i) treat taxes due on future GILTI inclusions in U.S. taxable income as a current period expense when incurred or (ii) reflect such portion of the future GILTI exclusions in U.S. taxable income that relate to existing basis differences in the Company's measurement of deferred taxes. The Company has elected to treat taxes due to future GILTI inclusions in U.S. taxable income as a current period expense.

Effective October 31, 2018, the Tax Reform Act caused the Company to re-evaluate its indefinite reinvestment assertion related to undistributed foreign earnings. As a result, the Company concluded that the unremitted earnings and profits of certain non-U.S. subsidiaries and affiliates will no longer be indefinitely reinvested. Total deferred taxes accrued by the Company relative to undistributed earnings was $7.0 million and $6.6 million at October 31, 2020 and 2019, respectively. The net increase in the liability was the result of accrued withholding taxes on future distributions offset by tax-deductible foreign currency losses that would be recognized on distributions of previously taxed earnings to the U.S.

The provision for income taxes consists of the following:

	Year Ended October 31,		
(in millions)	**2020**	**2019**	**2018**
Current			
Federal	$ (9.7)	$26.6	$ 74.0
State and local	3.3	6.1	8.0
Non-U.S.	53.0	35.9	36.1
	46.6	68.6	118.1
Deferred			
Federal	7.9	2.1	(45.2)
State and local	10.2	0.9	0.8
Non-U.S.	(1.4)	(0.9)	(0.4)
	16.7	2.1	(44.8)
	$63.3	$70.7	$ 73.3

The non-U.S. income before income tax expense was $160.6 million, $132.1 million and $102.3 million in 2020, 2019, and 2018, respectively. The U.S. income before income tax was $25.5 million, $129.9 million and $197.5 million in 2020, 2019, and 2018, respectively.

The following is a reconciliation of the provision for income taxes based on the federal statutory rate to the Company's effective income tax rate:

	Year Ended October 31,		
	2020	**2019**	**2018**
Federal statutory rate	21.00%	21.00%	23.33%
Impact of foreign tax rate differential	0.49%	0.10%	(0.57)%
State and local taxes, net of federal tax benefit	5.71%	1.99%	2.38%
Net impact of changes in valuation allowances	(15.23)%	2.41%	5.65%
Non-deductible write-off and impairment of goodwill and other intangible assets	4.02%	0.29%	0.06%
Unrecognized tax benefits	(0.75)%	(0.76)%	3.41%
Permanent book-tax differences	16.56%	(0.87)%	(4.03)%
Withholding taxes	5.28%	2.43%	1.84%
Tax Reform Act[1]	—%	(0.19)%	(7.31)%
Other items, net	(3.07)%	0.58%	(0.33)%
	34.01%	26.98%	24.43%

(1) Reflects the net impact of the change in deferred tax assets and liabilities and the estimated transition tax resulting from the Tax Reform Act.

The primary items which increased the Company's effective income tax rate from the federal statutory rate in 2020 were state and local taxes, non-deductible goodwill allocated to the CPG divestiture, increases in permanent book-tax differences including a one-time elimination related to an intra-company sale, and withholding tax liabilities, offset by a reduction in valuation allowances as a result of utilization of foreign tax credits.

The primary items which increased the Company's effective income tax rate from the federal statutory rate in 2019 were state and local taxes, increases in valuation allowances, and withholding tax liabilities.

The primary items which increased the Company's effective income tax rate from the federal statutory rate in 2018 were increases in valuation allowances and unrecognized tax benefits; offset primarily by the remeasurement of the domestic deferred tax liabilities, net of the transition tax liability due to the Tax Reform Act, and permanent book-tax differences.

The components of the Company's deferred tax assets and liabilities as of October 31 for the years indicated were as follows:

(in millions)	**2020**	**2019**
Deferred Tax Assets		
Net operating loss and other carryforwards	$ 179.3	$ 206.9
Foreign tax credits	—	21.5
Pension liabilities	12.9	24.1
Incentive liabilities	8.2	12.0
Workers compensation accruals	10.0	12.1
Inventories	7.8	6.7
Operating lease liabilities	76.9	—
State income taxes	10.2	9.4
Other reserves	21.0	17.0
Deferred compensation	2.4	2.3
Other	28.5	24.2
Total Deferred Tax Assets	357.2	336.2
Valuation allowance	(146.4)	(175.0)
Net Deferred Tax Assets	$ 210.8	$ 161.2
Deferred Tax Liabilities		
Properties, plants and equipment	$ 158.1	$ 152.7
Operating lease assets	76.9	—
Timberland transactions	74.2	74.2
Goodwill and other intangible assets	200.2	207.5
Other	29.3	23.9
Total Deferred Tax Liabilities	538.7	458.3
Net Deferred Tax Liability	$ 327.9	$ 297.1

As of October 31, 2020 and 2019, the Company had deferred income tax benefits of $179.3 million and $206.9 million, respectively, from net operating loss and other tax credit carryforwards. For fiscal year ended October 31, 2020, these carryforwards are comprised of $30.6 million, $25.1 million, and $123.6 million in U.S. Federal, U.S. state, and non-U.S. jurisdictions, respectively. For fiscal year ended October 31, 2019, these carryforwards are comprised of $49.4 million, $27.3 million, and $130.2 million in U.S. Federal, U.S. state, and non-U.S. jurisdictions, respectively. The Company has recorded valuation allowances of $136.9 million and $142.3 million against non-U.S. deferred tax assets as of October 31, 2020 and 2019 respectively. The Company has also recorded valuation allowances of $9.5 million and $32.7 million, as of October 31, 2020 and 2019, respectively, against U.S. deferred tax assets. The Company had net changes in valuation allowances in 2020 of $28.6 million.

A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

(in millions)	**2020**	**2019**	**2018**
Balance of unrecognized tax benefit at November 1	$ 38.8	$36.2	$26.8
Increases in tax positions for prior years	10.1	5.1	7.8
Decreases in tax positions for prior years	(10.5)	(0.7)	(1.4)
Increases in tax positions for current years	2.6	4.3	8.0
Settlements with taxing authorities	—	(3.6)	—
Lapse in statute of limitations	(5.5)	(2.0)	(3.6)
Currency translation	0.5	(0.5)	(1.4)
Balance at October 31	$ 36.0	$38.8	$36.2

The 2020 net decrease in unrecognized tax benefits is primarily related to decreases in unrecognized tax benefits related to 2019 and 2020, offset by decreases related to lapses in statute of limitations. The Company files income tax returns in the U.S. federal jurisdiction, various U.S. state jurisdictions and various non-U.S. jurisdictions and is subject to audit by various taxing authorities for 2013 through the current year. The Company has completed its U.S. federal tax audit for the tax years through 2014.

The October 31, 2020, 2019, 2018 balances include $36.0 million, $38.8 million and $36.2 million, respectively, of unrecognized tax benefits that, if recognized, would have an impact on the effective tax rate. The Company also recognizes accrued interest and penalties related to unrecognized tax benefits in income tax expense net of tax, as applicable. As of October 31, 2020 and October 31, 2019, the Company had $7.2 million and $6.3 million, respectively, accrued for the payment of interest and penalties.

The Company has estimated the reasonably possible expected net change in unrecognized tax benefits through October 31, 2020 under ASC 740. The Company's estimate is based on lapses of the applicable statutes of limitations, settlements and payments of uncertain tax positions. The estimated net decrease in unrecognized tax benefits for the next 12 months ranges from zero to $10.7 million. Actual results may differ materially from this estimate.

NOTE 10 – POST-RETIREMENT BENEFIT PLANS

Defined Benefit Pension Plans

The Company has certain non-contributory defined benefit pension plans for salaried and hourly employees in the United States, Canada, Germany, the Netherlands, South Africa and the United Kingdom. The Company uses a measurement date of October 31 for fair value purposes for its pension plans. The salaried employees plans' benefits are based primarily on years of service and earnings. The hourly employees plans' benefits are based primarily upon years of service, and certain benefit provisions are subject to collective bargaining. The Company contributes an amount that is not less than the minimum funding and not more than the maximum tax-deductible amount to these plans. Salaried employees in the United States who commence service on or after November 1, 2007 are not eligible to participate in the U.S. defined benefit pension plan, but are eligible to participate in a defined contribution retirement program. Salaried employees outside the U.S. also have various dates in which they are not eligible to participate in the defined benefit pension plans, but are eligible to participate in a defined contribution retirement program. The category "Other International" represents the noncontributory defined benefit pension plans in Canada and South Africa.

Pension plan contributions by the Company totaled $26.4 million during 2020, which consisted of $22.4 million of employer contributions and $4.0 million of benefits paid directly by the Company. Pension plan contributions, including benefits paid directly by the Company, totaled $26.5 million and $85.5 million during 2019 and 2018, respectively. Contributions, including benefits paid directly by the Company, during 2021 are expected to be approximately $28.7 million.

The following table presents the number of participants in the defined benefit plans:

October 31, 2020	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
Active participants	2,226	2,127	36	—	63	—
Vested former employees and deferred members	3,385	2,788	82	366	105	44
Retirees and beneficiaries	6,526	5,138	267	662	405	54

October 31, 2019	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
Active participants	2,455	2,351	41	—	63	—
Vested former employees and deferred members	5,236	4,643	86	366	97	44
Retirees and beneficiaries	6,462	5,074	258	662	414	54

The weighted average assumptions used to measure the year-end benefit obligations as of October 31 were as follows:

As of October 31,	2020	2019
Discount rate	2.48%	2.74%
Rate of compensation increase	2.91%	2.85%

The weighted average assumptions used to determine the pension cost for the years ended October 31 were as follows:

For the year ended October 31,	2020	2019	2018
Discount rate	2.74%	3.48%	3.01%
Expected Return on plan assets	4.64%	4.12%	4.53%
Rate of compensation increase	2.85%	2.85%	2.85%

The discount rate is determined by developing a hypothetical portfolio of individual high-quality corporate bonds available at the measurement date, the coupon and principal payments of which would be sufficient to satisfy the plans' expected future benefit payments as defined for the projected benefit obligation. The discount rate by country is equivalent to the average yield on that hypothetical portfolio of bonds and is a reflection of current market settlement rates on such high quality bonds, government treasuries, and annuity purchase rates. To determine the expected long-term rate of return on pension plan assets, the Company considers current and expected asset allocations, as well as historical and expected returns on various categories of plan assets. In developing future return expectations for the defined benefit pension plans' assets, the Company formulates views on the future economic environment, both in the U.S. and globally. The Company evaluates general market trends and historical relationships among a number of key variables that impact asset class returns, such as expected earnings growth, inflation, valuations, yields and spreads, using both internal and external sources. The Company takes into account expected volatility by asset class and diversification across classes to determine expected overall portfolio results given current and expected allocations. The Company uses published mortality tables for determining the expected lives of plan participants and believes that the tables selected are most-closely associated with the expected lives of plan participants as the tables are based on the country in which the participant is employed.

Based on the Company's analysis of future expectations of asset performance, past return results, and its current and expected asset allocations, the Company has assumed a 4.64% long-term expected return on those assets for cost recognition in 2020. For the defined benefit pension plans, the Company applies its expected rate of return to a market-related value of assets, which stabilizes variability in the amounts to which the Company applies that expected return.

The Company amortizes experience gains and losses as well as the effects of changes in actuarial assumptions and plan provisions over a period no longer than the average future service of employees.

During the year ended October 31, 2020, two United States defined benefit plans were combined and lump sum payments totaling $44.3 million were made to United States defined benefit plan participants who agreed to such payments, representing the current fair value of the participant's respective pension benefit. The payments were made from plan assets, resulting in a decrease in the fair value of both the plan assets and the projected benefit obligation of $44.3 million and noncash pension settlement income of $0.1 million of unrecognized net actuarial gain included in accumulated other comprehensive income.

During the year ended October 31, 2018, in the United Kingdom, lump sum payments totaling $4.7 million were made from the defined benefit plan assets to certain participants who agreed to such payments representing the current fair value of the participant's respective pension benefit. These lump sum payments resulted in a non-cash pension settlement charge of $1.3 million for the year ended October 31, 2018.

Subsequent to October 31, 2020, an annuity contract for approximately $100.0 million was purchased with defined benefit plan assets and the pension obligation for certain retirees in the United States was irrevocably transferred from that plan to the annuity contract settling that obligation. The settlement generated an $8.4 million pension settlement charge attributable to losses currently recorded within accumulated other comprehensive income (loss), net of tax, which will be recognized during the first quarter of 2021. In conjunction with the settlement, the United States defined benefit plan was remeasured, resulting in a decrease of the pension liability of $20.8 million. The settlement will decrease future costs for the United States defined benefit plan.

Benefit Obligations

The components of net periodic pension cost include the following:

For the year ended October 31, 2020 *(in millions)*	**Consolidated**	**United States**	**Germany**	**United Kingdom**	**Netherlands**	**Other International**
Service cost	$ 12.8	$ 11.5	$0.4	$ 0.5	$ 0.3	$ 0.1
Interest cost	25.9	22.4	0.2	2.7	0.3	0.3
Expected return on plan assets	(37.9)	(31.4)	—	(5.2)	(0.7)	(0.6)
Amortization of prior service (benefit) cost	(0.1)	(0.1)	—	0.1	(0.1)	—
Recognized net actuarial loss	13.2	10.2	1.8	1.1	—	0.1
Special Events						
Settlement	0.3	(0.1)	—	0.4	—	—
Net periodic pension (benefit) cost	$ 14.2	$ 12.5	$2.4	$(0.4)	$(0.2)	$(0.1)

For the year ended October 31, 2019 *(in millions)*	**Consolidated**	**United States**	**Germany**	**United Kingdom**	**Netherlands**	**Other International**
Service cost	$ 14.1	$ 12.7	$0.3	$ 0.5	$ 0.5	$ 0.1
Interest cost	31.0	25.4	0.5	3.9	0.9	0.3
Expected return on plan assets	(38.8)	(30.5)	—	(6.2)	(1.3)	(0.8)
Amortization of prior service (benefit) cost	(0.1)	(0.1)	—	0.1	(0.1)	—
Recognized net actuarial loss	7.1	5.0	0.9	1.2	—	—
Net periodic pension (benefit) cost	$ 13.3	$ 12.5	$1.7	$(0.5)	$ —	$(0.4)

For the year ended October 31, 2018 (in millions)	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
Service cost	$ 12.3	$ 10.8	$0.4	$ 0.5	$ 0.5	$ 0.1
Interest cost	18.9	13.2	0.5	4.0	0.9	0.3
Expected return on plan assets	(25.5)	(16.8)	—	(6.5)	(1.4)	(0.8)
Amortization of prior service (benefit) cost	(0.2)	(0.1)	—	—	(0.1)	—
Recognized net actuarial loss	11.0	8.1	1.1	1.7	—	0.1
Other Adjustments	2.8	—	—	2.8	—	—
Special Events						
Settlement	1.3	—	—	1.3	—	—
Net periodic pension (benefit) cost	$ 20.6	$ 15.2	$2.0	$ 3.8	$(0.1)	$(0.3)

Benefit obligations are described in the following tables. Accumulated and projected benefit obligations ("ABO" and "PBO") represent the obligations of a pension plan for past service as of the measurement date. ABO is the present value of benefits earned to date with benefits computed based on current compensation levels. PBO is ABO increased to reflect expected future compensation.

The following table sets forth the plans' change in projected benefit obligation:

For the year ended October 31, 2020 (in millions)	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
Change in benefit obligation:						
Benefit obligation at beginning of year	$1,158.7	$831.0	$44.1	$180.8	$91.3	$11.5
Service cost	12.8	11.5	0.4	0.5	0.3	0.1
Interest cost	25.9	22.4	0.2	2.7	0.3	0.3
Plan participant contributions	0.2	—	—	—	0.2	—
Expenses paid from assets	(3.4)	(2.6)	—	(0.9)	0.2	(0.1)
Actuarial loss (gain)	17.4	14.6	(3.5)	7.6	(1.6)	0.3
Foreign currency effect	8.6	—	2.3	1.7	5.0	(0.4)
Benefits paid	(109.9)	(94.9)	(1.4)	(7.8)	(4.8)	(1.0)
Benefit obligation at end of year	$1,110.3	$782.0	$42.1	$184.6	$90.9	$10.7

For the year ended October 31, 2019 (in millions)	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
Change in benefit obligation:						
Benefit obligation at beginning of year	$ 662.4	$351.9	$38.1	$176.3	$85.4	$10.7
Service cost	14.1	12.7	0.3	0.5	0.5	0.1
Interest cost	31.0	25.4	0.5	3.9	0.9	0.3
Plan participant contributions	0.2	—	—	—	0.2	—
Expenses paid from assets	(5.9)	(5.1)	—	(0.7)	—	(0.1)
Actuarial loss	131.0	105.5	7.4	6.0	11.0	1.1
Foreign currency effect	(1.8)	—	(0.9)	1.1	(1.9)	(0.1)
Benefits paid	(61.6)	(48.7)	(1.3)	(6.3)	(4.8)	(0.5)
Acquisitions	389.3	389.3	—	—	—	—
Benefit obligation at end of year	$1,158.7	$831.0	$44.1	$180.8	$91.3	$11.5

The following tables set forth the PBO, ABO, plan assets and instances where the ABO exceeds the plan assets for the respective years:

Actuarial value of benefit obligations (in millions)	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
October 31, 2020						
Projected benefit obligation	$1,110.3	$782.0	$42.1	$184.6	$90.9	$10.7
Accumulated benefit obligation	1,086.1	760.3	41.0	184.6	89.3	10.9
Plan assets	1,002.1	687.0	—	210.0	92.0	13.1
October 31, 2019						
Projected benefit obligation	$1,158.7	$831.0	$44.1	$180.8	$91.3	$11.5
Accumulated benefit obligation	1,131.3	806.8	42.6	180.8	89.6	11.5
Plan assets	1,017.0	698.7	—	209.8	94.5	14.0
Plans with ABO in excess of Plan assets						
October 31, 2020						
Accumulated benefit obligation	$ 812.2	$760.3	$41.0	$ —	$ —	$10.9
Plan assets	697.2	687.2	—	—	—	10.0
October 31, 2019						
Accumulated benefit obligation	$ 860.9	$806.8	$42.6	$ —	$ —	$11.5
Plan assets	709.7	698.9	—	—	—	10.8

Future benefit payments for the Company's global plans, which reflect expected future service, as appropriate, during the next five years, and in the aggregate for the five years thereafter, are as follows:

(in millions)	**Expected Benefit Payments**
Year(s)	
2021	$ 63.3
2022	62.8
2023	64.7
2024	65.5
2025	63.6
2026-2030	313.0

Plan assets

The assets of all the Company's plans consist of U.S. and non-U.S. equity securities, government and corporate bonds, cash, insurance annuity mutual funds and not more than the allowable number of shares of the Company's common stock. The assets of the plans in the aggregate include shares of the Company's common stock in the amount of 51,576 Class A shares and 30,930 Class B shares at October 31, 2020 and 175,320 Class A shares and 111,270 Class B shares at October 31, 2019.

The investment policy reflects the long-term nature of the plans' funding obligations. The assets are invested to provide the opportunity for both income and growth of principal. This objective is pursued as a long-term goal designed to provide required benefits for participants without undue risk. It is expected that this objective can be achieved through a well-diversified asset portfolio. All equity investments are made within the guidelines of quality, marketability and diversification mandated by the Employee Retirement Income Security Act and/or other relevant statutes and laws. Investment managers are directed to maintain equity portfolios at a risk level approximately equivalent to that of the specific benchmark established for that portfolio.

The Company's weighted average asset allocations at the measurement date and the target asset allocations by category are as follows:

Asset Category	**2021 Target**	**2020 Target**	**2020 Actual**
Equity securities	21%	29%	22%
Debt securities	63%	55%	61%
Other	16%	16%	17%
Total	100%	100%	100%

The fair value of the pension plans' investments is presented below. The inputs and valuation techniques used to measure the fair value of the assets are consistently applied and described in Note 7 of the Notes to the Consolidated Financial Statements.

For the year ended October 31, 2020 *(in millions)*	**Consolidated**	**United States**	**Germany**	**United Kingdom**	**Netherlands**	**Other International**
Change in plan assets:						
Fair value of plan assets at beginning of year	$1,017.0	$698.7	$—	$209.8	$94.5	$14.0
Actual return on plan assets	65.4	62.2	—	4.6	(2.1)	0.7
Expenses paid	(3.4)	(2.6)	—	(0.9)	0.2	(0.1)
Plan participant contributions	0.2	—	—	—	0.2	—
Foreign currency impact	6.4	—	—	1.9	5.0	(0.5)
Employer contributions	22.4	21.0	—	2.4	(1.0)	—
Benefits paid out of plan	(105.9)	(92.3)	—	(7.8)	(4.8)	(1.0)
Fair value of plan assets at end of year	$1,002.1	$687.0	$—	$210.0	$92.0	$13.1

For the year ended October 31, 2019 *(in millions)*	**Consolidated**	**United States**	**Germany**	**United Kingdom**	**Netherlands**	**Other International**
Change in plan assets:						
Fair value of plan assets at beginning of year	$ 594.8	$311.9	$—	$178.7	$90.6	$13.6
Actual return on plan assets	140.1	93.4	—	35.2	10.7	0.8
Expenses paid	(5.9)	(5.1)	—	(0.7)	—	(0.1)
Plan participant contributions	0.2	—	—	—	0.2	—
Foreign currency impact	(0.7)	—	—	1.3	(2.1)	0.1
Employer contributions	22.7	21.0	—	1.6	—	0.1
Benefits paid out of plan	(57.8)	(46.1)	—	(6.3)	(4.9)	(0.5)
Acquisitions	323.6	323.6	—	—	—	—
Fair value of plan assets at end of year	$1,017.0	$698.7	$—	$209.8	$94.5	$14.0

The following table presents the fair value measurements for the pension assets:

As of October 31, 2020 *(in millions)*	Fair Value Measurement Level 1	Level 2	Level 3	Total
Asset Category				
Mutual funds	$ 9.2	$122.4	$—	$ 131.6
Common stock	9.3	—	—	9.3
Cash	14.8	—	—	14.8
Corporate bonds	—	250.3	—	250.3
Government bonds	—	34.2	—	34.2
Other assets	—	0.7	—	0.7
Total Assets in the Fair Value Hierarchy	$33.3	$407.6	$—	$ 440.9
Investments Measured at Net Asset Value				
Mutual funds				0.5
Insurance contracts				132.9
Common stock funds				215.4
Corporate bond funds				203.1
Government bond funds				9.3
Investments at Fair Value	$33.3	$407.6	$—	$1,002.1

As of October 31, 2019 *(in millions)*	Fair Value Measurement Level 1	Level 2	Level 3	Total
Asset Category				
Mutual funds	$25.6	$137.4	$—	$ 163.0
Common stock	27.6	—	—	27.6
Cash	6.5	—	—	6.5
Corporate bonds	—	134.8	—	134.8
Government bonds	—	39.8	—	39.8
Other assets	—	0.2	—	0.2
Total Assets in the Fair Value Hierarchy	$59.7	$312.2	$—	$ 371.9
Investments Measured at Net Asset Value				
Mutual funds				358.5
Insurance contracts				130.2
Common stock funds				81.5
Corporate bond funds				70.8
Government bond funds				4.1
Investments at Fair Value	$59.7	$312.2	$—	$1,017.0

Financial statement presentation including other comprehensive income:

As of October 31, 2020 *(in millions)*	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
Unrecognized net actuarial loss	$ 149.7	$ 94.1	$ 14.8	$32.4	$ 4.5	$ 3.9
Unrecognized prior service cost (credit)	0.9	(0.8)	—	3.2	(1.5)	—
Accumulated other comprehensive loss (gain) - Pre-tax	$ 150.6	$ 93.3	$ 14.8	$35.6	$ 3.0	$ 3.9
Amounts recognized in the Consolidated Balance Sheets consist of:						
Prepaid benefit cost	$ 29.5	$ —	$ —	$25.3	$ 1.1	$ 3.1
Accrued benefit liability	(137.7)	(94.7)	(42.1)	—	—	(0.9)
Accumulated other comprehensive loss	150.6	93.3	14.8	35.6	3.0	3.9
Net amount recognized	$ 42.4	$ (1.4)	$(27.3)	$60.9	$ 4.1	$ 6.1

As of October 31, 2019 (in millions)	Consolidated	United States	Germany	United Kingdom	Netherlands	Other International
Unrecognized net actuarial loss	$ 171.8	$ 120.5	$ 19.2	$25.3	$ 3.1	$ 3.7
Unrecognized prior service cost (credit)	0.8	(1.0)	—	3.3	(1.5)	—
Accumulated other comprehensive loss (gain) - Pre-tax	$ 172.6	$ 119.5	$ 19.2	$28.6	$ 1.6	$ 3.7
Amounts recognized in the Consolidated Balance Sheets consist of:						
Prepaid benefit cost	$ 35.4	$ —	$ —	$29.0	$ 3.2	$ 3.2
Accrued benefit liability	(177.0)	(132.2)	(44.1)	—	—	(0.7)
Accumulated other comprehensive loss (gain)	172.6	119.5	19.2	28.6	1.6	3.7
Net amount recognized	$ 31.0	$ (12.7)	$(24.9)	$57.6	$ 4.8	$ 6.2

(in millions)	October 31, 2020	October 31, 2019
Accumulated other comprehensive loss at beginning of year	$172.6	$ 150.4
Increase or (decrease) in accumulated other comprehensive loss		
Net prior service benefit amortized	0.1	0.1
Net loss amortized	(13.2)	(7.1)
Loss recognized due to settlement	(0.3)	—
Liability loss (gain)	17.4	131.0
Asset (gain) loss	(27.4)	(101.3)
Increase (decrease) in accumulated other comprehensive loss	$ (23.4)	$ 22.7
Foreign currency impact	1.4	(0.5)
Accumulated other comprehensive loss at year end	$150.6	$ 172.6

In 2021, the Company expects to record an amortization gain of $0.2 million of prior service credits from shareholders' equity into pension costs.

Supplemental Employee Retirement Plan

The Company has a supplemental employee retirement plan which is an unfunded plan providing supplementary retirement benefits primarily to certain executives and longer-service employees. The present benefit obligation of the supplemental employee retirement plan is included in the United States defined benefit pension plans above.

Defined contribution plans

The Company has several voluntary 401(k) savings plans that cover eligible employees. For certain plans, the Company matches a percentage of each employee's contribution up to a maximum percentage of base salary. The Company's contributions to the 401(k) plans were $25.2 million in 2020, $21.8 million in 2019 and $9.4 million in 2018.

Post-retirement Health Care and Life Insurance Benefits

The Company has certain post-retirement unfunded health and life insurance benefit plans in the United States and South Africa. The Company recognized income for its post-retirement benefit plans of $0.2 million, $1.1 million, and $1.1 million for the years ended 2020, 2019, and 2018, respectively. The projected benefit obligation of the Company's post-retirement benefit plans was $11.6 million and $12.2 million as of October 31, 2020 and 2019, respectively.

Benefits paid directly by the Company totaled $0.9 million, $0.9 million and $1.0 million for the years ending 2020, 2019 and 2018 respectively. Benefits paid directly by the Company during 2021 are expected to be approximately $1.3 million.

NOTE 11 – CONTINGENT LIABILITIES AND ENVIRONMENTAL RESERVES

Litigation-related Liabilities

The Company may become involved from time-to-time in litigation and regulatory matters incidental to its business, including governmental investigations, enforcement actions, personal injury claims, product liability, employment health and safety matters, commercial disputes, intellectual property matters, disputes regarding environmental clean-up costs, litigation in connection with acquisitions and divestitures, and other matters arising out of the normal conduct of its business. The Company intends to vigorously defend itself in such litigation. The Company does not believe that the outcome of any pending litigation will have a material adverse effect on its consolidated financial statements.

The Company may accrue for contingencies related to litigation and regulatory matters if it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Because litigation is inherently unpredictable and unfavorable resolutions can occur, assessing contingencies is highly subjective and requires judgments about future events. The Company regularly reviews contingencies to determine whether its accruals are adequate. The amount of ultimate loss may differ from these estimates.

The Company is currently involved in legal proceedings outside of the United States related to various wrongful termination lawsuits filed by former employees and benefit claims filed by some existing employees of the Company's Flexible Products & Services segment. The lawsuits include claims for severance for employment periods prior to the Company's ownership in the business. As of October 31, 2020 and October 31, 2019, the estimated liability recorded related to these matters were not material. The estimated liability has been determined based on the number of active cases and the settlements and rulings on previous cases. It is reasonably possible the estimated liability could increase if additional cases are filed or adverse rulings are made.

Since 2017, three reconditioning facilities in the Milwaukee, Wisconsin area that are or were owned by Container Life Cycle Management LLC ("CLCM"), the Company's U.S. reconditioning joint venture company, have been subject to investigations conducted by federal, state and local governmental agencies concerning, among other matters, potential violations of environmental laws and regulations. As a result of these investigations, the United States Environmental Protection Agency ("U.S. EPA") and the Wisconsin Department of Natural Resources ("WDNR") have issued notices of violations to the Company and CLCM regarding violations of certain federal and state environmental laws and regulations. The remedies being sought in these proceedings include compliance with the applicable environmental laws and regulations as being interpreted by the U.S. EPA and WDNR and monetary sanctions. The Company has cooperated with the governmental agencies in these investigations and proceedings. As of December 17, 2020, no material citations have been issued or material fines assessed with respect to any violation of environmental laws and regulations. Since these proceedings remain in their investigative stage, the Company is unable to predict the outcome of these proceedings or reasonably estimate a range of possible monetary sanctions or costs associated with any remedial actions that may be required or requested by the U.S. EPA or WDNR.

In addition, on November 8, 2017, the Company, CLCM and other parties were named as defendants in a punitive class action lawsuit filed in Wisconsin state court concerning one of CLCM's Milwaukee reconditioning facilities. The plaintiffs are alleging that odors from this facility have invaded their property and are interfering with the use and enjoyment of their property and causing damage to the value of their property. Plaintiffs are seeking compensatory and punitive damages, along with their legal fees. The Company and CLCM are vigorously defending themselves in this lawsuit. The Company is unable to predict the outcome of this lawsuit or estimate a range of reasonably possible losses.

Environmental Reserves

As part of the Caraustar Acquisition, the Company acquired The Newark Group, Inc., a subsidiary of Caraustar ("Newark"), and became subject to Newark's Lower Passaic River environmental and litigation liability. By letters dated February 14, 2006 and June 2, 2006, the U.S. EPA notified Newark of its potential liability under Section 107(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 ("CERCLA") relating to the Diamond Alkali Superfund Site, which includes a 17-mile stretch of the Lower Passaic River that EPA has denominated the Lower Passaic River Study Area ("LPRSA"). Newark is one of at least 70 potentially responsible parties identified in this case. The EPA alleges that hazardous substances were released from Newark's now-closed Newark, New Jersey recycled paperboard mill into the Lower Passaic River. The EPA informed the Company that it may be potentially liable for response costs that the government may incur relating to the study of the LPRSA and for unspecified natural resource damages.

In April 2014, EPA issued a Focused Feasibility Study that proposed alternatives for the remediation of the lower 8 miles of the Lower Passaic River. On March 3, 2016, EPA issued its Record of Decision for the lower 8 miles of the Lower Passaic River, which presented a bank-to-bank dredging remedy selected by the agency for the lower 8 miles and which EPA estimates will cost approximately $1,380.0 million to implement. Newark is participating in an allocation process to determine its allocable share.

On June 30, 2018, Occidental Chemical Corporation ("Occidental") filed litigation in the U.S. District Court for the District of New Jersey styled Occidental Chemical Corp. v. 21st Century Fox America, Inc., et al., Civil Action No. 2:18-CV-11273 (D.N.J.), that names Newark and approximately 119 other parties as defendants. Occidental's Complaint alleges claims under CERCLA against all defendants for cost recovery, contribution, and declaratory judgment for costs Occidental allegedly has incurred and will incur at the Diamond Alkali Superfund Site. The litigation is in its early stages, and the Company intends to vigorously defend itself in this litigation.

As of October 31, 2020, the Company has accrued $11.1 million for LPRSA and the Diamond Alkali Superfund Site. It is possible that there could be resolution of uncertainties in the future that would require the Company to record charges, which could be material to future earnings.

As of October 31, 2020 and October 31, 2019, the Company's environmental reserves, inclusive of the $11.1 million as of October 31, 2020 as described above, were $20.2 million and $18.7 million, respectively. These reserves are principally based on environmental studies and cost estimates provided by third parties, but also take into account management estimates. The estimated liabilities are reduced to reflect the anticipated participation of other potentially responsible parties in those instances where it is probable that such parties are legally responsible and financially capable of paying their respective shares of relevant costs. For sites that involve formal actions subject to joint and several liabilities, these actions have formal agreements in place to apportion the liability.

Aside from the Diamond Alkali Superfund Site, other environmental reserves of the Company as of October 31, 2020 and October 31, 2019 included $3.3 million and $3.3 million, respectively, for various European drum facilities acquired from Blagden and Van Leer; $0.1 million and $0.1 million, respectively, for its various container life cycle management and recycling facilities acquired in 2011 and 2010; $0.5 million and $0.3 million, respectively, for remediation of sites no longer owned by the Company; $3.1 million and $2.0 million, respectively, for landfill closure obligations in the Company's Paper Packaging & Services segment; and $2.1 million and $1.8 million, respectively, for various other facilities around the world.

The Company's exposure to adverse developments with respect to any individual site is not expected to be material. Although environmental remediation could have a material effect on results of operations if a series of adverse developments occur in a particular quarter or year, the Company believes that the chance of a series of adverse developments occurring in the same quarter or year is remote. Future information and developments will require the Company to continually reassess the expected impact of these environmental matters.

NOTE 12 – EARNINGS PER SHARE

The Company has two classes of common stock and, as such, applies the "two-class method" of computing earnings per share ("EPS") as prescribed in ASC 260, "Earnings Per Share." In accordance with this guidance, earnings are allocated in the same fashion as dividends would be distributed. Under the Company's articles of incorporation, any distribution of dividends in any year must be made in proportion of one cent a share for Class A Common Stock to one and one-half cents a share for Class B Common Stock, which results in a 40% to 60% split to Class A and B shareholders, respectively. In accordance with this, earnings are allocated first to Class A and Class B Common Stock to the extent that dividends are actually paid, and the remainder is allocated assuming all of the earnings for the period have been distributed in the form of dividends.

The Company calculates EPS as follows:

$$\text{Basic Class A EPS} = \frac{40\% * \text{Average Class A Shares Outstanding}}{40\% * \text{Average Class A Shares Outstanding} + 60\% * \text{Average Class B Shares Outstanding}} * \frac{\text{Undistributed Net Income}}{\text{Average Class A Shares Outstanding}} + \text{Class A Dividends Per Share}$$

$$\text{Diluted Class A EPS} = \frac{40\% * \text{Average Class A Shares Outstanding}}{40\% * \text{Average Class A Shares Outstanding} + 60\% * \text{Average Class B Shares Outstanding}} * \frac{\text{Undistributed Net Income}}{\text{Average Diluted Class A Shares Outstanding}} + \text{Class A Dividends Per Share}$$

$$\text{Basic Class B EPS} = \frac{60\% * \text{Average Class B Shares Outstanding}}{40\% * \text{Average Class A Shares Outstanding} + 60\% * \text{Average Class B Shares Outstanding}} * \frac{\text{Undistributed Net Income}}{\text{Average Class B Shares Outstanding}} + \text{Class B Dividends Per Share}$$

* Diluted Class B EPS calculation is identical to Basic Class B calculation

The following table provides EPS information for each period, respectively:

(in millions, except per share data)	Year Ended October 31, 2020	2019	2018
Numerator			
Numerator for basic and diluted EPS –			
Net income attributable to Greif	$ 108.8	$ 171.0	$ 209.4
Cash dividends	(104.3)	(104.0)	(100.0)
Undistributed net income (loss) attributable to Greif, Inc.	$ 4.5	$ 67.0	$ 109.4
Denominator			
Denominator for basic EPS –			
Class A common stock	26.4	26.2	25.9
Class B common stock	22.0	22.0	22.0
Denominator for diluted EPS –			
Class A common stock	26.4	26.2	26.0
Class B common stock	22.0	22.0	22.0
EPS Basic			
Class A common stock	$ 1.83	$ 2.89	$ 3.56
Class B common stock	$ 2.74	$ 4.33	$ 5.33
EPS Diluted			
Class A common stock	$ 1.83	$ 2.89	$ 3.55
Class B common stock	$ 2.74	$ 4.33	$ 5.33

The Class A Common Stock has no voting rights unless four quarterly cumulative dividends upon the Class A Common Stock are in arrears. The Class B Common Stock has full voting rights. There is no cumulative voting for the election of directors.

Common Stock Repurchases

The Board of Directors has authorized the Company to repurchase shares of the Company's Class A Common Stock or Class B Common Stock or any combination of the foregoing. As of October 31, 2020 and 2019, the remaining number of shares that may be repurchased under this authorization were 4,703,487 and 4,703,487, respectively. There were no shares repurchased during 2020 and 2019.

The following table summarizes the Company's Class A and Class B common and treasury shares at the specified dates:

	Authorized Shares	Issued Shares	Outstanding Shares	Treasury Shares
October 31, 2020:				
Class A common stock	128,000,000	42,281,920	26,441,986	15,839,934
Class B common stock	69,120,000	34,560,000	22,007,725	12,552,275
October 31, 2019:				
Class A common stock	128,000,000	42,281,920	26,257,943	16,023,977
Class B common stock	69,120,000	34,560,000	22,007,725	12,552,275

The following is a reconciliation of the shares used to calculate basic and diluted earnings per share:

	Year Ended October 31, 2020	2019	2018
Class A Common Stock:			
Basic shares	26,382,838	26,189,445	25,915,887
Assumed conversion of stock options and unvested shares	7,805	25,666	49,969
Diluted shares	26,390,643	26,215,111	25,965,856
Class B Common Stock:			
Basic and diluted shares	22,007,725	22,007,725	22,007,725

No stock options were antidilutive for the years ended October 31, 2020, 2019, or 2018.

NOTE 13 — EQUITY EARNINGS OF UNCONSOLIDATED AFFILIATES, NET OF TAX

Centurion Container LLC

The Company acquired a minority interest in Centurion Container LLC ("Centurion"), a U.S.-based company involved in IBC rebottling, reconditioning and distribution, on March 31, 2020 for $3.6 million. The investment in Centurion is accounted for under the equity method because the Company has the ability to exercise significant influence through its board participation. At any time prior to October 31, 2022, the Company has the option to acquire an 80% ownership interest in Centurion at a formulaic price, as set forth in the operating agreement. Provided such interest is acquired, the Company then has the option to acquire 100% ownership of Centurion beginning on March 31, 2025 at a formulaic price set forth in the operating agreement.

NOTE 14 – LEASES

The Company leases certain buildings, warehouses, land, transportation equipment, operating equipment, and office equipment with remaining lease terms from less than 1 year up to 22 years. The Company reviews all options to extend, terminate, or purchase a right of use asset at the time of lease inception and accounts for options deemed reasonably certain.

The Company combines lease and non-lease components for all leases, except real estate, for which these components are presented separately. Leases with an initial term of twelve months or less are not capitalized and are recognized on a straight-line basis over the lease term. The implicit rate is not readily determinable for substantially all of the Company's leases, therefore the initial present value of lease payments is calculated utilizing an estimated incremental borrowing rate determined at the portfolio level based on market and Company specific information.

Certain of the Company's leases include variable costs. As the right of use asset recorded on the balance sheet was determined based upon factors considered at the commencement date, changes in these variable expenses are not capitalized and are expensed as incurred throughout the lease term.

As of October 31, 2020, the Company has not entered into any significant leases which have not yet commenced.

The following table presents the balance sheet classification of the Company's lease assets and liabilities as of October 31, 2020:

(in millions)	**Balance Sheet Classification**	**October 31, 2020**
Lease Assets		
Operating lease assets	Operating lease assets	$307.5
Finance lease assets	Other long-term assets	4.6
Total lease assets		$312.1
Lease Liabilities		
Current operating lease liabilities	Current portion of operating lease liabilities	$ 52.3
Current finance lease liabilities	Other current liabilities	1.7
Total current lease liabilities		54.0
Non-current operating lease liabilities	Operating lease liabilities	257.7
Non-current finance lease liabilities	Other long-term liabilities	2.9
Total non-current lease liabilities		260.6
Total lease liabilities		$314.6

The following table presents the lease expense components:

(in millions)	**Year Ended October 31, 2020**
Operating lease cost	$67.0
Finance lease cost	1.4
Variable lease cost*	25.4
Total lease cost	$93.8

* Amount includes short-term lease costs.

Future maturity for the Company's lease liabilities, during the next five years, and in the aggregate for the years thereafter, are as follows:

(in millions)	Operating Leases	Finance Leases	Total expected payments
2021	$ 65.6	$ 1.4	$ 67.0
2022	63.1	1.4	64.5
2023	55.1	1.1	56.2
2024	47.4	0.9	48.3
2025	38.8	0.5	39.3
Thereafter	171.8	0.3	172.1
Total lease payments	$ 441.8	$ 5.6	$ 447.4
Less: Interest	(131.8)	(1.0)	(132.8)
Lease liabilities	$ 310.0	$ 4.6	$ 314.6

The following table presents the weighted-average lease term and discount rate as of October 31, 2020:

Weighted-average remaining lease term (years):	
Operating leases	11.1
Finance leases	3.6
Weighted-average discount rate:	
Operating leases	3.63%
Finance leases	3.32%

The following table presents other required lease related information:

(in millions)	October 31, 2020
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows used for operating leases	$69.4
Financing cash flows used for finance leases	1.3
Leased assets obtained in exchange for new operating lease liabilities	67.4
Leased assets obtained in exchange for new finance lease liabilities	0.4

In compliance with ASC 842, the Company must provide the prior year disclosures required under the previous lease guidance for comparative periods presented herein.

The table below contains information related to the Company's rent expense as disclosed within the 10-K for the period ended October 31, 2019:

	Year Ended October 31,		
(in millions)	2019	2018	2017
Rent Expense	$86.2	$47.1	$41.0

The following table provides the Company's minimum rent commitments under operating leases in the next five years and the remaining years thereafter:

(in millions)	Operating Leases	Capital Leases
Year(s):		
2021	$ 64.8	$1.8
2022	57.0	1.6
2023	48.7	1.3
2024	40.1	1.0
2025	31.6	0.6
Thereafter	117.5	0.3
Total	$359.7	$6.6

NOTE 15 – BUSINESS SEGMENT INFORMATION

The Company has eight operating segments, which are aggregated into four reportable business segments: Rigid Industrial Packaging & Services; Paper Packaging & Services; Flexible Products & Services; and Land Management. The Rigid Industrial Packaging & Services reportable business segment is the aggregation of five operating segments: Rigid Industrial Packaging & Services – North America; Rigid Industrial Packaging & Services – Latin America; Rigid Industrial Packaging & Services – Europe, Middle East and Africa; Rigid Industrial Packaging & Services – Asia Pacific; and Rigid Industrial Packaging & Services – Tri-Sure.

Operations in the Rigid Industrial Packaging & Services segment involve the production and sale of rigid industrial packaging products, such as steel, fibre and plastic drums, rigid intermediate bulk containers, closure systems for industrial packaging products, transit protection products, water bottles and remanufactured and reconditioned industrial containers, and services, such as container life cycle management, filling, logistics, warehousing and other packaging services. The Company's rigid industrial packaging products and services are sold to customers in industries such as chemicals, paints and pigments, food and beverage, petroleum, industrial coatings, agricultural, pharmaceutical and mineral products, among others.

Operations in the Paper Packaging & Services segment involve the production and sale of containerboard, corrugated sheets, corrugated containers and other corrugated and specialty products to customers in North America in industries such as packaging, automotive, food and building products. The Company's corrugated container products are used to ship such diverse products as home appliances, small machinery, grocery products, automotive components, books and furniture, as well as numerous other applications. The Company also produces and sells coated and uncoated recycled paperboard, along with tubes and cores and a diverse mix of specialty products to customers in North America. In addition, the segment is involved in purchase and sale of recycled fiber.

On April 1, 2020, the Company completed the CPG divestiture within the Paper Packaging & Services segment.

Operations in the Flexible Products & Services segment involve the production and sale of flexible intermediate bulk containers and related services on a global basis. The Company's flexible intermediate bulk containers are constructed from a polypropylene-based woven fabric that is produced at its production sites, as well as sourced from strategic regional suppliers. Flexible products are sold to customers and in market segments similar to those of the Company's Rigid Industrial Packaging & Services segment, with an emphasis on customers in industries such as agricultural, construction and food industries.

Operations in the Land Management segment involve the management and sale of timber and special use properties from approximately 244,000 acres of timber properties in the southeastern United States. Land Management's operations focus on the active harvesting and regeneration of its timber properties to achieve sustainable long-term yields. While timber sales are subject to fluctuations, the Company seeks to maintain a consistent cutting schedule, within the limits of market and weather conditions. The Company also sells, from time to time, timberland and special use properties, which consists of surplus properties, higher and better use ("HBU") properties, and development properties.

In order to maximize the value of timber property, the Company continues to review its current portfolio and explore the development of certain of these properties. This process has led the Company to characterize property as follows:

- Surplus property, meaning land that cannot be efficiently or effectively managed by the Company, whether due to parcel size, lack of productivity, location, access limitations or for other reasons.
- HBU property, meaning land that in its current state has a higher market value for uses other than growing and selling timber.
- Development property, meaning HBU land that, with additional investment, may have a significantly higher market value than its HBU market value.
- Timberland, meaning land that is best suited for growing and selling timber.

The disposal of surplus and HBU property is reported in the consolidated statements of income under "gain on disposals of properties, plants and equipment, net" and the sale of development property is reported under "net sales" and "cost of products sold." All HBU, development and surplus property is used by the Company to productively grow and sell timber until sold.

Whether timberland has a higher value for uses other than growing and selling timber is a determination based upon several variables, such as proximity to population centers, anticipated population growth in the area, the topography of the land, aesthetic considerations, including access to water, the condition of the surrounding land, availability of utilities, markets for timber and economic considerations both nationally and locally. Given these considerations, the characterization of land is not a static process, but requires an ongoing review and re-characterization as circumstances change.

The following tables present net sales disaggregated by geographic area for each reportable segment for the year ended October 31, 2020:

	Year Ended October 31, 2020			
(in millions)	**United States**	**Europe, Middle East and Africa**	**Asia Pacific and Other Americas**	**Total**
Rigid Industrial Packaging & Services	$ 814.0	$1,074.3	$410.6	$2,298.9
Paper Packaging & Services	1,888.4	—	28.5	1,916.9

(in millions)	Year Ended October 31, 2020 United States	Europe, Middle East and Africa	Asia Pacific and Other Americas	Total
Flexible Products & Services	28.2	214.5	30.2	272.9
Land Management	26.3	—	—	26.3
Total net sales	$2,756.9	$1,288.8	$469.3	$4,515.0

The following tables present net sales disaggregated by geographic area for each reportable segment for the year ended October 31, 2019:

(in millions)	Year Ended October 31, 2019			
	United States	Europe, Middle East and Africa	Asia Pacific and Other Americas	Total
Rigid Industrial Packaging & Services	$ 906.3	$1,118.0	$466.3	$2,490.6
Paper Packaging & Services	1,758.8	—	21.2	1,780.0
Flexible Products & Services	35.7	232.4	29.4	297.5
Land Management	26.9	—	—	26.9
Total net sales	$2,727.7	$1,350.4	$516.9	$4,595.0

The following segment information is presented for each of the three years in the period ended October 31:

(in millions)	2020	2019	2018
Operating profit:			
Rigid Industrial Packaging & Services	209.9	179.6	183.2
Paper Packaging & Services	71.0	184.3	158.3
Flexible Products & Services	15.5	25.3	19.4
Land Management	8.5	9.9	9.6
Total operating profit	$304.9	$399.1	$370.5
Depreciation, depletion and amortization expense:			
Rigid Industrial Packaging & Services	$ 78.9	$ 76.3	$ 81.2
Paper Packaging & Services	153.5	119.3	34.2
Flexible Products & Services	5.6	6.2	6.9
Land Management	4.5	4.3	4.6
Total depreciation, depletion and amortization expense	$242.5	$206.1	$126.9
Capital expenditures:			
Rigid Industrial Packaging & Services	$ 48.3	$ 53.6	$ 76.8
Paper Packaging & Services	61.4	81.2	39.2
Flexible Products & Services	7.5	4.8	3.7
Land Management	0.2	0.2	0.4
Total segment	117.4	139.8	120.1
Corporate and other	12.6	17.1	19.0
Total capital expenditures	$130.0	$156.9	$139.1

The following table presents total assets by segment and total long lived assets, net by geographic area:

(in millions)	October 31, 2020	October 31, 2019	October 31, 2018
Assets:			
Rigid Industrial Packaging & Services	$2,189.7	$2,006.3	$1,963.0
Paper Packaging & Services	2,524.3	2,686.3	474.3
Flexible Products & Services	148.8	148.2	153.9
Land Management	348.6	348.7	347.2
Total segment	5,211.4	5,189.5	2,938.4
Corporate and other	299.5	237.2	256.4
Total assets	$5,510.9	$5,426.7	$3,194.8

(in millions)	October 31, 2020	October 31, 2019	October 31, 2018
Long lived assets, net*:			
United States	$1,345.8	$1,295.8	$ 796.3
Europe, Middle East, and Africa	377.6	277.1	276.9
Asia Pacific and other Americas	111.0	117.4	118.7
Total properties, plants and equipment, net	$1,834.4	$1,690.3	$1,191.9

* current year disclosure includes impact of capitalization of operating lease assets

NOTE 16 – COMPREHENSIVE INCOME (LOSS)

The following table provides the roll forward of accumulated other comprehensive income (loss) for the year ended October 31, 2020:

(in millions)	Foreign Currency Translation	Derivative Financial Instruments	Minimum Pension Liability Adjustment	Accumulated Other Comprehensive Loss
Balance as of October 31, 2019	$(298.0)	$(12.7)	$(123.0)	$(433.7)
Other Comprehensive Income (Loss)	3.1	(12.0)	15.1	6.2
Balance as of October 31, 2020	$(294.9)	$(24.7)	$(107.9)	$(427.5)

The following table provides the roll forward of accumulated other comprehensive loss for the year ended October 31, 2019:

(in millions)	Foreign Currency Translation	Derivative Financial Instruments	Minimum Pension Liability Adjustment	Accumulated Other Comprehensive Loss
Balance as of October 31, 2018	$(292.8)	$ 13.4	$ (97.7)	$(377.1)
Other Comprehensive Loss	(5.2)	(26.1)	(25.3)	(56.6)
Balance as of October 31, 2019	$(298.0)	$(12.7)	$(123.0)	$(433.7)

The components of accumulated other comprehensive income above are presented net of tax, as applicable.

NOTE 17 – QUARTERLY FINANCIAL DATA (UNAUDITED)

The quarterly results of operations for 2020 and 2019 are shown below:

	2020			
(in millions, except per share amounts)	January 31,	April 30,	July 31,	October 31,
Net sales	$ 1,112.4	$ 1,158.3	$ 1,083.0	$ 1,161.3
Gross profit	$ 222.6	$ 240.7	$ 219.7	$ 231.7
Net income[(1)]	$ 36.1	$ 15.8	$ 24.4	$ 48.0
Net income attributable to Greif, Inc.[(1)]	$ 32.3	$ 11.4	$ 20.7	$ 44.4
Earnings per share				
Basic:				
Class A Common Stock	$ 0.55	$ 0.19	$ 0.35	$ 0.74
Class B Common Stock	$ 0.81	$ 0.29	$ 0.52	$ 1.12
Diluted:				
Class A Common Stock	$ 0.55	$ 0.19	$ 0.35	$ 0.74
Class B Common Stock	$ 0.81	$ 0.29	$ 0.52	$ 1.12
Earnings per share were calculated using the following number of shares:				
Basic:				
Class A Common Stock	26,260,943	26,386,439	26,441,986	26,441,986
Class B Common Stock	22,007,725	22,007,725	22,007,725	22,007,725
Diluted:				
Class A Common Stock	26,414,280	26,386,439	26,442,595	26,512,331
Class B Common Stock	22,007,725	22,007,725	22,007,725	22,007,725
Market price (Class A Common Stock):				
High	$ 44.63	$ 40.82	$ 40.56	$ 43.82

	2020			
(in millions, except per share amounts)	**January 31,**	**April 30,**	**July 31,**	**October 31,**
Low	$38.64	$24.10	$27.57	$34.44
Close	$38.77	$33.08	$34.38	$40.59
Market price (Class B Common Stock):				
High	$51.40	$48.45	$43.65	$47.19
Low	$45.05	$30.80	$34.94	$38.29
Close	$45.05	$38.50	$38.67	$43.25

(1) The Company recorded the following transactions during the fourth quarter of 2020: (i) acquisition and integration related costs of $3.5 million; (ii) restructuring charges of $11.9 million; (iii) non-cash asset impairment charges of $1.6 million; (v) (gain) on disposals of properties, plants, equipment, net of $(17.1) million; and (vi) loss on disposals of businesses, net of $0.9 million. See the Company's Form 10-Q filings with the SEC for prior quarter significant transactions or trends.

	2019			
(in millions, except per share amounts)	**January 31**	**April 30**	**July 31**	**October 31**
Net sales	$ 897.0	$ 1,213.3	$ 1,252.6	$ 1,232.1
Gross profit	$ 172.8	$ 248.7	$ 279.4	$ 259.0
Net income(1)	$ 35.8	$ 21.1	$ 67.5	$ 69.8
Net income attributable to Greif, Inc.(1)	$ 29.7	$ 13.6	$ 62.7	$ 65.0
Earnings per share				
Basic:				
Class A Common Stock	$ 0.51	$ 0.23	$ 1.06	$ 1.09
Class B Common Stock	$ 0.75	$ 0.34	$ 1.59	$ 1.65
Diluted:				
Class A Common Stock	$ 0.51	$ 0.23	$ 1.06	$ 1.09
Class B Common Stock	$ 0.75	$ 0.34	$ 1.59	$ 1.65
Earnings per share were calculated using the following number of shares:				
Basic:				
Class A Common Stock	25,991,433	26,250,460	26,257,943	26,257,943
Class B Common Stock	22,007,725	22,007,725	22,007,725	22,007,725
Diluted:				
Class A Common Stock	25,991,433	26,255,112	26,257,943	26,360,148
Class B Common Stock	22,007,725	22,007,725	22,007,725	22,007,725
Market price (Class A Common Stock):				
High	$ 49.28	$ 41.49	$ 39.15	$ 40.59
Low	$ 31.22	$ 37.10	$ 30.74	$ 30.05
Close	$ 37.67	$ 38.59	$ 34.57	$ 39.17
Market price (Class B Common Stock):				
High	$ 50.55	$ 48.57	$ 47.69	$ 48.76
Low	$ 36.87	$ 42.48	$ 41.10	$ 37.96
Close	$ 43.18	$ 47.23	$ 42.39	$ 47.03

(1) The Company recorded the following significant transactions during the fourth quarter of 2019: (i) acquisition and integration related costs of $7.5 million; (ii) restructuring charges of $5.8 million; (iii) non-cash asset impairment charges of $5.7 million; (iv) (gain) on disposals of properties, plants, equipment, net of ($6.8) million; and (v) loss on disposals of businesses, net of $0.7 million. See the Company's Form 10-Q filings with the SEC for prior quarter significant transactions or trends.

Shares of the Company's Class A Common Stock and Class B Common Stock are listed on the New York Stock Exchange where the symbols are GEF and GEF.B, respectively.

As of December 14, 2020, there were 392 stockholders of record of the Class A Common Stock and 76 stockholders of record of the Class B Common Stock.

NOTE 18 – REDEEMABLE NONCONTROLLING INTERESTS

Mandatorily Redeemable Noncontrolling Interests

The terms of the joint venture agreement for one joint venture within the Rigid Industrial Packaging & Services segment include mandatory redemption by the Company, in cash, of the noncontrolling interest holders' equity at a formulaic price after the expiration of a lockout period specific to each noncontrolling interest holder. The redemption features cause the interest to be classified as a mandatorily redeemable instrument under the accounting guidance, and this interest is included at the current redemption value each period in long-term or short-term liabilities of the Company, as applicable. The impact of marking to redemption value at each period end is recorded in interest expense. The carrying amount is not reduced below the initially recorded contribution. The Company has a contractual obligation to redeem the outstanding equity interest of each remaining partner in 2022 and 2023 respectively.

The following table provides a rollforward of the mandatorily redeemable noncontrolling interest for the years ended October 31, 2020 and 2019:

(in millions)	Mandatorily Redeemable Noncontrolling Interest
Balance as of October 31, 2018	$ 8.6
Current period mark to redemption value	(0.2)
Balance as of October 31, 2019	8.4
Current period mark to redemption value	—
Balance as of October 31, 2020	$ 8.4

Redeemable Noncontrolling Interests

Redeemable noncontrolling interests related to two joint ventures within the Paper Packaging & Services segment and one joint venture within the Rigid Industrial Packaging & Services segment are held by the respective noncontrolling interest owners. The holders of these interests share in the profits and losses of these entities on a pro-rata basis with the Company. However, the noncontrolling interest owners have the right to put all or a portion of those noncontrolling interests to the Company at a formulaic price after a set period of time, specific to each agreement.

On November 15, 2018, one of the noncontrolling interest owners related to one of the Paper Packaging & Services joint ventures exercised their put option for all of their ownership interests. As of October 31, 2019, the Company made a payment for approximately $10.1 million to the noncontrolling interest owner. The Company also entered into a Stock Purchase Agreement with another noncontrolling interest owner related to the same Paper Packaging & Services joint venture, pursuant to which the owner received a $1.8 million payment for certain of its equity.

Redeemable noncontrolling interests are reflected in the consolidated balance sheets at redemption value. The following table provides the rollforward of the redeemable noncontrolling interest for the years ended October 31, 2020 and 2019:

(in millions)	Redeemable Noncontrolling Interest
Balance as of October 31, 2018	$ 35.5
Current period mark to redemption value	(4.9)
Repurchase of redeemable shareholder interest	(11.9)
Redeemable noncontrolling interest share of income and other	2.3
Dividends to redeemable noncontrolling interest and other	0.3
Balance as of October 31, 2019	21.3
Current period mark to redemption value	(0.4)
Redeemable noncontrolling interest share of income and other	0.1
Dividends to redeemable noncontrolling interest and other	(1.0)
Balance as of October 31, 2020	$ 20.0

NOTE 19 — SUBSEQUENT EVENTS

On November 5, 2020, the $50.9 million Purchase Note and the $43.3 million Monetization Notes were settled, as discussed in Note 5 herein.

Subsequent to October 31, 2020, the Company entered into the Incremental Term Loan Agreement, which provides for the Incremental Term A-3 Loan. The Company intends to draw upon the Incremental Term A-3 Loan prior to July 15, 2021, and to use the loan proceeds to pay all of the outstanding principal of and interest on the Senior Notes due 2021. See Note 6 herein for additional information on the Incremental Term Loan Agreement and the Senior Notes due 2021.

Subsequent to October 31, 2020, an annuity contract purchased with certain U.S. defined benefit plan assets and the pension obligation for certain retirees in the U.S. was irrevocably transferred from that plan to the annuity contract settling that obligation. See Note 10 herein for additional information on the annuity contract.

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Greif, Inc. and subsidiary companies

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Greif, Inc. and subsidiary companies (the "Company") as of October 31, 2020 and 2019, and the related consolidated statements of income, comprehensive income (loss), changes in shareholders' equity, and cash flows for each of the three years in the period ended October 31, 2020, and the related notes and the financial statement schedule listed in the Index at Item 15 (collectively, the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company as of October 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended October 31, 2020, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of October 31, 2020, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated December 17, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 14 to the financial statements, the Company has changed its method of accounting for leases as of November 1, 2019 due to the adoption of Accounting Standards Update 2016-02 and Accounting Standards Update 2018-11, *Leases (Topic 842)*.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the US federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill-Paper Packaging & Services Reporting Unit - Refer to Note 3 to the Financial Statements

Critical Audit Matter Description

The Company's evaluation of goodwill for impairment involves comparing the carrying value of each reporting unit to the estimated fair value of the reporting unit. The Company's determinations of the estimated fair value of the reporting units are based on both the market approach and a discounted cash flow analysis utilizing the income approach. The determination of the estimated fair value using the market approach and the discounted cash flow model requires management to make significant estimates and assumptions related to the valuation of the reporting unit. Changes in these assumptions could have a significant impact on either the fair value of the reporting unit, the amount of any goodwill impairment charge, or both. The Company's consolidated goodwill balance was $1.5 billion as of October 31, 2020, of which $767.9 million was allocated to the Paper Packaging & Services ("PPS") reporting unit, which is the reporting unit that exhibits more sensitivity to changes in estimates and assumptions given the limited cushion between the carrying value and estimated fair value. The estimated fair value of the PPS reporting unit exceeded its carrying value by 27% as of the measurement date of August 1, 2020 and, therefore, no impairment was recognized.

We identified the valuation of the PPS reporting unit as a critical audit matter because of the significant estimates and assumptions management made to estimate its fair value and the sensitive nature of the valuation of the PPS reporting unit to changes in key estimates and assumptions including valuation multiples, revenue growth rates, and discount rate. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, when performing audit procedures to evaluate the reasonableness of management's estimates and assumptions.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to testing the valuation of the PPS reporting unit focused on certain key assumptions such as valuation multiples, revenue growth rates, and the selection of the discount rate, and included the following procedures, among others:

- We tested the effectiveness of internal controls over management's goodwill impairment evaluation, including those over the determination of the fair value of the PPS reporting unit, such as controls related to management's selection of the valuation multiple, revenue growth rates, and discount rate
- We performed a sensitivity analysis of the revenue growth rates, which included the impact of the revenue growth rates on cash flows
- We evaluated the reasonableness of management's revenue growth rates used in the discounted cash flow model by comparing the forecasted revenues to historical amounts, historical macroeconomic benchmarking, competitors forecasts, and future forecasted macroeconomic benchmarking
- With the assistance of our fair value specialists, we evaluated the reasonableness of (1) the long-term revenue growth rate through macroeconomic benchmarking, (2) the discount rate, and (3) the valuation multiple by developing a range of independent estimates and comparing those to the amounts selected by management.

/s/ Deloitte & Touche LLP

Columbus, Ohio
December 17, 2020

We have served as the Company's auditor since 2014.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURES

None.

ITEM 9A. CONTROLS AND PROCEDURES

Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting that occurred during the most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Disclosure Controls and Procedures

With the participation of our principal executive officer and principal financial officer, our management has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")), as of the end of the period covered by this report. Based upon that evaluation, our principal executive officer and principal financial officer have concluded that, as of the end of the period covered by this report:

- Information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission;
- Information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure; and
- Our disclosure controls and procedures are effective.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over our financial reporting. Internal control over financial reporting is the process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States. Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to allow for the preparation of financial statements in accordance with GAAP, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors;
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our consolidated financial statements; and
- provide reasonable assurance as to the detection of fraud.

All internal control systems have inherent limitations, including the possibility of circumvention and overriding of controls, and therefore can provide only reasonable assurance of achieving the designed control objectives. The Company's internal control system is supported by written policies and procedures, contains self-monitoring mechanisms, and is audited by the internal audit function. Appropriate actions are taken by management to correct deficiencies as they are identified.

As of October 31, 2020, management has assessed the effectiveness of the Company's internal control over financial reporting. In making this assessment, we used the criteria described in "Internal Control - Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our assessment, management concluded that the Company's internal control over financial reporting was effective as of October 31, 2020.

Our internal control over financial reporting as of October 31, 2020, has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which appears herein.

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors of Greif, Inc. and subsidiary companies

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Greif, Inc. and subsidiaries (the "Company") as of October 31, 2020, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of October 31, 2020, based on the criteria established in *Internal Control—Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended October 31, 2020, of the Company and our report dated December 17, 2020, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ Deloitte & Touche LLP

Columbus, Ohio
December 17, 2020

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information regarding our directors required by Items 401(a) and (d)-(f) of Regulation S-K will be found under the caption "Proposal Number 1 – Election of Directors" in the 2021 Proxy Statement, which information is incorporated herein by reference. Information regarding our executive officers required by Items 401(b) and (d)-(f) of Regulation S-K will be contained under the caption "Corporate Governance - Executive Officers of the Company" in the 2021 Proxy Statement, which information is incorporated herein by reference.

We have a separately-designated standing Audit Committee established in accordance with Section 3(a)(58)(A) of the Exchange Act. As of the date of this filing, the members of the Audit Committee were Bruce A. Edwards, Mark A. Emkes, John F. Finn, John W. McNamara, and Robert M. Patterson. Mr. Edwards is Chairperson of the Audit Committee. Our Board of Directors has determined that Mr. Edwards is an "audit committee financial expert," as that term is defined in Item 401(h)(2) of Regulation S-K, and "independent," as that term is defined in Rule 10A-3 of the Exchange Act.

Information regarding the filing of reports of ownership under Section 16(a) of the Exchange Act by our officers and directors and persons owning more than 10 percent of a registered class of our equity securities required by Item 405 of Regulation S-K will be found under the caption "Corporate Governance—Stock Holdings of Certain Owners and Management—Delinquent Section 16(a) Reports" in the 2021 Proxy Statement, which information is incorporated herein by reference.

Information concerning the procedures by which stockholders may recommend nominees to our Board of Directors will be found under the caption "Other Matters - Stockholder Recommendations for Director Nominees" in the 2021 Proxy Statement. There has been no material change to the nomination procedures we previously disclosed in the proxy statement for our 2020 annual meeting of stockholders.

Our Board of Directors has adopted a code of ethics that applies to our principal executive officer, principal financial officer, principal accounting officer, controller and persons performing similar functions. This code of ethics is posted on our Internet Web site at www.greif.com under "Investors—Corporate Governance—Governance Documents." Copies of this code of ethics are also available to any person, without charge, by making a written request to us. Requests should be directed to Greif, Inc., Attention: Corporate Secretary, 425 Winter Road, Delaware, Ohio 43015. Any amendment (other than any technical, administrative or other non-substantive amendment) to, or waiver from, a provision of this code will be posted on our website described above within four business days following its occurrence.

ITEM 11. EXECUTIVE COMPENSATION

The 2021 Proxy Statement will contain information regarding the following matters: information regarding executive compensation required by Item 402 of Regulation S-K will be found under the caption "Compensation Discussion and Analysis;" information required by Item 407(e)(4) of Regulation S-K will be found under the caption "Compensation Committee Matters - Compensation Committee Interlocks and Insider Participation;" and information required by Item 407(e)(5) of Regulation S-K will be found under the caption "Compensation Committee Matters- Compensation Committee Report." This information is incorporated herein by reference.

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

Information regarding security ownership of certain beneficial owners and management required by Item 403 of Regulation S-K will be found under the caption "Corporate Governance - Stock Holdings of Certain Owners and Management" in the 2021 Proxy Statement, which information is incorporated herein by reference.

Information regarding equity compensation plan information required by Item 201(d) of Regulation S-K will be found under the caption "Executive Compensation Tables - Equity Compensation Plan Information" in the 2021 Proxy Statement, which information is incorporated herein by reference.

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

Information regarding certain relationships and related transactions required by Item 404 of Regulation S-K will be found under the caption "Other Matters - Certain Relationships and Related Transactions" in the 2021 Proxy Statement, which information is incorporated herein by reference.

Information regarding the independence of our directors required by Item 407(a) of Regulation S-K will be found under the caption "Corporate Governance – Director Independence" in the 2021 Proxy Statement, which information is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information regarding principal accounting fees and services required by Item 9(e) of Schedule 14A will be found under the caption "Audit Committee Matters - Fees of Independent Registered Public Accounting Firm" in the 2021 Proxy Statement, which information is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

EXHIBITS

Exhibit No.	Description of Exhibit	If Incorporated by Reference, Document with which Exhibit was Previously Filed with SEC
3.1	Amended and Restated Certificate of Incorporation of Greif, Inc.	Annual Report on Form 10-K for the fiscal year ended October 31, 1997, File No. 001-00566 (see Exhibit 3(a) therein).
3.2	Amendment to Amended and Restated Certificate of Incorporation of Greif, Inc.	Definitive Proxy Statement on Form 14A dated January 27, 2003, File No. 001-00566 (see Exhibit A therein).
3.3	Amendment to Amended and Restated Certificate of Incorporation of Greif, Inc.	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2007, File No. 001-00566 (see Exhibit 3.1 therein).
3.4	Second Amended and Restated By-Laws of Greif, Inc.	Current Report on Form 8-K dated August 29, 2008, File No. 001-00566 (see Exhibit 99.2 therein)
3.5	Amendment of Second Amended and Restated By-Laws of Greif, Inc. (effective September 3, 2013)	Current Report on Form 8-K dated September 6, 2013, File No. 001-00566 (see Exhibit 99.3 therein)
3.6	Amendment to Second Amended and Restated By-Laws of Greif, Inc. (effective March 25, 2020)	Current Report on Form 8-K dated March 31, 2020, File No. 001-00566 (see Exhibit 99.2 therein)
3.7	Amendment to Second Amended and Restated By-Laws of Greif, Inc. (effective June 8, 2020)	Current Report on Form 8-K dated June 8, 2020, File No. 001-00566 (see Exhibit 99.2 therein)
3.8	Amendment to Second Amended and Restated By-Laws of Greif, Inc. (effective December 8, 2020)	Current Report on Form 8-K dated December 14, 2020, File No. 001-00566 (see Exhibit 99.2 therein)
4.1	Indenture dated as of July 15, 2011, among Greif Luxembourg Finance S.C.A., as Issuer, Greif, Inc. as Guarantor, The Bank of New York Mellon, as Trustee and Principal Paying Agent, and The Bank of New York Mellon (Luxembourg) S.A., as Transfer Agent, Registrar and Luxembourg Paying Agent, regarding 7.375% Senior Notes due 2021	Quarterly Report on Form 10-Q for the fiscal quarter ended July 31, 2011, File No. 001-00566 (see Exhibit 99.3 therein).
4.2	Indenture, dated as of February 11, 2019, among Greif, Inc., as issuer, each of the United States subsidiaries of Greif, Inc. party thereto, as guarantors, and U.S. Bank National Association, as trustee, regarding 6.50% Senior Notes due 2027.	Current Report on Form 8-K dated February 11, 2019, File No. 001-00566 (see Exhibit 4.1 therein).
4.3	Description of the Registrant's Securities Registered under Section 12 of the Securities Exchange Act of 1934	Annual Report on Form 10-K for the fiscal year ended October 31, 2019, File No. 001-00566 (see Exhibit 4.3 therein).
10.1*	Greif, Inc. Amended and Restated Directors' Deferred Compensation Plan.	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2006, File No. 001-00566 (see Exhibit 10.2 therein).
10.2*	Supplemental Retirement Benefit Agreement.	Annual Report on Form 10-K for the fiscal year ended October 31, 1999, File No. 001-00566 (see Exhibit 10(i) therein).
10.3*	Second Amended and Restated Supplemental Executive Retirement Plan.	Annual Report on Form 10-K for fiscal year ended October 31, 2007, File No. 001-00566 (see Exhibit 10(f) therein).
10.4*	Greif, Inc. Amended and Restated Long-Term Incentive Plan.	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2006, File No. 001-00566 (see Exhibit 10.1 therein).
10.5*	Amendment No. 1 to Greif, Inc. Amended and Restated Long-Term Incentive Plan.	Annual Report on Form 10-K for the fiscal year ended October 31, 2014, File No. 001-00566 (See Exhibit 10.8 therein).
10.6*	Amendment No. 2 to Greif, Inc. Amended and Restated Long-Term Incentive Plan	Annual Report on Form 10-K for the fiscal year ended October 31, 2018, File No. 001-00566 (See Exhibit 10.8 therein).
10.7*	Amendment No. 3 to Greif, Inc. Amended and Restated Long-Term Incentive Plan	Contained herein.

Exhibit No.	Description of Exhibit	If Incorporated by Reference, Document with which Exhibit was Previously Filed with SEC
10.8*	Greif, Inc. 2020 Long-Term Incentive Plan	Contained herein.
10.9*	Form of Performance Stock Unit Award Document for Greif, Inc. 2020 Long-Term Incentive Plan	Contained herein.
10.10*	Form of Restricted Stock Unit Award Document – Time Vesting for Greif, Inc. 2020 Long-Term Incentive Plan	Contained herein.
10.11*	Greif, Inc. Performance-Based Incentive Compensation Plan.	Definitive Proxy Statement on Form 14A dated January 25, 2002, File No. 001-00566 (see Exhibit B therein).
10.12*	Amendment No. 1 to Greif, Inc. Performance-Based Incentive Compensation Plan	Annual Report on Form 10-K for the fiscal year ended October 31, 2011, File No. 001-00566 (See Exhibit 10(i) therein).
10.13*	Amendment No. 2 to Greif, Inc. Performance-Based Incentive Compensation Plan	Annual Report on Form 10-K for the fiscal year ended October 31, 2013, File No. 001-00566 (See Exhibit 10.10 therein).
10.14*	Amendment No. 3 to Greif, Inc. Performance-Based Incentive Compensation Plan	Annual Report on Form 10-K for the fiscal year ended October 31, 2017, File No. 001-00566 (See Exhibit 10.11 therein).
10.15*	Greif, Inc. 2001 Management Equity Incentive and Compensation Plan	Definitive Proxy Statement on Form DEF 14A dated January 26, 2001, File No. 001-00566 (see Exhibit A therein).
10.16*	Amendment No. 1 to Greif, Inc. 2001 Management Equity Incentive and Compensation Plan	Annual Report on Form 10-K for the fiscal year ended October 31, 2011, File No. 001-00566 (See Exhibit 10(k) therein).
10.17*	Amendment No. 2 to Greif, Inc. 2001 Management Equity Incentive and Compensation Plan	Annual Report on Form 10-K for the fiscal year ended October 31, 2015, File No. 001-00566 (See Exhibit 10.13.2 therein).
10.18*	Amendment No. 3 to Greif, Inc. 2001 Management Equity Incentive and Compensation Plan	Contained herein.
10.19*	2005 Outside Directors Equity Award Plan	Definitive Proxy Statement on Form DEF 14A, File No. 001-00566, filed with the Securities and Exchange Commission on January 21, 2005 (see Exhibit A therein).
10.20*	Stock Option Award Agreement for the 2005 Outside Directors Equity Award Plan of Greif, Inc.	Registration Statement on Form S-8, File No. 333-123133 (see Exhibit 4(c) therein).
10.21*	Restricted Share Award Agreement for the 2005 Outside Directors Equity Award Plan of Greif, Inc.	Registration Statement on Form S-8, File No. 333-123133 (see Exhibit 4(d) therein).
10.22*	Amendment No. 1 to Greif, Inc. 2005 Outside Directors Equity Award Plan.	Quarterly Report on Form 10-Q for the fiscal quarter ended January 31, 2016, File No. 001-00566 (see Exhibit 10.1 therein).
10.23*	Greif, Inc. Nonqualified Deferred Compensation Plan	Quarterly Report on Form 10-Q for the fiscal quarter ended January 31, 2008, File No. 001-00566 (see Exhibit 10(cc) therein).
10.24*	Nonqualified Supplemental Deferred Compensation Plan, effective January 1, 2020	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2020, File No. 001-00566 (see Exhibit 10.3 therein).
10.25*	Form Nonqualified Supplemental Deferred Compensation Plan Participation Letter	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2020, File No. 001-00566 (see Exhibit 10.4 therein).
10.26*	Amended and Restated Nonqualified Deferred Compensation Plan, effective June 1, 2008	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2020, File No. 001-00566 (see Exhibit 10.5 therein).
10.27*	Amended and Restated Nonqualified Deferred Compensation Plan Amendment No. 1, dated December 20, 2010	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2020, File No. 001-00566 (see Exhibit 10.6 therein).
10.28*	Defined Contribution Supplemental Executive Retirement Plan.	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2013, File No. 001-00566 (see Exhibit 10.1 therein).
10.29	Amended and Restated Credit Agreement, dated as of February 11, 2019, among Greif, Inc., Greif Packaging LLC, Greif International Holding Ltd., Greif International Holding B.V., and Greif Luxembourg Holding S.à.r.l., as borrowers, each financial institution party thereto, as lenders, Wells Fargo Securities, LLC, JPMorgan Chase Bank, National Association, Goldman Sachs Bank USA, and Merrill Lynch, Pierce, Fenner & Smith Incorporated, and their respective affiliates as joint lead arrangers and joint book managers, and JPMorgan Chase Bank, as administrative agent for the lenders.	Current Report on Form 8-K/A dated February 11, 2019 (filed on March 26, 2020), File No. 001-00566 (see Exhibit 10.1 therein)

Exhibit No.	Description of Exhibit	If Incorporated by Reference, Document with which Exhibit was Previously Filed with SEC
10.30	Formation Agreement dated as of June 14, 2010, by and among Greif, Inc. and Greif International Holding Supra C.V. and National Scientific Company Limited and Dabbagh Group Holding Company Limited.	Quarterly Report on Form 10-Q for the fiscal quarter ended July 31, 2010, File No. 001-00566 (see Exhibit 10.2 therein).
10.31	Joint Venture Agreement dated as of September 29, 2010, by and among Greif, Inc. and Greif International Holding Supra C.V. and Dabbagh Group Holding Company Limited and National Scientific Company Limited.	Annual Report on Form 10-K for the fiscal year ended October 31, 2010, File No. 001-00566 (see Exhibit 10(ee) therein).
10.32	Amendment Agreement dated April 18, 2017, by and among Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A. Trading as Rabobank London, Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A., Nieuw Amsterdam Receivables Corporation S. À.R.L., Cooperage Receivables Finance B.V., Stichting Cooperage Receivables Finance Holding, Greif Services Belgium BVBA, Greif, Inc., the Originators as described therein and Trust International Management (T.I.M.) B.V. (in connection with the Master Definitions Agreement dated April 27, 2012 and as amended and restated April 20, 2015).	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2017, File No. 001-00566 (see Exhibit 10.1 therein).
10.33	Amended and Restated Master Definition Agreement dated April 18, 2017, by and among Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A. Trading as Rabobank London, Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A., Nieuw Amsterdam Receivables Corporation S. À.R.L., Cooperage Receivables Finance B.V., Stichting Cooperage Receivables Finance Holding, Greif Services Belgium BVBA, Greif, Inc., the Originators as described therein and Trust International Management (T.I.M.) B.V.	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2017, File No. 001-00566 (see Exhibit 10.2 therein).
10.34	Third Amended and Restated Sale Agreement, dated September 24, 2019, by and among Greif Packaging LLC, Delta Petroleum Company, Inc., American Flange & Manufacturing Co., Inc., Caraustar Mill Group, Inc., Caraustar Industrial and Consumer Products Group, Inc., Caraustar Recovered Fiber Group, Inc., The Newark Group, Inc., Caraustar Consumer Products Group, LLC, Caraustar Custom Packaging Group, Inc., Tama Paperboard, LLC, Cascade Paper Converters Co. and each other entity from time to time party hereto as an Originator, as Originators and Greif Receivables Funding LLC.	Current Report on Form 8-K dated September 26, 2019, File No. 001-00566 (see Exhibit 99.1 therein)
10.35	Third Amended and Restated Transfer and Administration Agreement, date September 24, 2019, by and among Greif Receivables Funding LLC, Greif Packaging LLC, Greif Packaging LLC, Delta Petroleum Company, Inc., American Flange & Manufacturing Co. Inc., Caraustar Mill Group, Inc., Caraustar Industrial and Consumer Products Group, Inc., Caraustar Recovered Fiber Group, Inc., The Newark Group, Inc., Caraustar Consumer Products Group, LLC, Caraustar Custom Packaging Group, Inc., Tama Paperboard, LLC, Cascade Paper Converters Co., and each other entity from time to time party hereto as an Originator, as Originators, Bank of America, N.A., and the various investor groups, managing agents and administrators from time to time parties here to.	Annual Report on Form 10-K for the fiscal year ended October 31, 2019, File No. 001-00566 (see Exhibit 10.26 therein).
10.36	Amendment No. 1 to Third Amended and Restated Transfer and Administration Agreement	Contained herein.
10.37	Assignment agreement dated March 31, 2020, by and among Greif Receivables Funding LLC, Greif Packaging LLC, Custom Packaging Group LLC, the other Originators party hereto, Greif, Inc., the Investors, Administrators and Managing Agents party hereto and Bank of America, N.A., as Agent.	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2020, File No. 001-00566 (see Exhibit 10.1 therein).

Exhibit No.	Description of Exhibit	If Incorporated by Reference, Document with which Exhibit was Previously Filed with SEC
10.38	Amendment agreement dated April 17, 2020, between Coöperatieve Rabobank U.A. Trading as Rabobank London, Coöperatieve Rabobank U.A, Nieuw Amsterdam Receivables Corporation B.V., Cooperage Receivables Finance B.V., Stichting Cooperage Receivables Finance Holding, Greif Service Belgium BVBA, Greif, Inc., the Originators as described herein and Trust International Management (T.I.M.) B.V.)	Quarterly Report on Form 10-Q for the fiscal quarter ended April 30, 2020, File No. 001-00566 (see Exhibit 10.2 therein).
10.39	Incremental Term Loan Agreement dated as of November 13, 2020, by and among Greif Packaging LLC, as Borrower, the Guarantors Party hereto, the Incremental Term A-3 Lenders Party hereto, JPMorgan Chase Bank, National Association, as Administrative Agent for the Lenders Party to the Credit Agreement, and CoBank, ACB, as the Sole Incremental Term A-3 Facility Lead Arranger and Bookrunner.	Current Report on Form 8-K dated November 19, 2020, File No. 001-00566 (see Exhibit 99.2 therein)
21	Subsidiaries of the Registrant.	Contained herein.
23	Consent of Deloitte & Touche LLP.	Contained herein.
24.1	Powers of Attorney for Michael J. Gasser, Vicki L. Avril-Groves, John F. Finn, John W. McNamara, Bruce A. Edwards, Daniel J. Gunsett, Judith D. Hook and Mark A. Emkes.	Annual Report on Form 10-K for the fiscal year ended October 31, 2015, File No. 001-00566 (See Exhibit 24 therein).
24.2	Power of Attorney for Robert M. Patterson.	Contained herein.
31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.	Contained herein.
31.2	Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934.	Contained herein.
32.1	Certification of Chief Executive Officer required by Rule 13a-14(b) of the Securities Exchange Act of 1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code.	Contained herein.
32.2	Certification of Chief Financial Officer required by Rule 13a-14(b) of the Securities Exchange Act of 1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code.	Contained herein.
101	The following financial statements from the Company's Annual Report on Form 10-K for the year ended October 31, 2020, formatted in Inline XBRL (Extensive Business Reporting Language): (i) Consolidated Statements of Income, (ii) Consolidate Balance Sheets, (iii) Consolidated Statements of Cash Flow, (iv) Consolidated Statements of Changes in Shareholders' Equity and (v) Notes to Consolidated Financial Statements.	Contained herein.

* Executive compensation plans and arrangements required to be filed pursuant to Item 601(b)(10) of Regulation S-K.

Schedule No.	Description of Schedule	If Incorporated by Reference, Document with which Exhibit was Previously Filed with SEC
II	Consolidated Valuation and Qualifying Accounts and Reserves	Contained herein.

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Company has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Greif, Inc.

(Registrant)

Date: December 17, 2020

By: /s/ PETER G. WATSON

Peter G. Watson
President and Chief Executive Officer

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

/s/ PETER G. WATSON

Peter G. Watson
President and Chief Executive Officer
Member of the Board of Directors
(principal executive officer)

/s/ LAWRENCE A. HILSHEIMER

Lawrence A. Hilsheimer
Executive Vice President and Chief Financial Officer
(principal financial officer)

/s/ DAVID C. LLOYD

David C. Lloyd
Vice President, Corporate Financial Controller
(principal accounting officer)

MICHAEL J. GASSER*

Michael J. Gasser
Chairman
Member of the Board of Directors

BRUCE A. EDWARDS*

Bruce A. Edwards
Member of the Board of Directors

DANIEL J. GUNSETT*

Daniel J. Gunsett
Member of the Board of Directors

JOHN F. FINN*

John F. Finn
Member of the Board of Directors

JOHN W. MCNAMARA*

John W. McNamara
Member of the Board of Directors

JUDITH D. HOOK*

Judith D. Hook
Member of the Board of Directors

MARK A. EMKES*

Mark A. Emkes
Member of the Board of Directors

VICKI L. AVRIL-GROVES*

Vicki L. Avril-Groves
Member of the Board of Directors

ROBERT M. PATTERSON*

Robert M. Patterson
Member of the Board of Directors

---

* The undersigned, Peter G. Watson, by signing his name hereto, does hereby execute this Form 10-K on behalf of each of the above-named persons pursuant to powers of attorney duly executed by such persons and filed as an exhibit to this Form 10-K.

By: /s/ PETER G. WATSON

Peter G Watson

Each of the above signatures is affixed as of December 17, 2020.

GREIF, INC. AND SUBSIDIARY COMPANIES

Consolidated Valuation and Qualifying Accounts and Reserves (Dollars in millions)

Description	Balance at Beginning of Period	Charged to Costs and Expenses	Charged to Other Accounts	Deductions	Balance at End of Period
Year ended October 31, 2018:					
Allowance for doubtful accounts	$ 8.9	$ 0.4	$ (4.6)	$ (0.5)	$ 4.2
Year ended October 31, 2019:					
Allowance for doubtful accounts	$ 4.2	$ 0.6	$ 2.0	$ —	$ 6.8
Year ended October 31, 2020:					
Allowance for doubtful accounts	$ 6.8	$ 1.3	$ 1.3	$ —	$ 9.4

EXHIBIT 21

SUBSIDIARIES OF REGISTRANT

Per item 601(b)(21)(ii) of Regulation S-K, names of particular subsidiaries may be omitted if the unnamed subsidiaries, considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary as of October 31, 2020. Significant subsidiaries are defined in Rule 1-02(w) of Regulation S-X.

Name of Subsidiary	Incorporated or Organized Under Laws of
United States:	
Caraustar Industrial and Consumer Products Group, Inc.	Delaware
Caraustar Recovered Fiber Group, Inc.	Delaware
Container Life Cycle Management LLC	Delaware
Greif Global Holdings, Inc.	Delaware
Greif Packaging LLC	Delaware
Soterra LLC	Delaware
Tama Paperboard, LLC	Delaware
Greif Flexibles USA Inc.	Illinois
Delta Petroleum Company, Inc.	Louisiana
Greif U.S. Holdings, Inc.	Nevada
The Newark Group, Inc.	New Jersey
Box Board Products, Inc.	North Carolina
Caraustar Mill Group, Inc.	Ohio
CorrChoice (PA) LLC	Pennsylvania
International:	
Greif Algeria Spa	Algeria
Greif Argentina S.A.	Argentina
Greif Belgium BVBA	Belgium
Greif Embalagens Industrialis Do Brasil Ltda	Brazil
Caraustar Industrial Canada, Inc.	Canada
Greif Bros. Canada Inc.	Canada
Greif Embalajes Industriales S.A.	Chile
Greif Tianjin Packaging Co. Ltd	China
Greif (Shanghai) Packaging Co., Ltd.	China
Greif (Taicang) Packaging Co., Ltd.	China
Greif Flexibles Changzhou Co. Ltd	China
Greif Huizhou Packaging Co., Ltd.	China
Greif Czech Republic a.s.	Czech Republic
Greif Flexibles France SARL	France
Greif France SAS	France
Greif Flexibles Germany GmbH & Co. KG	Germany
Greif Packaging Germany GmbH	Germany
Pachmas Packaging Ltd	Israel
Greif Italy SRL	Italy
Greif Malaysia Sdn Bhd	Malaysia
Greif Mexico, S.A. de C.V.	Mexico
Greif Flexibles Benelux B.V.	Netherlands
Greif International Holding B.V.	Netherlands
Greif Netherland B.V.	Netherlands
Greif Tholu B.V.	Netherlands
Greif Poland Sp zoo	Poland
Greif Portugal, S.A.	Portugal
Greif Flexibles Romania SRL	Romania
Greif Perm LLC	Russia

Name of Subsidiary	Incorporated or Organized Under Laws of
Greif Vologda LLC	Russia
Greif Saudi Arabia Ltd.	Saudi Arabia
Greif Eastern Packaging Pte. Ltd.	Singapore
Greif South Africa Pty Ltd	South Africa
Greif Packaging Spain S.L.	Spain
Greif Sweden AB	Sweden
Greif Mimaysan Ambalaj Sanayi AS	Turkey
Greif Flexibles UK Ltd.	United Kingdom
Greif UK Ltd.	United Kingdom

EXHIBIT 23

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement Nos. 333-236627, 333-236628, 333-61068, 333-123133, and 333-151475 on Form S-8 of our reports dated December 17, 2020, relating to the consolidated financial statements of Greif, Inc. and subsidiary companies, and the effectiveness of Greif, Inc. and subsidiary companies' internal control over financial reporting, appearing in the Annual Report on Form 10-K of Greif, Inc. and subsidiary companies for the year ended October 31, 2020.

/s/ Deloitte & Touche LLP

Columbus, Ohio
December 17, 2020

Exhibit 24.2

GREIF, INC.
POWER OF ATTORNEY
FOR
FORM 10-K ANNUAL REPORTS

The undersigned, a director of Greif, Inc., a Delaware corporation (the "Company"), hereby constitutes and appoints Peter G. Watson as my true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for me and in my name, place, and stead, in my capacity as director of the Company, to execute any and all of the Company's Annual Reports on Form 10-K, and any amendments thereto, to be filed with the Securities and Exchange Commission pursuant to Section 13 or 15(d) of the Securities and Exchange Act of 1934, and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intent and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

The undersigned has executed and delivered this Power of Attorney on the date set forth below:

Dated: 11/20/2020

/s/ ROBERT M. PATTERSON
Robert M. Patterson, Director

EXHIBIT 31.1

CERTIFICATION

I, Peter G. Watson, certify that:

1. I have reviewed this Annual Report on Form 10-K of Greif, Inc.;

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

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

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

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

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

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

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

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

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

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

Date: December 17, 2020

/s/ Peter G. Watson

Peter G. Watson
President and Chief Executive Officer
(principal executive officer)

EXHIBIT 31.2

CERTIFICATION

I, Lawrence A. Hilsheimer, certify that:

1. I have reviewed this Annual Report on Form 10-K of Greif, Inc.;

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

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

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

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

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

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

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

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

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

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

Date: December 17, 2020

/s/ Lawrence A. Hilsheimer

Lawrence A. Hilsheimer
Executive Vice President and Chief Financial Officer
(principal financial officer)

EXHIBIT 32.1

Certification Required by Rule 13a-14(b) of the Securities Exchange Act of
1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code

In connection with the Annual Report of Greif, Inc. (the "Company") on Form 10-K for the annual period ended October 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Peter G. Watson, the President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

Date:	December 17, 2020	/s/ Peter G. Watson
		Peter G. Watson President and Chief Executive Officer

A signed original of this written statement required by Section 906 has been provided to Greif, Inc. and will be retained by Greif, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBIT 32.2

Certification Required by Rule 13a-14(b) of the Securities Exchange Act of
1934 and Section 1350 of Chapter 63 of Title 18 of the United States Code

In connection with the Annual Report of Greif, Inc. (the "Company") on Form 10-K for the annual period ended October 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Lawrence A. Hilsheimer, Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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

Date:	December 17, 2020	/s/ Lawrence A. Hilsheimer
		Lawrence A. Hilsheimer Executive Vice President and Chief Financial Officer

A signed original of this written statement required by Section 906 has been provided to Greif, Inc. and will be retained by Greif, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

COMPANY INFORMATION

BOARD OF DIRECTORS

VICKI L. AVRIL-GROVES
Former Chief Executive Officer and President of IPSCO Tubulars, Inc.

BRUCE A. EDWARDS
Former Global Chief Executive Officer DHL Supply Chain

MARK A. EMKES
Former Commissioner of Finance and Administration State of Tennessee

JOHN F. FINN
Chairman and Chief Executive Officer Gardner, Inc.

MICHAEL J. GASSER
Chairman of the Board, Former Chief Executive Officer Greif, Inc.

DANIEL J. GUNSETT
Former Partner Baker Hostetler LLP

JUDITH D. HOOK
Investor

JOHN W. MCNAMARA
Former President and Owner Corporate Visions Limited, LLC

ROBERT M. PATTERSON
Chairman, President and Chief Executive Officer, Avient Corporation

PETER G. WATSON
President and Chief Executive Officer Greif, Inc.

EXECUTIVE OFFICERS

PETER G. WATSON
President and Chief Executive Officer

LAWRENCE A. HILSHEIMER
Executive Vice President and Chief Financial Officer

GARY R. MARTZ
Executive Vice President, General Counsel and Secretary

MICHAEL CRONIN
Senior Vice President, Enterprise Strategy and Global Sourcing and Supply Chain

OLE G. ROSGAARD
Senior Vice President and Group President, Global Industrial Packaging

BALA V. SATHYANARAYANAN
Senior Vice President, Chief Human Resources Officer

TIMOTHY L. BERGWALL
Senior Vice President and Group President, Paper Packaging & Services and Soterra LLC

HARI K. KUMAR
Vice President and Division President, Flexible Products & Services and Global Industrial Packaging (APAC)

DOUG W. LINGREL
Vice President and Chief Administrative Officer

DAVID C. LLOYD
Vice President, Controller and Treasurer

SHAREHOLDER INFORMATION

CORPORATE HEADQUARTERS
Greif, Inc.
425 Winter Road
Delaware, Ohio 43015
(740) 549-6000
www.greif.com

STOCK EXCHANGE LISTING
The Company's Class A and Class B Common Stock are traded on the New York Stock Exchange, where the symbols are GEF and GEF.B, respectively.

STOCK TRANSFER AGENT
Computershare Investor Services, LLC
Shareholder Services
PO Box 505000
Louisville, KY 40233-5000
United States

INDEPENDENT ACCOUNTANTS
Deloitte & Touche LLP
Columbus, Ohio

Forward-Looking Statements: This Annual Report contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Please see "Important Information Regarding Forward-Looking Statements" preceding Part I of the company's Annual Report on Form 10-K for the fiscal year ended October 31, 2020, which is included in this document.

GREIF®

PACKAGING SUCCESS **TOGETHER**™