Connect. Grow. Thrive.

2022 CHS
Annual Report

CHS®

Our purpose and values

Creating connections to empower agriculture

Integrity

We set high standards
and hold ourselves accountable.

Safety

We put the well-being of our people, customers and communities first every day.

Inclusion

We believe excellence and growth stem from diverse thinking.

Cooperative spirit

We work together for shared success and to strengthen our communities.

Growing and thriving together

The combined strength of the cooperative system, fueled by strategic collaboration and collective insights, has never been more evident than in fiscal 2022. Our extraordinary results were made possible by the commitment of our owners to working together as a cooperative, finding new ways to grow and thrive.

Strategic planning, cooperative strength and commitment to our owners combined to deliver a 203% increase in net income over fiscal 2021 and a 24% increase in revenues over fiscal 2021, our strongest performance to date.

We faced strong headwinds in many areas — continued pandemic recovery, product supply challenges, inflation, adverse weather conditions — but found opportunities within that environment, while protecting the interests of our owners and customers.

Our investment in domestic nitrogen fertilizer production through CF Nitrogen and strong connections with global fertilizer manufacturers helped ensure our owners had the crop nutrients they needed for the 2022 crop. Worldwide shortages of many herbicide active ingredients required growers and their agronomists to find creative approaches to crop protection demands. Despite those challenges, local expertise and service provided by member cooperatives, coupled with CHS supply chain strength, delivered necessary solutions.

We identified and pursued new global grain marketing opportunities to add value to the grain and oilseeds produced by cooperative system growers amid disruptions caused by the war in Ukraine. Our ongoing soy processing expansion helped meet unprecedented demand for soy oil for food, renewable fuels and manufacturing.

CHS refineries exceeded expectations for volume and efficiency with an emphasis on producing diesel fuel vital for agricultural operations and fleets across rural America. Our lubricants and propane businesses navigated major shifts in component supply and global demand to deliver the products and exceptional service our owners and customers expect.

From left, Schurr, Debertin

One key benefit of cooperative ownership is the ability to share in the profits. Fiscal 2022 results allowed the CHS Board of Directors to announce intentions to return a record $1 billion in cash returns to owners in fiscal 2023 — an estimated $500 million in cash patronage and $500 million in equity redemptions to member cooperatives and individual owners.

Our priorities in fiscal 2023 are aimed at driving growth to help our owners thrive:

- We will propel sustainable growth, building the CHS of tomorrow by investing to serve evolving needs of our owners and customers and acting on our enduring commitment to environmental and community stewardship.
- We will advance as one CHS, becoming a stronger company by transforming how we work and the technology that enables us.
- We will empower the people of CHS through inclusive teams and continued opportunities for professional growth.

Thank you for your business and commitment to the cooperative system. We are optimistic about the future and our shared success as we continue creating connections to empower agriculture.

Daniel W Schurr

Dan Schurr
Chair, Board of Directors

Jay D. Debertin

Jay Debertin
President and Chief Executive Officer

30% more soybeans processed at Fairmont, Minn., to help meet soy oil demand

Year in Review

Expanding market access for CHS owners was the focus of the **global grain marketing** team, finding and meeting new customer demand in Egypt, Pakistan, Mexico, China, Iberica and other regions to add value for CHS owners and solidify their competitive position in global markets. To help ensure supply for corn and soybean customers year-round, CHS added a transshipment asset in Marialva, Brazil, establishing another integral link in the company's global supply chain.

Continued emphasis on building efficiency and strong collaboration throughout the cooperative system delivered another year of strong performance from the **TEMCO** global grain marketing joint venture. Providing access to market opportunities in Japan, Taiwan, South Korea, Southeast Asia, China and other destinations supported cooperative farmer-owners and grew CHS grain market share in the Pacific Northwest corridor. Returns were affected by historically high freight rates throughout the year.

Adding strength and capacity to its grain supply chain, CHS brought a **state-of-the-art grain-handling** facility at Drayton, N.D., online in mid-2022. The updated and expanded facility can hold an additional 1 million bushels and receive 80,000 bushels per hour. Construction began on 1.25 million bushels of added storage space at Erskine, Minn., which is expected to be operational in early spring 2024. Both facilities are key locations in the flow of grain from the Midwest to export terminals in the Pacific Northwest.

Unprecedented global demand for soy oil for food, renewable fuels and manufacturing applications kept CHS **soy processing facilities** operating at full capacity for the bulk of the fiscal year. The recently expanded Fairmont, Minn., soybean crushing facility is now able to process 30% more soybeans into soy oil and soybean meal for livestock feed. The Mankato, Minn., soy oil refining facility is undergoing a $72 million expansion project to increase output by 35% due for completion in 2023, which will help CHS meet the growing demand for soy products and provide additional market options for the region's soybean growers.

Renovation and expansion continue at the CHS **grain export terminal** at Myrtle Grove, La., which loads ships bound for customers in the Asia Pacific and Latin America regions. Added storage and handling capabilities will allow the terminal to handle 30% more grain annually with greater flexibility for moving multiple commodities and byproducts at once to meet customer needs.

Enterprise asset management (EAM) efforts delivered benefits in late fiscal 2022 as the CHS Superior terminal became the first CHS grain-handling facility to house all maintenance, reliability and inventory management data on a **single technology platform** enabled by SAP. Coordinated, reliable data enabled more proactive facility management, reduced maintenance labor and costs, and improved safety and overall efficiency. The proven approach will continue to be rolled out across CHS facilities.

CHS Hedging further expanded its fertilizer risk management program in fiscal 2022. There was significantly greater activity in futures trading and hedging related to fertilizer supply as clients sought to better manage price and supply risk. The business also continued to make significant technology investments and upgrades during the year to improve overall customer experience.

The CHS **refined fuels** business exceeded targets for premium diesel fuel sales volumes and revenues. Ag, fleet and construction customers maintained demand for Cenex® brand premium diesel fuels and helped the business reach near prepandemic volumes by the close of fiscal 2022.

As a versatile energy supplier, CHS advocated for continued support of liquid fuels to power the needs of customers and cooperative owners. The company also addressed the challenges in E15 regulations to help ensure ethanol-blended fuels are available to retailers and customers. Leveraging expertise from across the enterprise, a **liquid fuels advocacy group** was formed in 2022 to help ensure policymakers and regulators have accurate information related to production and use of liquid fuels and the infrastructure needs of CHS owners and rural America.

By the close of the fiscal year, more than 300 **Cenex® retail locations** had updated exterior branding and lighting through the Halo program as part of the Cenex LIFT initiative, which supports retailers through an improved customer experience. More than 700 stores have been surveyed to date and all Cenex locations will be updated during the four-year program. The LIFT initiative continued to add value for retailers, with 39 new-to-the-brand Cenex sites opening in fiscal 2022, adding nearly 26 million gallons in gasoline sales. Partnering with **CHS Capital** to offer in-store upgrade financing has helped more than 70 retailers embark on new store construction or existing store upgrades to address customer demand and take advantage of new revenue opportunities. These programs and Cenex brand recognition have boosted store conversions from other retail brands to the Cenex brand by more than 30% over target. Continued growth of the CHS-owned Cenex Zip Trip® convenience store chain in northern-tier states also demonstrated the value of the brand and strength of the CHS energy supply and distribution system.

Despite significant supply chain disruptions for nearly every critical input, the **lubricants** business had year-over-year sales volume increases over the previous year, delivering a 39% return on assets. The company's three lubricants blending plants completed the fourth consecutive year with no lost-time injuries.

Continuous improvement in supply chain efficiency yielded significant cost savings in the CHS **propane** business, which helped counter reduced demand due to a warmer than normal winter and limited need for grain-drying in fall 2021. The company was well positioned to take advantage of butane blending opportunities that arose from increasing gasoline demand and higher gas prices as pandemic restrictions waned. The **energy equipment** team recorded the third consecutive year of record-setting revenues in fiscal 2022, with nearly 50% growth over the previous year.

As most U.S. refiners recovered from pandemic supply challenges in early fiscal 2022, **CHS refineries** at McPherson, Kan., and Laurel, Mont., maintained exceptional run rates and closed the year with record production volumes to meet owner and customer demand for diesel fuels. Supply chain strength was bolstered with additional diesel fuel storage in Grand Forks, N.D., which improves our ability to supply fuel customers during high-demand seasons. The benefits of previously completed Cenex Pipeline upgrades were realized in fiscal 2022 as we took full advantage of Laurel refinery production volumes to move energy products safely and reliably to terminals across Montana and North Dakota.

More than 300 Cenex® retail locations with exterior updates and 39 locations added

Nearly 40% growth in sales of crop protection solutions

Emphasizing superior service, efficiency and safety helped the **transportation and logistics** business support product line growth while navigating supply chain disruptions and capacity shortages. The automated fuel delivery (AFD) program continued to expand, achieving 3% growth — an additional 5 million gallons of Cenex® brand fuels — and improved on-time delivery despite those challenges. The fleet maintained its safety ranking in the top 5% of U.S. transportation organizations, while also recording an impressive safety record among its maintenance employees.

In a second year marked by supply chain challenges and difficult growing conditions in many regions, the CHS **crop protection** business delivered remarkable results, growing sales by nearly 40% over the previous year and significantly increasing its business in certain markets. Strong relationships with customers and suppliers, a growing list of proprietary adjuvants and deep agronomic expertise with local support helped retailers and growers secure the products they needed to meet their crop production needs.

Despite market volatility and historically high product values, a multipronged trading and supply strategy helped produce record revenues for the CHS **crop nutrients** business. The company's investment in CF Nitrogen offered a steady supply of nitrogen fertilizer from production facilities in the U.S. and Canada, which complemented global supply flowing through the CHS deep-water port in Galveston, Texas. This balanced approach delivered significant value to owners while ensuring reliable nutrient availability in a year marked by supply chain disruptions.

Enhanced efficiency fertilizers from CHS, including the N-Edge® portfolio, helped growers gain more return on their crop nutrient investment while supporting environmental stewardship and overall sustainability goals. The newest addition, N-Edge® Pro, which provides both above- and below-ground nitrogen protection, led product family growth of more than 130% year-over-year.

The collaboration between CHS refining operations in McPherson, Kan., and CHS agronomy supply teams continued providing added-value **ammonium thiosulfate (ATS) fertilizer** to feed crops in targeted U.S. growing regions as ATS tonnage increased by 26% over fiscal 2021. Eliminating third-party marketing agreements has improved margins, streamlined distribution and made most effective use of this refinery byproduct.

Building strength to support farmer-owners today and for future generations, the CHS **country operations retail platform** invested in technology and assets that enhance collaboration across CHS, build efficiency and deliver greater value. One example is the new grain shuttle elevator in Herman, Minn., fully operational in fiscal 2022, that provides state-of-the-art grain handling to meet emerging market opportunities, as well as automated features that promise to improve service and safety, while addressing labor constraints. Process and equipment improvements throughout the CHS system will replicate learnings from Herman and other recent projects to more fully enable the CHS integrated supply chain.

Strong volume for **Allegiant**® corn and soybean seed demonstrated customer satisfaction in the genetics packages selected to address CHS farmer-owner crop production needs and the local expertise provided by CHS agronomy experts.

The **Agellum**® full-farm planning and management solution empowered agronomic and economic decisions through data-driven planning, analysis and collaboration. Adoption increased by 35% and acres undergoing precision ag treatment through field-mapping increased by 22% over the previous year. Additional field support for Agellum users helped enhance customer satisfaction and encourage adoption.

Recording consistent year-over-year volume and earnings increases, **CHS animal nutrition** continued to meet the needs of production ag, lifestyle and commercial customers feeding beef, dairy, horses, swine, sheep, poultry and other livestock through its Payback® and Equis® brands. While weather patterns improved in the core business area of North Dakota, South Dakota and Montana, lingering effects of the previous year's drought affected livestock numbers in those areas. The business is focused on expanding nutrition products, programs and processes to serve the evolving needs of customers and consumers.

The **CHS Capital** portfolio of financing programs continued to provide vital financing options in concert with other businesses across the enterprise. Significant growth continued for the Autumn Rewards program offered through CHS country operations retail locations and the Accolade Producer financing program offered to agronomy customers.

Ventura Foods, LLC, a joint venture between CHS and Mitsui & Co., Ltd., serves foodservice and retail customers in more than 60 countries as a leader in oils, dressings, sauces, mayonnaises and margarines. In fiscal 2022, Ventura Foods launched its new website, venturafoods.com, to better connect with customers, providing key information about the company and its products and services.

Ardent Mills, LLC, a CHS joint venture with Cargill Incorporated and Conagra Brands, pursued its growth strategy through both traditional flour and alternative grain portfolios, acquiring a gluten-free milling and blending facility in Harvey, N.D.; launching the Emerging Nutrition alternative grain center of expertise; and opening a state-of-the-art Port Redwing mill in Gibsonton, Fla. Ardent Mills also continued to invest in corporate social responsibility efforts and delivered strong results with its regenerative agriculture program, exceeding goals for the year. CHS remains the largest wheat supplier to Ardent Mills, providing more than 43 million bushels in fiscal 2022.

The **compliance and integrity** team empowered CHS employees by providing the right training to the right people in the right way. A blend of training and communications approaches — from computer-based training and additional tools and job aides through the CHS Integrity Champions program to scenario-based videos — built employee knowledge, described risk mitigation options and developed ethical leadership skills. These ongoing efforts strengthen the CHS culture of integrity and help employees conduct business appropriately and with confidence.

A rapid transition to cloud-based computing is enhancing CHS **sustainability** and creating a more agile technology platform. Moving the core enterprise resource planning system and more than 25% of remaining data center systems to cloud providers reduced application hosting costs by 31% and reduced the company's IT carbon footprint by more than 72% through efficiency gains and greater use of renewable energy sources.

The **MyCHS online mobile self-service app** saved time and costs for farmer-owners by streamlining the effort needed to handle tracking contracts and orders, process inputs payments and interact with local cooperative experts. Funds processed through the MyCHS Pay Online function more than tripled over the previous year and the number of MyCHS registered users reached 20,000 in 2022, a year-over-year increase of 63%.

72% smaller IT carbon footprint due to cloud-based computing

75 years of community support through the CHS Foundation

Demonstrating commitment to **innovation and sustainability**, in early fiscal 2022, CHS and Growmark announced Cooperative Ventures, a new $50 million venture capital fund intended to drive innovation that benefits farmers and ag cooperatives. The fund is focused on crop production, supply chain performance, farm business enablement and sustainability. CHS sustainability initiatives continued to evolve in 2022 with significant work underway to understand stakeholder priorities related to sustainability.

CHS continued to advance **cybersecurity and data protection** programs against the increasing risk of cyberattacks and ransomware. Risk management resiliency took shape across CHS through employee awareness and training, enhanced technical capabilities, and updated policies and procedures.

CHS continued to build a **safety** culture based on personal responsibility and systems that improve environmental health and safety performance, including near-miss and good-catch programs to help identify risks and corrective actions. Enterprisewide injury rates in fiscal 2022 were 17% lower than our three-year average. The CHS commercial fleet maintained its crash rate performance in the top 4% of carriers in the industry. COVID-19 protocols and preparation for a proposed OSHA standard required significant resources in the first half of fiscal 2022.

The CHS **government affairs** team advocated for agriculture and cooperatives with federal, state and local policymakers in critical areas including the Farm Bill, international trade impacts of the Russian invasion of Ukraine, infrastructure, transportation, climate change and carbon certification. The group led a team of CHS leaders in educating government and nongovernment stakeholders on the need for state and federal policies on climate change, low-carbon fuel standards and other carbon-reduction plans to support availability of liquid fuels to power rural America. Responding to ongoing loss of representation from rural districts, the team enhanced lobbying and CHSPAC efforts to develop relationships with a broader group of elected officials and thought leaders within the Biden administration.

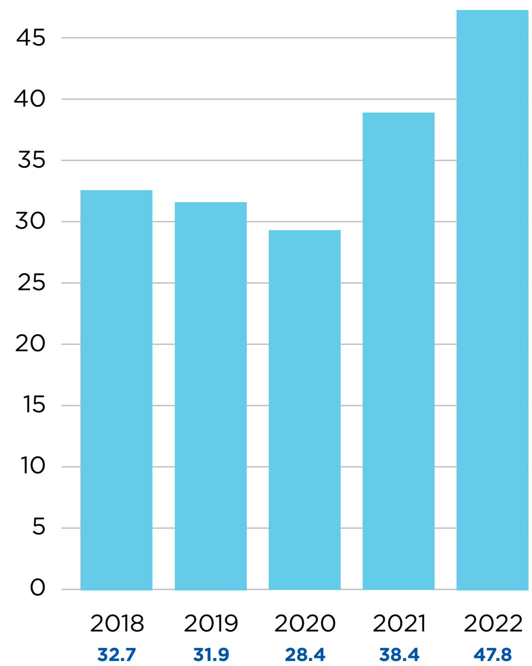
Together, the **CHS Foundation** and **CHS community giving** contributed $6 million in fiscal 2022 to support ag safety, develop future leaders and build strong communities. In 2022, the CHS Foundation celebrated 75 years of giving back to rural America. In that time, the foundation has contributed nearly $84 million to develop ag leaders, including a $1 million gift in fiscal 2022 to the National 4-H Council to support youth engaged in diversity, equity and inclusion programming. Through the CHS Seeds for Stewardship matching grants program, CHS community giving matched member co-op contributions to invest more than $720,000 in local projects in more than 170 communities. During the first-ever CHS Spirit of Service Days, 600 employees volunteered more than 1,200 hours in more than 30 communities.

Nearly 350 current and future leaders from more than 70 member cooperatives enhanced their leadership skills in fiscal 2022 through CHS Cooperative Leadership Academy programs offered by the company's **cooperative resources** team.

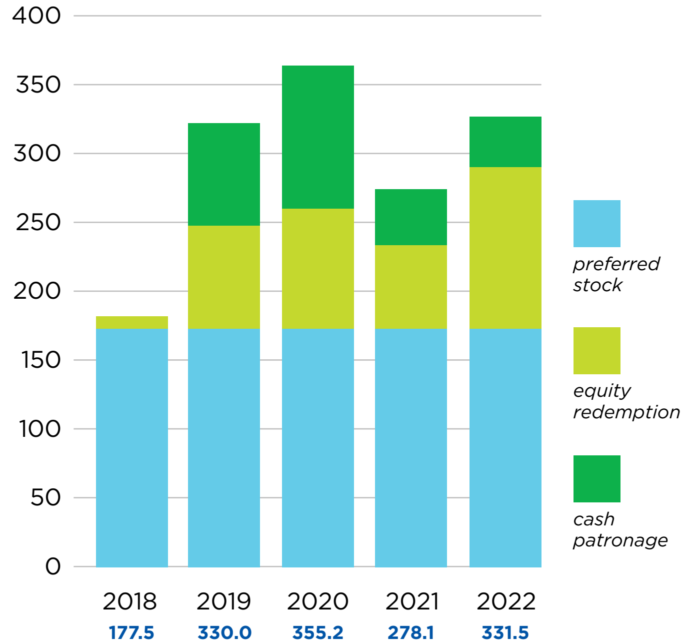
Through opportunities for owners and other stakeholders to engage in programs that provided valuable information, gave them the opportunity to have a voice in the cooperative system and experience the benefits of cooperative ownership, the **CHS brand** gained recognition and awareness while reinforcing the CHS purpose of creating connections to empower agriculture.

Fiscal 2022 Financial Highlights

Revenues ($ in billions)

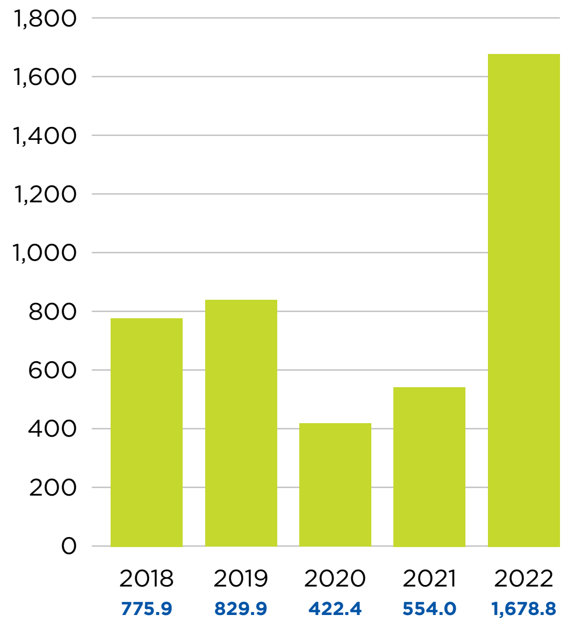


Cash Returns ($ in millions)



Cash patronage is distributed in the fiscal year shown and based on amounts using financial statements earnings from the prior fiscal year.

Net Income ($ in millions)



Net income of $1.7 billion exceeds previous record; CHS intends to return $1 billion in cash to owners in fiscal 2023

Consolidated net income increased significantly in fiscal 2022 compared with fiscal 2021, reflecting higher refining margins and improved Energy segment earnings due to favorable global supply and demand factors as energy product consumption outpaced supply. Strong global demand and increased margins also benefited our global grain and processing and wholesale agronomy businesses, which are primary components of our Ag segment. Our equity method investment in CF Nitrogen performed well in response to excellent global demand for urea and urea ammonium nitrate (UAN) amid decreased global supply.

CHS reported net income of $1.7 billion for fiscal 2022 (Sept. 1, 2021, through Aug. 31, 2022) compared with $554.0 million in net income reported in fiscal 2021 (Sept. 1, 2020, through Aug. 31, 2021). Consolidated revenues reached $47.8 billion in fiscal 2022, compared with $38.4 billion in fiscal 2021. The company reported income before income taxes of $1.8 billion for fiscal 2022, compared with $515.3 million in pretax income in fiscal 2021.

Energy

Energy segment income before income taxes for fiscal 2022 was $616.6 million, a $627.1 million increase over fiscal 2021. Increased refining margins and refinery production volumes, plus discounts on the heavy Canadian crude oil our refineries process, contributed to significant increased income from our refined fuels business. Historically high renewable energy credit costs, increased natural gas costs and lower propane margins partially offset improved earnings in our refined fuels business.

Ag

The Ag segment includes global grain & processing, country operations and wholesale agronomy businesses. The segment recorded income before income taxes in fiscal 2022 of $657.6 million, a $359.5 million increase over fiscal 2021. The results reflected increased margins across all product categories, led by grain and oilseed, wholesale agronomy and oilseed processing, due to strong global market demand and global supply disruptions. Supply chain constraints and less favorable weather conditions during planting and crop protection and spring crop nutrient application seasons reduced volumes for some crop inputs, which were offset by strong margins across our Ag segment product categories.

Nitrogen Production

The Nitrogen Production segment, which consists of our investment in CF Nitrogen, reported income before income taxes of $478.0 million, an increase of $357.0 million from fiscal 2021. The increase reflects market conditions and strong demand for urea and UAN, which are produced and sold by CF Nitrogen. Earnings were partially offset by higher natural gas costs.

The Corporate and Other category recorded income before income taxes of $57.9 million in fiscal 2022, which was a $48.9 million decrease from the previous year. The lower earnings were primarily due to reduced contributions from our investment in Ventura Foods, LLC, which experienced less favorable market conditions for edible oils. The category also includes our investment in the Ardent Mills, LLC, wheat-milling joint venture; CHS Capital, LLC, our wholly-owned financing subsidiary; and CHS Hedging, LLC, our wholly-owned brokerage subsidiary.

Based on fiscal 2022 earnings, CHS intends to return an estimated $500 million in cash patronage and $500 million in equity redemptions to member cooperatives and individual owners in fiscal 2023.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of CHS Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of CHS Inc. and its subsidiaries (the "Company") as of August 31, 2022 and 2021, and the related consolidated statements of operations, comprehensive income, changes in equities and cash flows for each of the three years in the period ended August 31, 2022, including the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of August 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended August 31, 2022 in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 19 to the consolidated financial statements, the Company changed the manner in which it accounts for leases as of September 1, 2019.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these consolidated financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. 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 consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Valuation of Grain Inventories and Grain Forward Commodity Purchase and Sales Contracts

As described in Notes 4, 15, and 16 to the consolidated financial statements, the Company's grain and oilseed inventories were $1,133.5 million as of August 31, 2022, and commodity derivatives in an asset and liability position were $464.2 million and $378.3 million, respectively, as of August 31, 2022, of which grain inventories and grain forward commodity purchase and sales contracts make up the majority. Management enters into various derivative instruments to manage the Company's exposure to movements primarily associated with agricultural and energy commodity prices. The net realizable value of grain inventories and fair value of grain forward commodity purchase and sales contracts are determined using inputs that are generally based on exchange traded prices and/or recent market bids and offers, including location-specific adjustments. Location-specific inputs are driven by local market supply and demand and are generally based on broker or dealer quotations or market transactions in either listed or over-the-counter markets.

The principal considerations for our determination that performing procedures relating to the valuation of grain inventories and grain forward commodity purchase and sales contracts is a critical audit matter are (i) the significant judgment by management to determine the net realizable value of grain inventories and the fair value of grain forward commodity purchase and sales contracts and (ii) a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating management's inputs related to exchange traded prices and/or recent market bids and offers, including location-specific adjustments.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included, among others, (i) testing management's process for determining the net realizable value of grain inventories and the fair value of grain forward commodity purchase and sales contracts; (ii) evaluating the appropriateness of the valuation models; (iii) testing the accuracy of the underlying data used in the valuations; and (iv) evaluating the reasonableness of inputs used by management related to the exchange traded prices and/or recent market bids and offers, including location-specific adjustments. Evaluating management's inputs related to the exchange traded prices and/or recent market bids and offers, including location-specific adjustments involved (i) comparing the exchange traded prices and/or recent market bids and location-specific inputs to third-party information; and (ii) comparing the location-specific adjustments to broker or dealer quotations or market transactions in either listed or over-the-counter markets.

PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Minneapolis, Minnesota
November 2, 2022

We have served as the Company's auditor since 1998.

CONSOLIDATED BALANCE SHEETS

AUGUST 31, (DOLLARS IN THOUSANDS)	2022	2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 793,957	$ 413,159
Receivables	3,548,315	2,860,884
Inventories	3,652,871	3,334,675
Other current assets	1,382,704	1,390,233
Total current assets	9,377,847	7,998,951
Investments	3,728,006	3,669,111
Property, plant and equipment	4,744,959	4,810,005
Other assets	973,995	1,098,208
Total assets	$ 18,824,807	$ 17,576,275
LIABILITIES AND EQUITIES		
Current liabilities:		
Notes payable	$ 606,719	$ 1,740,859
Current portion of long-term debt	290,605	38,450
Accounts payable	3,063,310	2,616,052
Accrued expenses	784,317	622,723
Other current liabilities	2,207,018	1,307,929
Total current liabilities	6,951,969	6,326,013
Long-term debt	1,668,209	1,579,911
Other liabilities	743,363	653,025
Commitments and contingencies (Note 17)		
Equities:		
Preferred stock	2,264,038	2,264,038
Equity certificates	5,391,236	5,247,238
Accumulated other comprehensive loss	(255,335)	(216,391)
Capital reserves	2,055,682	1,713,976
Total CHS Inc. equities	9,455,621	9,008,861
Noncontrolling interests	5,645	8,465
Total equities	9,461,266	9,017,326
Total liabilities and equities	$ 18,824,807	$ 17,576,275

The accompanying notes are an integral part of the consolidated financial statements.
CHS Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF OPERATIONS

YEARS ENDED AUGUST 31, (DOLLARS IN THOUSANDS)	2022	2021	2020
Revenues	$ 47,791,666	$ 38,448,033	$ 28,406,365
Cost of goods sold	45,664,745	37,496,634	27,424,558
Gross profit	2,126,921	951,399	981,807
Marketing, general and administrative expenses	997,835	745,602	704,542
Operating earnings	1,129,086	205,797	277,265
Interest expense	114,156	104,565	116,977
Other income	(23,760)	(59,559)	(39,875)
Equity income from investments	(771,327)	(354,529)	(186,715)
Income before income taxes	1,810,017	515,320	386,878
Income tax expense (benefit)	132,116	(38,249)	(36,731)
Net income	1,677,901	553,569	423,609
Net (loss) income attributable to noncontrolling interests	(861)	(383)	1,170
Net income attributable to CHS Inc.	$ 1,678,762	$ 553,952	$ 422,439

The accompanying notes are an integral part of the consolidated financial statements.
CHS Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

YEARS ENDED AUGUST 31, (DOLLARS IN THOUSANDS)	2022	2021	2020
Net income	$ 1,677,901	$ 553,569	$ 423,609
Other comprehensive (loss) income, net of tax:			
Pension and other postretirement benefits	(27,255)	18,295	12,798
Cash flow hedges	4,019	(6,062)	(4,411)
Foreign currency translation adjustment	(15,708)	5,300	(15,378)
Other comprehensive (loss) income, net of tax	(38,944)	17,533	(6,991)
Comprehensive income	1,638,957	571,102	416,618
Comprehensive (loss) income attributable to noncontrolling interests	(861)	(383)	1,170
Comprehensive income attributable to CHS Inc.	$ 1,639,818	$ 571,485	$ 415,448

The accompanying notes are an integral part of the consolidated financial statements.
CHS Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITIES

(DOLLARS IN THOUSANDS)	YEARS ENDED AUGUST 31, 2022, 2021 AND 2020 EQUITY CERTIFICATES CAPITAL EQUITY CERTIFICATES	NONPATRONAGE EQUITY CERTIFICATES	NONQUALIFIED EQUITY CERTIFICATES
BALANCES, AUGUST 31, 2019	$ 3,753,493	$ 29,074	$ 1,206,310
Reversal of prior year patronage and redemption estimates	80,000	—	(462,398)
Distribution of 2019 patronage refunds	—	—	474,407
Redemptions of equities	(80,133)	(340)	(15,965)
Preferred stock dividends	—	—	—
ASC Topic 842 cumulative-effect adjustment	—	—	—
Other, net	(1,173)	(7)	(628)
Net income	—	—	—
Other comprehensive loss, net of tax	—	—	—
Estimated 2020 patronage refunds	—	—	211,970
Estimated 2020 equity redemptions	(28,000)	—	(5,000)
BALANCES, AUGUST 31, 2020	3,724,187	28,727	1,408,696
Reversal of prior year patronage and redemption estimates	28,000	—	(206,970)
Distribution of 2020 patronage refunds	—	—	214,733
Redemptions of equities	(67,403)	(290)	(11,688)
Preferred stock dividends	—	—	—
Other, net	(873)	(6)	(165)
Net income (loss)	—	—	—
Other comprehensive income, net of tax .	—	—	—
Estimated 2021 patronage refunds	—	—	230,290
Estimated 2021 equity redemptions	(100,000)	—	—
BALANCES, AUGUST 31, 2021	3,583,911	28,431	1,634,896
Reversal of prior year patronage and redemption estimates	100,000	—	(230,290)
Distribution of 2021 patronage refunds	—	—	235,576
Redemptions of equities	(101,420)	(501)	(9,897)
Preferred stock dividends	—	—	—
Other, net	(4,163)	3	(7,971)
Net income (loss)	—	—	—
Other comprehensive loss, net of tax	—	—	—
Estimated 2022 patronage refunds	508,803	—	153,858
Estimated 2022 equity redemptions	(500,000)	—	—
BALANCES, AUGUST 31, 2022	$ 3,587,131	$ 27,933	$ 1,776,172

The accompanying notes are an integral part of the consolidated financial statements.
CHS Inc. and Subsidiaries

YEARS ENDED AUGUST 31, 2022, 2021 AND 2020

PREFERRED STOCK	ACCUMULATED OTHER COMPREHENSIVE LOSS	CAPITAL RESERVES	NONCONTROLLING INTERESTS	TOTAL EQUITIES
$ 2,264,038	$ (226,933)	$ 1,584,158	$ 7,390	$ 8,617,530
—	—	562,398	—	180,000
—	—	(564,522)	—	(90,115)
—	—	—	—	(96,438)
—	—	(168,668)	—	(168,668)
—	—	25,320	—	25,320
—	—	(1,008)	742	(2,074)
—	—	422,439	1,170	423,609
—	(6,991)	—	—	(6,991)
—	—	(241,970)	—	(30,000)
—	—	—	—	(33,000)
2,264,038	(233,924)	1,618,147	9,302	8,819,173
—	—	241,970	—	63,000
—	—	(244,775)	—	(30,042)
—	—	—	—	(79,381)
—	—	(168,668)	—	(168,668)
—	—	(6,360)	(454)	(7,858)
—	—	553,952	(383)	553,569
—	17,533	—	—	17,533
—	—	(280,290)	—	(50,000)
—	—	—	—	(100,000)
2,264,038	(216,391)	1,713,976	8,465	9,017,326
—	—	280,290	—	150,000
—	—	(286,602)	—	(51,026)
—	—	—	—	(111,818)
—	—	(168,668)	—	(168,668)
—	—	585	(1,959)	(13,505)
—	—	1,678,762	(861)	1,677,901
—	(38,944)	—	—	(38,944)
—	—	(1,162,661)	—	(500,000)
—	—	—	—	(500,000)
$ 2,264,038	$ (255,335)	$ 2,055,682	$ 5,645	$ 9,461,266

CONSOLIDATED STATEMENTS OF CASH FLOWS

YEARS ENDED AUGUST 31, (DOLLARS IN THOUSANDS)	2022	2021	2020
Cash flows from operating activities:			
Net income	$ 1,677,901	$ 553,569	$ 423,609
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Depreciation and amortization, including amortization of deferred major maintenance	536,493	535,498	550,251
Equity (income) loss from investments, net of distributions received	(48,847)	(40,035)	49,130
Provision for current expected credit losses	19,920	6,692	3,418
Gain/recovery on sale of business	(13,083)	(19,034)	(1,450)
LIFO liquidations	—	(35,258)	—
Deferred taxes	39,548	(11,957)	(32,761)
Other, net	(17,833)	(41,218)	(1,642)
Changes in operating assets and liabilities, net of acquisitions:			
Receivables	(547,564)	(568,752)	308,399
Inventories	(317,918)	(549,221)	104,884
Accounts payable and accrued expenses	555,446	1,007,229	(330,949)
Other, net	62,455	(79,702)	14,340
Net cash provided by operating activities	1,946,518	757,811	1,087,229
Cash flows from investing activities:			
Acquisition of property, plant and equipment	(354,444)	(317,794)	(418,359)
Proceeds from disposition of property, plant and equipment	14,318	20,742	32,670
Expenditures for major maintenance	(24,768)	(40,922)	(14,496)
Proceeds from sale of business	73,152	81,366	1,139
Changes in CHS Capital notes receivable, net	(161,340)	132,268	119,591
Financing extended to customers	(83,514)	(1,926)	(6,386)
Payments from customer financing	94,388	6,892	35,791
Other investing activities, net	(14,876)	17,702	6,345
Net cash used in investing activities	(457,084)	(101,672)	(243,705)
Cash flows from financing activities:			
Proceeds from notes payable and long-term debt	20,730,750	31,765,082	24,343,870
Payments on notes payable, long-term debt and finance lease obligations	(21,515,920)	(31,806,918)	(24,948,926)
Preferred stock dividends paid	(168,668)	(168,668)	(168,668)
Redemptions of equities	(111,818)	(79,381)	(96,438)
Cash patronage dividends paid	(51,026)	(30,042)	(90,115)
Other financing activities, net	2,994	(6,658)	29,129
Net cash used in financing activities	(1,113,688)	(326,585)	(931,148)
Effect of exchange rate changes on cash and cash equivalents	(14,756)	(4,063)	4,942
Increase (decrease) in cash and cash equivalents and restricted cash	360,990	325,491	(82,682)
Cash and cash equivalents and restricted cash at beginning of period	542,484	216,993	299,675
Cash and cash equivalents and restricted cash at end of period	$ 903,474	$ 542,484	$ 216,993
Supplemental cash flow information:			
Cash paid for interest	$ 113,726	$ 102,093	$ 119,354
Cash paid (received) for income taxes, net of refunds	19,712	(8,842)	6,840
Other significant noncash investing and financing transactions:			
Capital expenditures and major maintenance incurred but not yet paid	55,214	28,010	14,906
Finance lease obligations incurred	18,875	12,831	11,190
Accrual of patronage dividends and equity redemptions	1,000,000	150,000	63,000

The accompanying notes are an integral part of the consolidated financial statements.
CHS Inc. and Subsidiaries

NOTE 1

Organization, Basis of Presentation and Significant Accounting Policies

Organization

CHS Inc. (referred to herein as "CHS," "we," "us" or "our") is the nation's leading integrated agricultural cooperative. As a cooperative, CHS is owned by farmers and ranchers and member cooperatives ("members") across the United States. We also have preferred shareholders that own shares of our five series of preferred stock, all of which are listed and traded on the Global Select Market of The Nasdaq Stock Market LLC ("The Nasdaq"). See Note 12, *Equities*, for more detailed information.

We buy commodities from and provide products and services to individual agricultural producers, local cooperatives and other companies (including member and other nonmember customers), both domestically and internationally. Those products and services include initial agricultural inputs such as fuels, farm supplies, crop nutrients and crop protection products, as well as agricultural outputs that include grains and oilseeds, processed grains and oilseeds, renewable fuels and food products. A portion of our operations are conducted through equity investments and joint ventures whose operating results are not fully consolidated with our results; rather, a proportionate share of the income or loss from those entities is included as a component in our net income under the equity method of accounting.

Basis of Presentation

The consolidated financial statements include the accounts of CHS and all our subsidiaries and limited liability companies in which we have a controlling interest. The effects of all significant intercompany transactions have been eliminated.

The notes to our consolidated financial statements refer to our Energy, Ag and Nitrogen Production reportable segments, as well as our Corporate and Other category, which represents an aggregation of individually immaterial operating segments. The Nitrogen Production reportable segment consists of our investment in CF Industries Nitrogen, LLC ("CF Nitrogen"), and allocated expenses. See Note 14, *Segment Reporting*, for more information.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. We base our estimates on assumptions that are believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Due to the inherent uncertainty involved in making estimates, actual results could differ from those estimates. We evaluate our estimates and assumptions on an ongoing basis.

Significant Accounting Policies

Significant accounting policies are summarized below or within the related notes to our consolidated financial statements.

Cash and Cash Equivalents and Restricted Cash

Cash equivalents include short-term, highly liquid investments with original maturities of three months or less at the date of acquisition. The carrying value of cash and cash equivalents approximates the fair value due to the short-term nature of the instruments.

Restricted cash is included in our Consolidated Balance Sheets within other current assets and primarily relates to customer deposits for futures and option contracts associated with regulated commodities held in separate accounts as required under federal and other regulations. Pursuant to the requirements of the Commodity Exchange Act, such funds must be carried in separate accounts that are designated as segregated customer accounts, as applicable. Restricted cash also includes funds held in escrow pursuant to applicable regulations limiting their usage.

The following table provides a reconciliation of cash and cash equivalents and restricted cash as reported within our Consolidated Balance Sheets that aggregates to the amount presented in our Consolidated Statements of Cash Flows.

(DOLLARS IN THOUSANDS)	AUGUST 31, 2022	2021	2020
Cash and cash equivalents	$ 793,957	$ 413,159	$ 140,874
Restricted cash included in other current assets	109,517	129,325	76,119
Total cash and cash equivalents and restricted cash	$ 903,474	$ 542,484	$ 216,993

Recent Accounting Pronouncements

No recent accounting pronouncements are expected to have a material impact on our consolidated financial statements.

NOTE 2

Revenues

We provide a wide variety of products and services, from agricultural inputs such as fuels, farm supplies and agronomy products, to agricultural outputs that include grain and oilseed, processed grains and oilseeds and food products, and renewable fuels production and marketing. We primarily conduct our operations and derive revenues within our Energy and Ag segments. Our Energy segment derives its revenues through refining, wholesaling and retailing of petroleum products. Our Ag segment derives its revenues through origination and marketing of grain, including service activities conducted at export terminals; through wholesale agronomy sales of crop nutrient and crop protection products; from sales of soybean meal, soybean refined oil and soyflour products; through production and marketing of renewable fuels; and through retail sales of petroleum and agronomy products, processed sunflowers, and feed and farm supplies. Corporate and Other primarily consists of our financing and hedging businesses.

Revenue is recognized when performance obligations under the terms of a contract with a customer are satisfied, which generally occurs when control of the goods has transferred to the customer in accordance with the underlying contract. For the majority of our contracts with customers, control transfers to customers at a point in time when goods and/or services have been delivered, as that is generally when legal title, physical possession and risks and rewards of ownership of the goods and/or services transfer to the customer. In limited arrangements, control transfers over time as the customer simultaneously receives and consumes the benefits of the service as we complete our performance obligation(s). Revenue is recognized as the transaction price we expect to be entitled to in exchange for transferring goods or services to a customer, excluding amounts collected on behalf of third parties. For physically settled derivative sales contracts that are outside the scope of the revenue guidance, we recognize revenue when control of the inventory is transferred. Revenues arising from our financing business are recognized in accordance with Accounting Standards Codification ("ASC") Topic 470, *Debt* ("ASC Topic 470") and fall outside the scope of ASC Topic 606, *Revenue from Contracts with Customers* ("ASC Topic 606").

Shipping and Handling Costs

Shipping and handling amounts billed to a customer as part of a sales transaction are included in revenues, and the related costs are included in cost of goods sold. Shipping and handling is treated as a fulfillment activity, rather than a promised service, and therefore is not considered a separate performance obligation.

Taxes Collected from Customers and Remitted to Governmental Authorities

Revenues are recorded net of taxes collected from customers that are remitted to governmental authorities, with the collected taxes recorded as current liabilities until remitted to the relevant government authority.

Contract Costs

Commissions related to contracts with a duration of less than one year are expensed as incurred. We recognize incremental costs of obtaining contracts as an expense when incurred if the amortization period of the assets we otherwise would have recognized is one year or less.

Disaggregation of Revenues

The following table presents revenues recognized under ASC Topic 606, disaggregated by reportable segment, as well as the amount of revenues recognized under ASC Topic 815, *Derivatives and Hedging* ("ASC Topic 815"), and other applicable accounting guidance for the years ended August 31, 2022, 2021 and 2020. Other applicable accounting guidance primarily includes revenues recognized under ASC Topic 470 and ASC Topic 842, *Leases* ("ASC Topic 842"), that fall outside the scope of ASC Topic 606.

	YEAR ENDED AUGUST 31, 2022			
REPORTABLE SEGMENT* (DOLLARS IN THOUSANDS)	ASC TOPIC 606	ASC TOPIC 815	OTHER GUIDANCE	TOTAL REVENUES
Energy	$ 9,302,400	$ 992,374	$ —	$ 10,294,774
Ag	10,784,831	26,646,003	29,377	37,460,211
Corporate and Other	16,625	—	20,056	36,681
Total revenues	$ 20,103,856	$ 27,638,377	$ 49,433	$ 47,791,666

	YEAR ENDED AUGUST 31, 2021			
REPORTABLE SEGMENT* (DOLLARS IN THOUSANDS)	ASC TOPIC 606	ASC TOPIC 815	OTHER GUIDANCE	TOTAL REVENUES
Energy	$ 5,680,391	$ 694,870	$ —	$ 6,375,261
Ag	7,491,484	24,517,033	26,825	32,035,342
Corporate and Other	18,325	—	19,105	37,430
Total revenues	$ 13,190,200	$ 25,211,903	$ 45,930	$ 38,448,033

	YEAR ENDED AUGUST 31, 2020			
REPORTABLE SEGMENT* (DOLLARS IN THOUSANDS)	ASC TOPIC 606	ASC TOPIC 815	OTHER GUIDANCE	TOTAL REVENUES
Energy	$ 4,833,003	$ 598,131	$ —	$ 5,431,134
Ag	5,963,198	16,901,258	61,643	22,926,099
Corporate and Other	22,903	—	26,229	49,132
Total revenues	$ 10,819,104	$ 17,499,389	$ 87,872	$ 28,406,365

* Our Nitrogen Production reportable segment represents an equity method investment that records earnings and allocated expenses, but not revenues.

Less than 1% of revenues accounted for under ASC Topic 606 included within the table above are recorded over time and relate primarily to service contracts.

Contract Assets and Contract Liabilities

Contract assets relate to unbilled amounts arising from goods that have already been transferred to the customer where the right to payment is not conditional on the passage of time. This results in recognition of an asset, as the amount of revenue recognized at a certain point in time exceeds the amount billed to customers. Contract assets are recorded in receivables within our Consolidated Balance Sheets and were $17.2 million and $29.0 million as of August 31, 2022 and 2021, respectively.

Contract liabilities relate to advance payments received from customers for goods and services that we have yet to provide. Contract liabilities of $541.5 million and $213.9 million as of August 31, 2022 and 2021, respectively, are recorded within other current liabilities on our Consolidated Balance Sheets. For the years ended August 31, 2022, 2021 and 2020, we recognized revenues of $213.9 million, $139.1 million and $194.8 million related to contract liabilities, respectively. These amounts were included in the other current liabilities balance at the beginning of the respective period.

NOTE 3

Receivables

Receivables as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Trade accounts receivable	$ 2,626,623	$ 2,047,198
CHS Capital short-term notes receivable	644,875	505,778
Other	404,734	451,630
Gross receivables	3,676,232	3,004,606
Less allowances and reserves	127,917	143,722
Total receivables	$ 3,548,315	$ 2,860,884

Trade Accounts Receivable

Trade accounts receivable are recorded at net realizable value, which includes an allowance for expected credit losses in accordance with ASC Topic 326. The allowance for expected credit losses is based on our best estimate of expected credit losses in existing receivable balances and is determined using historical write-off experience, adjusted for various industry and regional data and current expectations of future credit losses. Receivables from related parties are disclosed in Note 18, *Related Party Transactions*. No third-party customer accounted for more than 10% of the total receivables balance as of August 31, 2022 or 2021.

CHS Capital Notes Receivable

Notes Receivable

CHS Capital, LLC ("CHS Capital"), our wholly-owned subsidiary, has short-term notes receivable from commercial and producer borrowers. The short-term notes receivable have maturity terms of 12 months or less and are reported at their outstanding unpaid principal balances, less an allowance for expected credit losses, as CHS Capital has the intent and ability to hold the applicable loans for the foreseeable future or until maturity or payoff. The carrying value of CHS Capital short-term notes receivable approximates fair value given the notes' short-term duration and use of market pricing adjusted for risk.

Notes receivable from commercial borrowers are collateralized by various combinations of mortgages, personal property, accounts and notes receivable, inventories and assignments of certain regional cooperatives' capital stock. These loans are primarily originated in the states of Minnesota and North Dakota. CHS Capital also has loans receivable from producer borrowers that are collateralized by various combinations of growing crops, livestock, inventories, accounts receivable, personal property and supplemental mortgages and are primarily originated in the same states as the commercial notes, as well as South Dakota.

In addition to the short-term balances included in the table above, CHS Capital had long-term notes receivable, with durations of generally not more than 10 years, totaling $54.3 million and $55.4 million as of August 31, 2022 and 2021, respectively. The long-term notes receivable are included in other assets on our

Consolidated Balance Sheets. As of August 31, 2022 and 2021, commercial notes represented 25% and 28%, respectively, and producer notes represented 75% and 72%, respectively, of total CHS Capital notes receivable.

CHS Capital has commitments to extend credit to customers if there are no violations of any contractually established conditions. As of August 31, 2022, CHS Capital customers had additional available credit of $770.0 million.

Allowance for Loan Losses

CHS Capital maintains an allowance for loan losses that is an estimate of current expected losses inherent in the loans receivable portfolio. In accordance with ASC Topic 326, the allowance for loan losses is based on our current expectation for future losses, which takes into consideration historical loss experience, third-party industry forecasts, as well as other quantitative and qualitative factors addressing operational risks and industry trends. Additions to the allowance for loan losses are reflected within marketing, general and administrative expenses in the Consolidated Statements of Operations. The portion of loans receivable deemed uncollectible is charged off against the allowance for loan losses. Recoveries of previously charged off amounts increase the allowance for loan losses. No significant amounts of CHS Capital notes were past due as of August 31, 2022 or 2021, and the allowance for loan losses related to CHS Capital notes were not material as of either date.

Interest Income

Interest income is recognized on the accrual basis using a method that computes simple interest on a daily basis. Accrual of interest on commercial loans receivable is discontinued at the time the receivable is 90 days past due unless the credit is well-collateralized and in process of collection. Past due status is based on contractual terms of the loan. Producer loans receivable are placed in nonaccrual status based on estimates and analysis due to the annual debt service terms inherent to CHS Capital's producer loans. In all cases, loans are placed in nonaccrual status or charged off at an earlier date if collection of principal or interest is considered doubtful.

Troubled Debt Restructurings

Restructuring of a loan constitutes a troubled debt restructuring, or restructured loan, if the creditor, for economic reasons related to the debtor's financial difficulties, grants a concession to the debtor that it would otherwise not consider. Concessions vary by program and borrower. Concessions may include interest rate reductions, term extensions, payment deferrals or the acceptance of additional collateral in lieu of payments. In limited circumstances, principal may be forgiven. When a restructured loan constitutes a troubled debt restructuring, CHS includes these loans within its impaired loans. CHS Capital had no significant troubled debt restructurings during the years ended August 31, 2022, 2021 and 2020, and no third-party borrowers that accounted for more than 10% of the total CHS Capital notes receivable or total receivables as of August 31, 2022 or 2021.

Loan Participations

For the years ended August 31, 2022 and 2021, CHS Capital sold $64.2 million and $40.8 million of notes receivable, respectively, to various counterparties under a master participation agreement. The sales resulted in the removal of notes receivable from the Consolidated Balance Sheets. CHS Capital has no retained interests in the transferred notes receivable, other than collection and administrative services. Proceeds from sales of notes receivable have been included in investing activities in the Consolidated Statements of Cash Flows. Fees received related to the servicing of notes receivable are recorded in other income in the Consolidated Statements of Operations. We consider the fees received adequate compensation for services rendered and, accordingly, have recorded no servicing asset or liability.

Other Receivables

Other receivables are comprised of certain other amounts recorded in the normal course of business, including receivables related to vendor rebates, value-added taxes, certain financing receivables and pre-crop financing, primarily to Brazilian farmers, to finance a portion of supplier production costs. We receive volume-based rebates from certain vendors during the year. These vendor rebates are accounted for in accordance with ASC 705, *Cost of Sales and Services,* based on the terms of the volume rebate program. For rebates that meet the definition of a binding arrangement and are both probable and estimable, we estimate the amount of the rebate we will receive and accrue it as a reduction of the cost of inventory and cost of goods sold over the period in which the rebate is earned. For pre-crop financing arrangements we do not bear costs or operational risks associated with the related growing crops, although our ability to be paid depends on the crops actually being produced. The financing is collateralized by future crops, land and physical assets of the farmers, carries a local market interest rate and settles when the farmer's crop is harvested and sold. No significant troubled debt restructurings occurred during the years ended August 31, 2022, 2021 and 2020, and no third-party customer or borrower accounted for more than 10% of the total receivables balance as of August 31, 2022 or 2021.

NOTE 4

Inventories

Inventories as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Grain and oilseed	$ 1,133,531	$ 1,435,544
Energy	824,114	762,317
Agronomy	1,295,548	958,548
Processed grain and oilseed	292,992	140,975
Other	106,686	37,291
Total inventories	$ 3,652,871	$ 3,334,675

Grain, processed grain, oilseed, processed oilseed and other minimally processed soy-based inventories are accounted for in accordance with ASC Topic 330, *Inventory*, and are stated at net realizable value. These inventories are agricultural commodity inventories that are readily convertible to cash because of their commodity characteristics, widely available markets and international pricing mechanisms. The net realizable value of agricultural commodity inventories is determined using inputs that are generally based on exchange traded prices and/or recent market bids and offers, including location-specific adjustments. Location-specific inputs are driven by local market supply and demand and are generally based on broker or dealer quotations or market transactions in either listed or over-the-counter ("OTC") markets. Changes in the net realizable value of agricultural commodity inventories are recognized in earnings as a component of cost of goods sold.

All other inventories are stated at the lower of cost or net realizable value. Costs for inventories produced or modified by us through a manufacturing process include fixed and variable production and raw material costs, and inbound freight costs for raw materials. Costs for inventories purchased for resale include the cost of products and freight incurred to place the products at our points of sale. The costs of certain energy inventories (wholesale refined products, crude oil and asphalt) are determined on the last-in, first-out ("LIFO") method; all other inventories of nongrain products purchased for resale are valued on the first-in, first-out ("FIFO") and average cost methods.

As of August 31, 2022 and 2021, we valued approximately 14% and 13%, respectively, of inventories, primarily crude oil and refined fuels within our Energy segment, using the lower of cost, determined on the LIFO method, or net realizable value. If the FIFO method of accounting had been used, inventories would have been higher than the reported amount by $678.3 million and $359.2 million as of August 31, 2022 and 2021, respectively. There were no liquidations of LIFO inventories during fiscal 2022 or fiscal 2020; however, during fiscal 2021, we recorded LIFO liquidations for certain energy product inventories. The costs of these liquidated inventories in the historical LIFO layers were lower than current costs, which resulted in decreased cost of goods sold of $35.3 million had the inventory liquidations not taken place.

NOTE 5

Other Current Assets

Other current assets as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Derivative assets (Note 15)	$ 535,698	$ 559,056
Margin and related deposits	390,782	336,397
Supplier advance payments	198,753	194,706
Restricted cash (Note 1)	109,517	129,325
Other	147,954	170,749
Total other current assets	$ 1,382,704	$ 1,390,233

Margin and Related Deposits

Many of our derivative contracts with futures and options brokers require us to make margin deposits of cash or other assets. Subsequent margin deposits may also be necessary when changes in commodity prices result in a loss on the contract value to comply with applicable regulations. Our margin and related deposit assets are generally held in separate accounts to support the associated derivative contracts and may be used to fund or partially fund the settlement of those contracts as they expire. Similar to our derivative financial instruments, margin and related deposits are reported on a gross basis.

Supplier Advance Payments

Supplier advance payments are typically for periods less than 12 months and primarily include amounts paid for grain purchases from suppliers and amounts paid to crop nutrient and crop protection product suppliers to lock in future supply, pricing and discounts.

NOTE 6

Investments

Investments as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Equity method investments		
CF Industries Nitrogen, LLC	$ 2,641,604	$ 2,667,164
Ventura Foods, LLC	410,093	388,612
Ardent Mills, LLC	250,857	220,132
TEMCO, LLC	32,809	31,464
Other equity method investments	265,913	232,923
Other investments	126,730	128,816
Total investments	$ 3,728,006	$ 3,669,111

Joint ventures and other investments in which we have significant ownership and influence but not control, are accounted for in our consolidated financial statements using the equity method of accounting. Our significant equity method investments consist of CF Nitrogen, Ventura Foods, LLC ("Ventura Foods"), Ardent Mills, LLC ("Ardent Mills") and TEMCO, LLC ("TEMCO"), which are summarized below. In addition to the recognition of our share of income from our equity method investments, our equity method investments are evaluated for indicators of other-than-temporary impairment on an ongoing basis in accordance with U.S. GAAP. We have approximately $522.4 million of cumulative undistributed earnings from our equity method investees included in the investments balance as of August 31, 2022.

All equity securities that do not result in consolidation and are not accounted for under the equity method are measured at fair value with changes therein reflected in net income. We have elected to utilize the measurement alternative for equity investments that do not have readily determinable fair values and measure these investments at cost less impairment plus or minus observable price changes in orderly transactions. Our share in the income or loss of these equity method investments is recorded within equity income from investments in the Consolidated Statements of Operations. Other investments consist primarily of investments in cooperatives without readily determinable fair values and are generally recorded at cost, unless an impairment or other observable market price change occurs requiring an adjustment. Investments in other cooperatives are recorded in a manner similar to equity investments without readily determinable fair values, plus patronage dividends received in the form of capital stock and other equities. Patronage dividends are recorded as a reduction to cost of goods sold at the time qualified written notices of allocation are received. Investments in debt and equity instruments are carried at amounts that approximate fair values.

CF Nitrogen

We have a $2.6 billion investment in CF Nitrogen, a strategic venture with CF Industries Holdings, Inc. The investment consists of an approximate 8% membership interest (based on product tons) in CF Nitrogen. At the time we entered into the strategic venture, we also entered into a supply agreement that entitles us to purchase up to 1.1 million tons of granular urea and 580,000 tons of urea ammonium nitrate ("UAN") annually from CF Nitrogen for ratable delivery through fiscal 2096. Our purchases under the supply agreement are based on prevailing market prices and we receive semiannual cash distributions (in January and July of each year) from CF Nitrogen via our membership interest. These distributions are based on actual volumes purchased from CF Nitrogen under the strategic venture and will have the effect of reducing our investment to zero over 80 years on a straight-line basis. We account for this investment using the hypothetical liquidation at book value method, recognizing our share of the earnings and losses of CF Nitrogen as equity income from investments in our Nitrogen Production segment based on our contractual claims on the entity's net assets pursuant to the liquidation provisions of CF Nitrogen's Limited Liability Company Agreement, adjusted for the semiannual cash distributions. Cash distributions received from CF Nitrogen for the years ended August 31, 2022, 2021 and 2020, were $618.7 million, $193.9 million and $174.3 million, respectively.

The following tables provide aggregate summarized financial information for CF Nitrogen for balance sheets as of August 31, 2022 and 2021, and statements of operations for the 12 months ended August 31, 2022, 2021 and 2020:

(DOLLARS IN THOUSANDS)	2022	2021
Current assets	$ 1,333,170	$ 850,048
Noncurrent assets	5,787,921	6,248,315
Current liabilities	391,470	301,174
Noncurrent liabilities	1,895	2,454

(DOLLARS IN THOUSANDS)	2022	2021	2020
Net sales	$ 6,609,758	$ 2,975,983	$ 2,522,827
Gross profit	3,318,189	866,880	570,901
Net earnings	3,249,005	809,536	529,462
Earnings attributable to CHS Inc.	593,182	198,439	127,954

Ventura Foods, Ardent Mills and TEMCO

We have a 50% interest in Ventura Foods, a joint venture with Mitsui & Co., that produces and distributes edible-oil-based products, a 12% interest in Ardent Mills, the largest flour miller in the United States as a joint venture with Cargill Incorporated ("Cargill") and Conagra Brands, Inc., and a 50% interest in TEMCO, a joint venture with Cargill focused on export elevation, primarily to Asia. We account for Ventura Foods, Ardent Mills and TEMCO as equity method investments. Our shares of the results of the Ventura Foods and Ardent Mills equity method investments are included in Corporate and Other and our share of the results of TEMCO are included in our Ag segment.

The following tables provide aggregate summarized financial information for our equity method investments in Ventura Foods, Ardent Mills and TEMCO for balance sheets as of August 31, 2022 and 2021, and statements of operations for the 12 months ended August 31, 2022, 2021 and 2020:

(DOLLARS IN THOUSANDS)	2022	2021
Current assets	$ 2,596,440	$ 2,005,077
Noncurrent assets	2,688,846	2,599,619
Current liabilities	1,274,802	1,002,705
Noncurrent liabilities	1,051,040	939,732

(DOLLARS IN THOUSANDS)	2022	2021	2020
Net sales	$ 9,736,072	$ 9,481,862	$ 8,223,247
Gross profit	1,127,209	892,426	636,799
Net earnings	582,408	398,740	148,383
Earnings attributable to CHS Inc.	135,770	121,858	32,594

Our investments in other equity method investees are not significant in relation to our consolidated financial statements, either individually or in the aggregate.

NOTE 7

Property, Plant and Equipment

Major classes of property, plant and equipment, including finance lease assets, are summarized in the table below as of August 31, 2022 and 2021.

(DOLLARS IN THOUSANDS)	2022	2021
Land and land improvements	$ 334,085	$ 324,757
Buildings	1,192,571	1,171,423
Machinery and equipment	7,819,152	7,673,748
Office equipment and other	496,121	378,352
Construction in progress	339,043	337,977
Gross property, plant and equipment	10,180,972	9,886,257
Less accumulated depreciation and amortization	5,436,013	5,076,252
Total property, plant and equipment	$ 4,744,959	$ 4,810,005

Property, plant and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization are provided on the straight-line method by charges to operations at rates based on the expected useful lives of individual or groups of assets (generally 15 to 20 years for land improvements, 20 to 40 years for buildings, five to 20 years for machinery and equipment, and three to 10 years for office equipment and other). Expenditures for maintenance and minor repairs and renewals are expensed. We also capitalize and amortize eligible costs to acquire or develop internal-use software that are incurred during the application development stage. When assets are sold or otherwise disposed of, the cost and related accumulated depreciation and amortization are removed from the related accounts and resulting gains or losses are reflected in operations.

Depreciation expense, including amortization of finance lease assets, for the years ended August 31, 2022, 2021 and 2020, was $458.2 million, $455.9 million and $470.4 million, respectively.

Property, plant and equipment and other long-lived assets are reviewed for impairment when events or changes in circumstances indicate that the carrying amounts may not be recoverable in accordance with U.S. GAAP. This evaluation of recoverability is based on various indicators, including the nature, future economic benefits and geographic locations of the assets, historical or future profitability measures and other external market conditions. If these indicators suggest the carrying amounts of an asset or asset group may not be recoverable, potential impairment is evaluated using undiscounted, estimated future cash flows. Should the sum of the expected future net cash flows be less than the carrying value, an impairment loss would be recognized. An impairment loss would be measured as the amount by which the carrying value of the asset or asset group exceeds its fair value. No significant impairments were identified during fiscal 2022, fiscal 2021 or fiscal 2020.

We have asset retirement obligations with respect to certain of our refineries and other assets due to various legal obligations to clean and/or dispose of the component parts at the time they are retired. In most cases, these assets can be used for extended and indeterminate periods of time if they are properly maintained and/or upgraded. It is our practice and current intent to maintain refineries and related assets and to continue making improvements to those assets based on technological advances. As a result, we believe our refineries and related assets have indeterminate lives for purposes of estimating asset retirement obligations because dates or ranges of dates upon which we would retire a refinery and related assets cannot reasonably be estimated at this time. When a date or range of dates can reasonably be estimated for the retirement of any component part of a refinery or other asset, we estimate the cost of performing the retirement activities and record a liability for the fair value of that future cost.

We have other assets that we may be obligated to dismantle at the end of corresponding lease terms subject to the lessor's discretion for which we have recorded asset retirement obligations. Based on our estimates of timing, cost and probability of removal, these obligations are not material.

NOTE 8

Other Assets

Other assets as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Goodwill	$ 179,976	$ 171,601
Customer lists, trademarks and other intangible assets	53,165	58,395
Notes receivable (Note 3)	46,012	73,713
Long-term derivative assets (Note 15)	8,546	21,567
Prepaid pension and other benefits (Note 13)	74,810	119,825
Capitalized major maintenance	147,521	196,641
Cash value life insurance	128,876	147,682
Operating lease right of use assets (Note 19)	242,859	253,451
Other	92,230	55,333
Total other assets	$ 973,995	$ 1,098,208

Goodwill and Other Intangible Assets

Goodwill represents the excess of cost over the fair value of identifiable assets acquired. Goodwill is assessed for impairment on an annual basis as of July 31, either by first assessing qualitative factors to determine whether a quantitative goodwill impairment test is necessary or by proceeding directly to the quantitative test. The quantitative test may be required more frequently if triggering events or other circumstances occur that could indicate impairment. Goodwill is assessed for impairment at the reporting unit level, which has been determined to be our operating segments or one level below our operating segments in certain instances.

Changes in the carrying amount of goodwill for the years ended August 31, 2022 and 2021, are included in the table below.

(DOLLARS IN THOUSANDS)	ENERGY	AG	CORPORATE AND OTHER	TOTAL
Balances, August 31, 2020	$ 552	$ 161,278	$ 10,574	$ 172,404
Goodwill disposed of during the period	—	(803)	—	(803)
Balances, August 31, 2021	552	160,475	10,574	171,601
Goodwill acquired during the period	8,906	—	—	8,906
Goodwill disposed of during the period	—	(531)	—	(531)
Balances, August 31, 2022	$ 9,458	$ 159,944	$ 10,574	$ 179,976

No goodwill has been allocated to our Nitrogen Production segment, which consists of a single investment accounted for under the equity method of accounting, and allocated expenses.

No goodwill impairments were identified as a result of our annual goodwill analyses performed as of July 31, 2022, 2021 or 2020. Management will continue to monitor the results and projected cash flows for each of our businesses to assess whether any reserves or impairments may be necessary in the future.

Intangible assets subject to amortization primarily include customer lists, trademarks and noncompete agreements, and are amortized over their respective useful lives (ranging from two to 30 years). We have no material intangible assets with indefinite useful lives. All long-lived assets, including other identifiable intangible assets, are also assessed for impairment in accordance with U.S. GAAP and evaluated for impairment whenever triggering events or other circumstances indicate the carrying amount of an asset group or reporting unit may not be recoverable. Information regarding intangible assets is as follows:

	AUGUST 31, 2022			AUGUST 31, 2021		
(DOLLARS IN THOUSANDS)	CARRYING AMOUNT	ACCUMULATED AMORTIZATION	NET	CARRYING AMOUNT	ACCUMULATED AMORTIZATION	NET
Customer lists	$ 84,565	$ (35,280)	$ 49,285	$ 84,565	$ (29,254)	$ 55,311
Trademarks and other intangible assets	11,902	(8,022)	3,880	10,425	(7,341)	3,084
Total intangible assets	$ 96,467	$ (43,302)	$ 53,165	$ 94,990	$ (36,595)	$ 58,395

Intangible asset amortization expense for the years ended August 31, 2022, 2021 and 2020, was $6.8 million, $6.9 million and $7.3 million, respectively. The estimated annual amortization expense related to intangible assets subject to amortization for future years is as follows:

(DOLLARS IN THOUSANDS)	
2023	$ 6,730
2024	6,680
2025	6,463
2026	6,282
2027	6,226
Thereafter	20,784
Total	$ 53,165

Capitalized Major Maintenance

Activity related to capitalized major maintenance costs at our refineries for the years ended August 31, 2022, 2021 and 2020, is summarized below:

(DOLLARS IN THOUSANDS)	BALANCE AT BEGINNING OF YEAR	COST DEFERRED	AMORTIZATION	BALANCE AT END OF YEAR
2022	$ 196,641	$ 25,401	$ (74,521)	$ 147,521
2021	228,511	41,899	(73,769)	196,641
2020	286,890	14,496	(72,875)	228,511

Within our Energy segment, major maintenance activities are regularly performed at our Laurel, Montana, and McPherson, Kansas, refineries. Major maintenance activities are the planned and required shutdowns of refinery processing units, which include replacement or overhaul of equipment that has experienced decreased efficiency in resource conversion. Because major maintenance activities are performed to extend the life, increase the capacity and/or improve the safety or efficiency of refinery processing assets, we follow the deferral method of accounting for major maintenance activities. Expenditures for major maintenance activities are capitalized (deferred) when incurred and amortized on a straight-line basis over a period of two to five years, which is the estimated time lapse between major maintenance activities. Should the estimated time between major maintenance activities change, we may be required to amortize the remaining cost of the major maintenance activities over a shorter period, which would result in higher depreciation and amortization costs. Amortization expense related to the capitalized major maintenance costs is included in cost of goods sold in our Consolidated Statements of Operations.

Selection of the deferral method, as opposed to expensing major maintenance activity costs when incurred, results in deferring recognition of major maintenance activity expenditures. The deferral method also results in classification of related cash outflows as investing activities in our Consolidated Statements of Cash Flows, whereas expensing these costs as incurred would result in classifying the cash outflows as operating activities. Repair, maintenance and related labor costs are expensed as incurred and are included in operating cash flows.

NOTE 9

Notes Payable and Long-Term Debt

Our notes payable and long-term debt are subject to various restrictive requirements for maintenance of minimum consolidated net worth and other financial ratios. We were in compliance with our debt covenants as of August 31, 2022.

Notes Payable

Notes payable as of August 31, 2022 and 2021, consisted of the following:

	WEIGHTED-AVERAGE INTEREST RATE			
(DOLLARS IN THOUSANDS)	2022	2021	2022	2021
Notes payable	4.41%	1.18%	$ 459,398	$ 864,147
CHS Capital notes payable	1.34%	1.00%	147,321	876,712
Total notes payable			$ 606,719	$ 1,740,859

Our primary line of credit is a five-year unsecured revolving credit facility with a syndicate of domestic and international banks. The credit facility provides a committed amount of $2.75 billion that expires on July 16, 2024. There were no borrowings outstanding on this facility as of August 31, 2022. We also maintain certain uncommitted bilateral facilities to support our working capital needs.

In addition to our facilities referenced above, our wholly-owned subsidiaries, CHS Europe S.a.r.l. and CHS Agronegocio Industria e Comercio Ltda have lines of credit with $309.3 million outstanding as of August 31, 2022, and our other international subsidiaries have lines of credit with $148.6 million outstanding as of August 31, 2022.

CHS Capital Notes Payable

We have a receivables and loans securitization facility ("Securitization Facility") with certain unaffiliated financial institutions ("Purchasers"). Under the Securitization Facility, we and certain of our subsidiaries ("Originators") sell trade accounts and notes receivable ("Receivables") to Cofina Funding, LLC ("Cofina"), a wholly-owned bankruptcy-remote indirect subsidiary of CHS. Cofina in turn transfers the Receivables to the Purchasers, and this arrangement is accounted for as a secured financing. We use the proceeds from the sale of Receivables under the Securitization Facility for general corporate purposes and settlements are made on a monthly basis. The amount available under the Securitization Facility fluctuates over time based on the total amount of eligible Receivables generated during the normal course of business. The Securitization Facility consists of a committed portion with a maximum availability of $850.0 million and an uncommitted portion with a maximum availability of $250.0 million. As of August 31, 2022, total availability under the Securitization Facility was $875.9 million, of which no amount was utilized.

We also have a repurchase facility ("Repurchase Facility") related to the Securitization Facility. Under the Repurchase Facility, we can obtain repurchase agreement financing in an amount up to $150.0 million for subordinated notes issued by Cofina in favor of the Originators and representing a portion of the outstanding balance of the Receivables sold by the Originators to Cofina under the Securitization Facility. No balance was outstanding under the Repurchase Facility as of August 31, 2022.

On August 30, 2022, the Securitization Facility and Repurchase Facility were amended to extend their respective maturity dates to August 29, 2023, and increase the maximum committed availability under the Securitization Facility to $850.0 million from $700.0 million.

CHS Capital sells loan commitments it has originated to Compeer Financial, PCA, d/b/a ProPartners Financial on a recourse basis. The total commitments under the program were $100.0 million; however, no amounts were borrowed under these commitments as of August 31, 2022.

CHS Capital borrows funds under short-term notes issued as part of a surplus funds program. Borrowings under this program are unsecured and are due upon demand. Borrowings under these notes totaled $147.3 million as of August 31, 2022.

NOTE 9: *Notes Payable and Long-Term Debt, continued*

Long-Term Debt

During the year ended August 31, 2022, we repaid approximately $31.1 million of long-term debt consisting of scheduled debt maturities and optional prepayments. Amounts included in long-term debt on our Consolidated Balance Sheets as of August 31, 2022 and 2021, are presented in the table below:

(DOLLARS IN THOUSANDS)	2022	2021
4.67% unsecured notes $130 million face amount, due in fiscal 2023	$ 130,000	$ 130,000
4.39% unsecured notes $152 million face amount, due in fiscal 2023	152,000	152,000
3.85% unsecured notes $80 million face amount, due in fiscal 2025	80,000	80,000
3.80% unsecured notes $100 million face amount, due in fiscal 2025	100,000	100,000
4.58% unsecured notes $150 million face amount, due in fiscal 2025	150,000	150,000
4.82% unsecured notes $80 million face amount, due in fiscal 2026	80,000	80,000
4.69% unsecured notes $58 million face amount, due in fiscal 2027	58,000	58,000
3.24% unsecured notes $95 million face amount, due in fiscal 2027	95,000	95,000
4.74% unsecured notes $95 million face amount, due in fiscal 2028	95,000	95,000
3.48% unsecured notes $100 million face amount, due in fiscal 2030	100,000	100,000
4.89% unsecured notes $100 million face amount, due in fiscal 2031	100,000	100,000
3.58% unsecured notes $65 million face amount, due in fiscal 2032	65,000	65,000
4.71% unsecured notes $100 million face amount, due in fiscal 2033	100,000	100,000
3.73% unsecured notes $115 million face amount, due in fiscal 2035	115,000	115,000
5.40% unsecured notes $125 million face amount, due in fiscal 2036	125,000	125,000
Private placement debt	1,545,000	1,545,000
4.00% unsecured term loan from cooperative and other banks, due in fiscal 2025(a)	366,000	—
Term loan	366,000	—
Finance lease liabilities	44,773	36,034
Other notes and contracts with interest rates from 4.0% to 9.0%	2,262	33,443
Deferred financing costs	(3,535)	(4,090)
Other	4,314	7,974
Total long-term debt	1,958,814	1,618,361
Less current portion	290,605	38,450
Long-term portion	$ 1,668,209	$ 1,579,911

(a) Borrowings are variable under the agreement and bear interest at a base rate plus an applicable margin.

As of August 31, 2022, the fair value of our long-term debt is estimated to be $1.8 billion based on quoted market prices of similar debt (a Level 2 fair value measurement based on the classification hierarchy of ASC Topic 820, *Fair Value Measurement*).

On February 19, 2021, we amended our 10-year term loan facility to convert the entire $366.0 million aggregate principle amount outstanding thereunder into a revolving loan, which could be paid down and readvanced in an amount up to $366.0 million until February 19, 2022. On February 19, 2022, the total advanced loan balance of $366.0 million reverted to a nonrevolving term loan that is payable on September 4, 2025.

Long-term debt outstanding as of August 31, 2022, has aggregate maturities, excluding fair value adjustments and finance leases (see Note 19, *Leases*, for a schedule of minimum future lease payments under finance leases), as follows:

(DOLLARS IN THOUSANDS)	
2023	$ 283,066
2024	882
2025	330,344
2026	446,020
2027	58,021
Thereafter	795,000
Total	$ 1,913,333

Interest expense for the years ended August 31, 2022, 2021 and 2020, was $114.2 million, $104.6 million and $117.0 million, respectively, net of capitalized interest of $6.1 million, $8.0 million and $10.9 million, respectively.

NOTE 10

Other Current Liabilities

Other current liabilities as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Customer margin deposits and credit balances	$ 283,234	$ 269,114
Customer advance payments	525,003	439,293
Derivative liabilities (Note 15)	398,781	449,522
Dividends and equity payable (Note 12)	1,000,000	150,000
Total other current liabilities	$ 2,207,018	$ 1,307,929

NOTE 11

Income Taxes

CHS is a nonexempt agricultural cooperative and files a consolidated federal income tax return within our tax return period. We are subject to tax on income from nonpatronage sources, nonqualified patronage distributions and undistributed patronage-sourced income. Income tax expense (benefit) is primarily the current tax payable for the period and the change during the period in certain deferred tax assets and liabilities. Deferred income taxes reflect the impact of temporary differences between the amounts of assets and liabilities recognized under U.S. GAAP and such amounts recognized for federal and state income tax purposes, based on enacted tax laws and statutory tax rates applicable to the periods in which the differences are expected to affect taxable income.

The provision for (benefit from) income taxes for the years ended August 31, 2022, 2021 and 2020 is as follows:

(DOLLARS IN THOUSANDS)	2022	2021	2020
Current:			
Federal	$ 56,582	$ (533)	$ 4,519
State	24,224	2,943	(2,231)
Foreign	9,833	56	2,748
Total Current	90,639	2,466	5,036
Deferred:			
Federal	41,710	(24,676)	(36,231)
State	491	(15,666)	(5,263)
Foreign	(724)	(373)	(273)
Total Deferred	41,477	(40,715)	(41,767)
Total	$ 132,116	$ (38,249)	$ (36,731)

Domestic income before income taxes was $1.8 billion, $497.5 million and $324.4 million for the years ended August 31, 2022, 2021 and 2020, respectively. Foreign (loss) income before income taxes was ($4.9) million, $17.8 million and $62.5 million for the years ended August 31, 2022, 2021 and 2020, respectively.

Deferred taxes are comprised of basis differences related to investments, accrued liabilities and certain federal and state tax credits. Deferred tax assets and liabilities as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Deferred tax assets:		
Accrued expenses	$ 61,843	$ 57,245
Postretirement health care and deferred compensation	46,008	42,217
Tax credit carryforwards	101,457	128,824
Loss carryforwards	110,018	115,327
Nonqualified equity	424,869	391,309
Lease obligations	60,329	62,770
Other	95,027	92,325
Deferred tax assets valuation allowance	(189,685)	(208,810)
Total deferred tax assets	709,866	681,207
Deferred tax liabilities:		
Pension costs	14,600	24,277
Investments	169,970	110,910
Property, plant and equipment	605,463	557,129
Lease right of use assets	58,852	61,870
Other	—	28,549
Total deferred tax liabilities	848,885	782,735
Net deferred tax liabilities	$ 139,019	$ 101,528

We had total gross loss carryforwards of $500.2 million, as of August 31, 2022, of which $242.4 million will expire over periods ranging from fiscal 2023 to fiscal 2043. The remainder will carry forward indefinitely. Based on estimates of future taxable profits and losses in certain foreign tax jurisdictions, as well as consideration of other factors, we assessed whether a valuation allowance was necessary to reduce specific foreign loss carryforwards to amounts we believe are more likely than not to be realized as of August 31, 2022. If our estimates prove inaccurate, adjustments to the valuation allowances may be required in the future with gains or losses being charged to income in the period such determination is made. McPherson refinery's gross state tax credit carryforwards for income tax were approximately $122.8 million and $129.7 million as of August 31, 2022 and 2021, respectively. Our McPherson refinery's valuation allowance on Kansas state credits is necessary due to the limited amount of taxable income generated in Kansas by the combined group on an annual basis. Our state tax credits of $122.8 million will begin to expire on August 31, 2023.

The reconciliation of the statutory federal income tax rates to the effective tax rates for the years ended August 31, 2022, 2021 and 2020 is as follows:

	2022	2021	2020
Statutory federal income tax rate	21.0%	21.0%	21.0%
State and local income taxes, net of federal income tax benefit	1.1	(2.6)	(1.8)
Patronage earnings	(13.6)	(11.4)	(13.1)
Domestic production activities deduction	(3.2)	(8.2)	(19.0)
Export activities at rates other than the U.S. statutory rate	0.4	0.5	1.8
Intercompany transfer of business assets	(0.1)	(4.7)	(1.6)
Increase in unrecognized tax benefits	—	0.8	4.2
Valuation allowance	0.2	(0.2)	(1.0)
Tax credits	—	—	0.2
Other	1.5	(2.6)	(0.2)
Effective tax rate	7.3%	(7.4)%	(9.5)%

Primary drivers of the fiscal 2022 income tax expense were increased nonpatronage earnings and other nondeductible items, which are partially offset by the current Domestic Production Activities Deduction ("DPAD") benefit during fiscal 2022. Primary drivers of the fiscal 2021 income tax benefit were retaining the current DPAD benefit and from tax planning associated with certain assets. Primary drivers of the fiscal 2020 income tax benefit were retaining the current DPAD benefit and the settlement of a U.S. federal audit, resulting in additional tax credit carryovers, which were partially offset by an increase in our uncertain tax position.

We file income tax returns in the U.S. federal jurisdiction, as well as various state and foreign jurisdictions. Our uncertain tax positions are affected by the tax years that are under audit or remain subject to examination by the relevant taxing authorities. We are currently under examination for fiscal years 2016 through 2019. Fiscal years 2007 through 2015 remain subject to examination for certain issues.

Reserves are recorded against unrecognized tax benefits when we believe certain fully supportable tax return positions are likely to be challenged and we may or may not prevail. If we determine that a tax position is more likely than not to be sustained upon audit, based on the technical merits of the position, we recognize the benefit by measuring the amount that is greater than 50% likely of being realized. We reevaluate the technical merits of our tax positions and recognize an uncertain tax benefit, or derecognize a previously recorded tax benefit, when there is (i) completion of a tax audit, (ii) effective settlement of an issue, (iii) a change in applicable tax law including a tax case or legislative guidance, or (iv) expiration of the applicable statute of limitations. Significant judgment is required in accounting for tax reserves. A reconciliation of the gross beginning and ending amounts of unrecognized tax benefits for the periods presented follows:

(DOLLARS IN THOUSANDS)	2022	2021	2020
Balance at beginning of period	$ 122,149	$ 119,150	$ 101,128
Additions attributable to current year tax positions	—	2,000	14,410
Additions attributable to prior year tax positions	2,810	15,974	6,128
Reductions attributable to prior year tax positions	—	(14,975)	(2,516)
Balance at end of period	$ 124,959	$ 122,149	$ 119,150

If we were to prevail on all positions taken in relation to uncertain tax positions, $115.1 million of the unrecognized tax benefits would ultimately benefit our effective tax rate. It is reasonably possible that the total amount of unrecognized tax benefits could significantly change in the next 12 months.

We recognize interest and penalties related to unrecognized tax benefits in our provision for income taxes. We recognized benefits of $0.7 million and $1.4 million and expense of $1.0 million for interest and penalties related to unrecognized tax benefits in our Consolidated Statements of Operations for the years ended August 31, 2022, 2021 and 2020, respectively, and a related $3.3 million and $2.5 million interest payable on our Consolidated Balance Sheets as of August 31, 2022 and 2021, respectively.

NOTE 12

Equities

Patronage and Equity Redemptions

In accordance with our bylaws and by action of the Board of Directors, annual net earnings from patronage sources are distributed to consenting patrons following the close of each fiscal year and are based on amounts using financial statement earnings. The cash portion of the qualified patronage distribution, if any, is determined annually by the Board of Directors, with the balance issued in the form of qualified and/or nonqualified capital equity certificates. Total patronage distributions for fiscal 2022 are estimated to be $1.2 billion, with the qualified cash portion estimated to be $500.0 million, estimated qualified equity distributions of $508.8 million and estimated nonqualified equity distributions of $153.9 million.

The following table presents estimated patronage distributions for the year ending August 31, 2023, and actual patronage distributions for the years ended August 31, 2022, 2021 and 2020:

(DOLLARS IN MILLIONS)	2023	2022	2021	2020
Patronage distributed in cash	$ 500.0	$ 51.0	$ 30.0	$ 90.1
Patronage distributed in equity	662.7	235.6	214.8	474.4
Total patronage distributed	$ 1,162.7	$ 286.6	$ 244.8	$ 564.5

Annual net earnings from patronage or other sources may be added to the unallocated capital reserve or, upon action by the Board of Directors, may be allocated to members in the form of nonpatronage equity certificates. The Board of Directors authorized, in accordance with our bylaws, that 10% of the earnings from patronage business for fiscal 2022, 2021 and 2020 be added to our capital reserves.

Redemptions of outstanding equity are at the discretion of the Board of Directors. Redemptions of capital equity certificates approved by the Board of Directors are divided into two pools, one for nonindividuals (primarily member cooperatives) who may participate in an annual redemption program for qualified equities held by them and another for individual members who are eligible for equity redemptions at age 70 or upon death. In accordance with authorization from the Board of Directors, we expect total redemptions related to the year ended August 31, 2022, which will be distributed in fiscal 2023, to be approximately $500.0 million. This amount is classified as a current liability on our August 31, 2022, Consolidated Balance Sheet. During the years ended August 31, 2022, 2021 and 2020, we redeemed in cash, outstanding owners' equities in accordance with authorization from the Board of Directors, in the amounts of $111.8 million, $79.4 million and $96.4 million, respectively.

Preferred Stock

The following is a summary of our outstanding preferred stock as of August 31, 2022, all shares of which are listed and traded on the Global Select Market of The Nasdaq:

(DOLLARS IN MILLIONS)	NASDAQ SYMBOL	ISSUANCE DATE	SHARES OUTSTANDING	REDEMPTION VALUE	NET PROCEEDS (a)	DIVIDEND RATE (b) (c)	DIVIDEND PAYMENT FREQUENCY	REDEEMABLE BEGINNING (d)
8% Cumulative Redeemable	CHSCP	(e)	12,272,003	$ 306.8	$ 311.2	8.00%	Quarterly	7/18/2023
Class B Cumulative Redeemable, Series 1	CHSCO	(f)	21,459,066	536.5	569.3	7.875%	Quarterly	9/26/2023
Class B Reset Rate Cumulative Redeemable, Series 2	CHSCN	3/11/2014	16,800,000	420.0	406.2	7.10%	Quarterly	3/31/2024
Class B Reset Rate Cumulative Redeemable, Series 3	CHSCM	9/15/2014	19,700,000	492.5	476.7	6.75%	Quarterly	9/30/2024
Class B Cumulative Redeemable, Series 4	CHSCL	1/21/2015	20,700,000	517.5	501.0	7.50%	Quarterly	1/21/2025

(a) Includes patron equities redeemed with preferred stock.

(b) The Class B Reset Rate Cumulative Redeemable Preferred Stock, Series 2 accumulates dividends at a rate of 7.10% per year until March 31, 2024, and then at a rate equal to the three-month benchmark interest rate plus 4.298%, not to exceed 8.00% per annum, subsequent to March 31, 2024.

(c) The Class B Reset Rate Cumulative Redeemable Preferred Stock, Series 3 accumulates dividends at a rate of 6.75% per year until September 30, 2024, and then at a rate equal to the three-month benchmark interest rate plus 4.155%, not to exceed 8.00% per annum, subsequent to September 30, 2024.

(d) Preferred stock is redeemable for cash at our option, in whole or in part, at a per share price equal to the per share liquidation preference of $25.00 per share, plus all dividends accumulated and unpaid on that share to and including the date of redemption, beginning on the dates set forth in this column.

(e) The 8% Cumulative Redeemable Preferred Stock was issued at various times from 2003 through 2010.

(f) Shares of Class B Cumulative Redeemable Preferred Stock, Series 1 were issued on September 26, 2013; August 25, 2014; March 31, 2016; and March 30, 2017.

Preferred Stock Dividends

We made dividend payments on our preferred stock of $168.7 million during each of the years ended August 31, 2022, 2021 and 2020. As of August 31, 2022, the Board of Directors had not authorized the issuance of any preferred shares that were not outstanding.

The following is a summary of dividends per share by series of preferred stock for the years ended August 31, 2022 and 2021:

	YEARS ENDED AUGUST 31,		
(DOLLARS PER SHARE)	NASDAQ SYMBOL	2022	2021
8% Cumulative Redeemable	CHSCP	$ 2.00	$ 2.00
Class B Cumulative Redeemable, Series 1	CHSCO	1.97	1.97
Class B Reset Rate Cumulative Redeemable, Series 2	CHSCN	1.78	1.78
Class B Reset Rate Cumulative Redeemable, Series 3	CHSCM	1.69	1.69
Class B Cumulative Redeemable, Series 4	CHSCL	1.88	1.88

Accumulated Other Comprehensive Loss

Changes in accumulated other comprehensive income (loss) by component, for the years ended August 31, 2022, 2021 and 2020 are as follows:

(DOLLARS IN THOUSANDS)	PENSION AND OTHER POSTRETIREMENT BENEFITS	CASH FLOW HEDGES	FOREIGN CURRENCY TRANSLATION ADJUSTMENT	TOTAL
Balance as of August 31, 2019, net of tax	$ (172,478)	$ 15,297	$ (69,752)	$ (226,933)
Other comprehensive income (loss), before tax:				
Amounts before reclassifications	(4,751)	16,430	(17,021)	(5,342)
Amounts reclassified out	19,908	(22,291)	—	(2,383)
Total other comprehensive income (loss), before tax	15,157	(5,861)	(17,021)	(7,725)
Tax effect	(2,359)	1,450	1,643	734
Other comprehensive income (loss), net of tax	12,798	(4,411)	(15,378)	(6,991)
Balance as of August 31, 2020, net of tax	(159,680)	10,886	(85,130)	(233,924)
Other comprehensive income (loss), before tax:				
Amounts before reclassifications	4,048	11,700	5,573	21,321
Amounts reclassified out	20,256	(19,753)	—	503
Total other comprehensive income (loss), before tax	24,304	(8,053)	5,573	21,824
Tax effect	(6,009)	1,991	(273)	(4,291)
Other comprehensive income (loss), net of tax	18,295	(6,062)	5,300	17,533
Balance as of August 31, 2021, net of tax	(141,385)	4,824	(79,830)	(216,391)
Other comprehensive income (loss), before tax:				
Amounts before reclassifications	(52,163)	(2,161)	(15,809)	(70,133)
Amounts reclassified out	22,240	7,455	—	29,695
Total other comprehensive income (loss), before tax	(29,923)	5,294	(15,809)	(40,438)
Tax effect	2,668	(1,275)	101	1,494
Other comprehensive income (loss), net of tax	(27,255)	4,019	(15,708)	(38,944)
Balance as of August 31, 2022, net of tax	$ (168,640)	$ 8,843	$ (95,538)	$ (255,335)

Amounts reclassified from accumulated other comprehensive income (loss) were related to pension and other postretirement benefits, cash flow hedges and foreign currency translation adjustments. Pension and other postretirement reclassifications include amortization of net actuarial loss, prior service credit and transition amounts and are recorded as cost of goods sold and marketing, general and administrative expenses (see Note 13, *Benefit Plans*, for further information). As described in Note 15, *Derivative Financial Instruments and Hedging Activities*, amounts reclassified from accumulated other comprehensive loss for cash flow hedges are recorded in cost of goods sold. Gains or losses on foreign currency translation reclassifications are recorded in other income.

NOTE 13

Benefit Plans

We have various pension and other defined benefits as well as defined contribution plans in which substantially all employees may participate. We also have nonqualified supplemental executive and Board retirement plans. We provide defined life insurance and health care benefits for certain retired employees and Board of Directors participants. The plan is contributory based on years of service and family status, with retiree contributions adjusted annually.

Financial information on changes in projected benefit obligation, plan assets funded and balance sheet status as of August 31, 2022 and 2021, is as follows:

	QUALIFIED PENSION BENEFITS		NONQUALIFIED PENSION BENEFITS		OTHER BENEFITS	
(DOLLARS IN THOUSANDS)	2022	2021	2022	2021	2022	2021
Change in benefit obligation:						
Projected benefit obligation at beginning of period	$ 925,239	$ 918,002	$ 20,604	$ 19,183	$ 29,069	$ 30,316
Service cost	46,275	45,229	926	433	996	1,186
Interest cost	17,167	16,563	281	273	503	493
Actuarial loss (gain):						
Experience study and mortality updates	2,941	23,716	43	1,272	19	(317)
Other demographic experience*	9,875	11,242	1,313	762	717	(448)
Discount rate change	(164,543)	(12,847)	(2,892)	(55)	(4,979)	(398)
Plan amendments	132	113	—	—	—	—
Settlements	—	—	(1,327)	—	—	—
Benefits paid	(77,913)	(76,779)	(691)	(1,264)	(1,801)	(1,763)
Projected benefit obligation at end of period	$ 759,173	$ 925,239	$ 18,257	$ 20,604	$ 24,524	$ 29,069
Change in plan assets:						
Fair value of plan assets at beginning of period	$ 993,124	$ 976,542	$ —	$ —	$ —	$ —
Actual (loss) gain on plan assets	(166,789)	70,161	—	—	—	—
Company contributions	39,000	23,200	2,018	1,264	1,801	1,763
Benefits paid	(77,913)	(76,779)	(2,018)	(1,264)	(1,801)	(1,763)
Fair value of plan assets at end of period	$ 787,422	$ 993,124	$ —	$ —	$ —	$ —
Funded status at end of period	$ 28,249	$ 67,885	$ (18,257)	$ (20,604)	$ (24,524)	$ (29,069)
Amounts recognized on balance sheet:						
Noncurrent assets	$ 28,249	$ 67,885	$ —	$ —	$ —	$ —
Accrued benefit cost:						
Current liabilities	—	—	(2,300)	(2,220)	(2,290)	(1,970)
Noncurrent liabilities	—	—	(15,957)	(18,384)	(22,234)	(27,099)
Ending balance	$ 28,249	$ 67,885	$ (18,257)	$ (20,604)	$ (24,524)	$ (29,069)
Amounts recognized in accumulated other comprehensive loss (pretax):						
Prior service cost (credit)	$ 831	$ 873	$ (274)	$ (388)	$ (1,825)	$ (2,270)
Net loss (gain)	235,399	199,785	3,257	5,579	(17,846)	(14,862)
Ending balance	$ 236,230	$ 200,658	$ 2,983	$ 5,191	$ (19,671)	$ (17,132)

* Other demographic experience is comprised of all demographic experience different than anticipated, including terminations, retirements, deaths, pay, etc.

NOTE 13 *Benefit Plans, continued*

The accumulated benefit obligation of the qualified pension plans was $728.9 million and $877.9 million as of August 31, 2022 and 2021, respectively. The accumulated benefit obligation of the nonqualified pension plans was $18.3 million and $20.5 million as of August 31, 2022 and 2021, respectively.

Information for the pension plans with an accumulated benefit obligation in excess of plan assets is set forth below:

	YEARS ENDED AUGUST 31,	
(DOLLARS IN THOUSANDS)	2022	2021
Projected benefit obligation	$ 18,257	$ 20,604
Accumulated benefit obligation	18,257	20,513

Components of net periodic benefit costs for the years ended August 31, 2022, 2021 and 2020, are as follows:

	QUALIFIED PENSION BENEFITS			NONQUALIFIED PENSION BENEFITS			OTHER BENEFITS		
(DOLLARS IN THOUSANDS)	2022	2021	2020	2022	2021	2020	2022	2021	2020
Components of net periodic benefit costs:									
Service cost	$ 46,275	$ 45,229	$ 42,151	$ 926	$ 433	$ 405	$ 996	$ 1,186	$ 1,050
Interest cost	17,167	16,563	21,722	281	273	429	503	493	747
Expected return on assets	(43,958)	(43,641)	(46,684)	—	—	—	—	—	—
Settlement of retiree obligations	—	—	—	—	—	—	—	—	—
Prior service cost (credit) amortization	174	178	178	(114)	(114)	(114)	(445)	(445)	(445)
Actuarial loss (gain) amortization	23,406	21,790	21,583	478	212	98	(1,259)	(1,365)	(1,392)
Net periodic benefit cost (benefit)	$ 43,064	$ 40,119	$ 38,950	$ 1,571	$ 804	$ 818	$ (205)	$ (131)	$ (40)

Components of net periodic benefit costs and amounts recognized in other comprehensive loss (income) for the years ended August 31, 2022, 2021 and 2020, are as follows:

	QUALIFIED PENSION BENEFITS			NONQUALIFIED PENSION BENEFITS			OTHER BENEFITS		
(DOLLARS IN THOUSANDS)	2022	2021	2020	2022	2021	2020	2022	2021	2020
Other comprehensive loss (income):									
Prior service cost	$ 132	$ 113	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Net actuarial loss (gain)	59,020	(4,408)	3,401	(1,537)	1,978	2,157	(4,243)	(1,163)	(1,011)
Amortization of actuarial (gain) loss	(23,406)	(21,790)	(21,583)	(478)	(212)	(98)	1,259	1,365	1,392
Amortization of prior service (credit) costs	(174)	(178)	(178)	114	114	114	445	445	445
Settlement of retiree obligations(a)	—	—	—	(307)	—	(397)	—	—	—
Total recognized in other comprehensive loss (income)	$ 35,572	$ (26,263)	$ (18,360)	$ (2,208)	$ 1,880	$ 1,776	$ (2,539)	$ 647	$ 826

(a) Reflects amounts reclassified from accumulated other comprehensive loss (income) to net earnings.

Estimated amortization in fiscal 2023 from accumulated other comprehensive loss into net periodic benefit cost is as follows:

(DOLLARS IN THOUSANDS)	QUALIFIED PENSION BENEFITS	NONQUALIFIED PENSION BENEFITS	OTHER BENEFITS
Amortization of prior service cost (credit)	$ 149	$ (114)	$ (445)
Amortization of actuarial loss (gain)	1,872	245	(1,615)

Plan assumptions for the years ended August 31, 2022, 2021 and 2020, are as follows:

	QUALIFIED PENSION BENEFITS			NONQUALIFIED PENSION BENEFITS			OTHER BENEFITS		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
Weighted-average assumptions to determine the net periodic benefit cost:									
Interest credit rate	4.65%	4.65%	4.65%	4.65%	4.65%	4.65%	N/A	N/A	N/A
Discount rate	2.80%	2.65%	3.06%	2.04%	2.07%	2.70%	2.57%	2.43%	2.89%
Expected return on plan assets	4.88%	4.90%	5.50%	N/A	N/A	N/A	N/A	N/A	N/A
Rate of compensation increase	4.79%	4.99%	5.28%	4.79%	4.99%	5.28%	N/A	N/A	N/A
Weighted-average assumptions to determine the benefit obligations:									
Interest credit rate	4.65%	4.65%	4.65%	4.65%	4.65%	4.65%	N/A	N/A	N/A
Discount rate	4.69%	2.78%	2.67%	4.49%	2.08%	2.15%	4.64%	2.57%	2.43%
Rate of compensation increase	4.93%	4.79%	4.99%	4.93%	4.79%	4.99%	N/A	N/A	N/A

A significant assumption for pension costs and obligations is the discount rate. We utilize a full-yield curve approach by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows. The discount rate reflects the rate at which the associated benefits could be effectively settled as of the measurement date. In estimating this rate, we look at rates of return on fixed-income investments of similar duration to the liabilities in the plans that receive high investment-grade ratings by recognized ratings agencies.

An annual analysis of the risk versus the return of the investment portfolio is conducted to justify the expected long-term rate of return assumption. We generally use long-term historical return information for the targeted asset mix identified in asset and liability studies. Adjustments are made to the expected long-term rate of return assumption when deemed necessary, based upon revised expectations of future investment performance of the overall investment markets.

For measurement purposes, a 7.0% annual rate of increase in the per capita cost of covered health care benefits was assumed for the year ended August 31, 2022. The rate was assumed to decrease gradually to 4.5% by 2030 and remain at that level thereafter. Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A one-percentage-point change in the assumed health care cost trend rates would have the following effects:

(Dollars in thousands)	1% Increase	1% Decrease
Effect on total of service and interest cost components	$ 220	$ (180)
Effect on postretirement benefit obligation	1,900	(1,700)

Contributions depend primarily on market returns on the pension plan assets and minimum funding level requirements. During fiscal 2022, we made a discretionary contribution of $39.0 million to the pension plans. Based on the funded status of the qualified pension plans as of August 31, 2022, we do not currently believe we will be required to contribute to these plans in fiscal 2023, although we may voluntarily elect to do so. We expect to pay $4.6 million to participants of the nonqualified pension and postretirement benefit plans during fiscal 2023.

Our retiree benefit payments, which reflect expected future service, are anticipated to be paid as follows:

(DOLLARS IN THOUSANDS)	QUALIFIED PENSION BENEFITS	NONQUALIFIED PENSION BENEFITS	OTHER BENEFITS
2023	$ 69,300	$ 2,300	$ 2,290
2024	70,500	2,420	2,270
2025	70,200	2,520	2,380
2026	71,500	2,300	2,310
2027	73,800	2,080	2,170
2028-2032	340,400	7,660	8,660

We have trusts that hold the assets for the defined benefit plans. CHS has a qualified plan committee that sets investment guidelines with the assistance of external consultants. Investment objectives for the plans' assets are as follows:

- Optimize the long-term returns on plan assets at an acceptable level of risk;
- Maintain broad diversification across asset classes and among investment managers; and
- Focus on long-term return objectives.

Asset allocation targets promote optimal expected return and volatility characteristics given the long-term time horizon for fulfilling the obligations of the pension plans. The investment portfolio contains a diversified portfolio of investment categories, including equities, fixed-income securities and real estate. Securities are also diversified in terms of domestic and international securities, short- and long-term securities, growth and value equities, large and small cap stocks, as well as active and passive management styles. Our pension plans' investment policy strategy is such that liabilities match assets. This is being accomplished through the asset portfolio mix by reducing volatility and de-risking the plans. The plans' target allocation percentages range between 45% and 80% for fixed income securities and range between 20% and 55% for equity securities.

The qualified plan committee believes that with prudent risk tolerance and asset diversification, the plans should be able to meet pension obligations in the future.

Our pension plans' recurring fair value measurements by asset category as of August 31, 2022 and 2021, are presented in the tables below:

	2022			
(DOLLARS IN THOUSANDS)	LEVEL 1	LEVEL 2	LEVEL 3	TOTAL
Cash and cash equivalents	$ 7,472	$ —	$ —	$ 7,472
Equities:				
Common/collective trust at net asset value(1)	—	—	—	142,730
Fixed income securities:				
Common/collective trust at net asset value(1)	—	—	—	550,046
Partnership and joint venture interests measured at net asset value(1)	—	—	—	87,174
Total	$ 7,472	$ —	$ —	$ 787,422

	2021			
(DOLLARS IN THOUSANDS)	LEVEL 1	LEVEL 2	LEVEL 3	TOTAL
Cash and cash equivalents	$ 11,383	$ —	$ —	$ 11,383
Equities:				
Common/collective trust at net asset value(1)	—	—	—	180,766
Fixed income securities:				
Common/collective trust at net asset value(1)	—	—	—	707,831
Partnership and joint venture interests measured at net asset value(1)	—	—	—	93,144
Total	$ 11,383	$ —	$ —	$ 993,124

(1) In accordance with ASC Topic 820-10, Fair Value Measurement, certain assets that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been categorized in the fair value hierarchy. The fair value amounts presented in the tables above are intended to permit reconciliation of the fair value hierarchy to the amounts presented in the "Financial information on changes in projected benefit obligation, plan assets funded and balance sheet status" table above.

Definitions for valuation levels are found in Note 16, *Fair Value Measurements*. We use the following valuation methodologies for assets measured at fair value:

Common/collective trusts. Common/collective trusts primarily consist of equity and fixed income funds and are valued using other significant observable inputs (including quoted prices for similar investments, interest rates, prepayment speeds, credit risks, referenced indices, quoted prices in inactive markets, adjusted quoted prices in active markets, adjusted quoted prices on foreign equity securities that were adjusted in accordance with pricing procedures approved by the trust, etc.). Common/collective trust investments can be redeemed daily and without restriction. Redemption of the entire investment balance generally requires a 45- to 60-day notice period. The equity funds provide exposure to large-, mid- and small-cap U.S. equities, international large- and small-cap equities and emerging market equities. The fixed income funds provide exposure to U.S., international and emerging market debt securities.

Partnership and joint venture interests. Valued at the net asset value of shares held by the plan at year-end as a practical expedient for fair value. The net asset value is based on the fair value of the underlying assets owned by the trust, minus its liabilities, then divided by the number of units outstanding. Redemptions of these interests generally require a 45- to 60-day notice period.

We are one of approximately 400 employers contributing to the Co-op Retirement Plan ("Co-op Plan"), which is a defined benefit plan constituting a "multiple employer plan" under the Internal Revenue Code of 1986, as amended, and a "multiemployer plan" under the accounting standards. The risks of participating in these multiemployer plans are different from single-employer plans in the following aspects:

- Assets contributed to the multiemployer plan by one employer may be used to provide benefits to employees of other participating employers;
- If a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers; and
- If we choose to stop participating in the multiemployer plan, we may be required to pay the plan an amount based on the underfunded status of the plan, referred to as a withdrawal liability. The withdrawal liability associated with the multiemployer plan was approximately $36.9 million as of August 31, 2022.

Our participation in the Co-op Plan for the years ended August 31, 2022, 2021 and 2020, is outlined in the table below:

(DOLLARS IN THOUSANDS)		CONTRIBUTIONS OF CHS				
PLAN NAME	EIN/PLAN NUMBER	2022	2021	2020	SURCHARGE IMPOSED	EXPIRATION DATE OF COLLECTIVE BARGAINING AGREEMENT
Co-op Retirement Plan	01-0689331/001	$ 955	$ 1,172	$ 1,455	N/A	N/A

Our contributions for the years stated above did not represent more than 5% of total contributions to the Co-op Plan as indicated in the Co-op Plan's most recently available annual report (Form 5500).

Provisions of the Pension Protection Act of 2006 ("PPA") do not apply to the Co-op Plan because there is a special exemption for cooperative plans if the plan is maintained by more than one employer and at least 85% of the employers are rural cooperatives or cooperative organizations owned by agricultural producers. In the Co-op Plan, a "zone status" determination is not required, and therefore not determined. In addition, the accumulated benefit obligations and plan assets are not determined or allocated separately by individual employers. The most recent financial statements available in 2022 and 2021 are for the Co-op Plan's year-end at March 31, 2022 and 2021, respectively. In total, the Co-op Plan was at least 80% funded on those dates based on the total plan assets and accumulated benefit obligations.

Because the provisions of the PPA do not apply to the Co-op Plan, funding improvement plans and surcharges are not applicable. Future contribution requirements are determined each year as part of the actuarial valuation of the plan and may change as a result of plan experience.

In addition to the contributions to the Co-op Plan listed above, total contributions to individually insignificant multi-employer pension plans were immaterial in fiscal 2022, 2021 and 2020.

We have other contributory defined contribution plans covering substantially all employees. Total contributions by us to these plans were $35.0 million, $30.1 million and $34.5 million, for the years ended August 31, 2022, 2021 and 2020, respectively.

NOTE 14

Segment Reporting

We are an integrated agricultural cooperative, providing grain, foods and energy resources to businesses and consumers on a global basis. We provide a wide variety of products and services, from initial agricultural inputs such as fuels, farm supplies, crop nutrients and crop protection products, to agricultural outputs that include grain and oilseed, processed grain and oilseed, renewable fuels and food products. We define our operating segments in accordance with ASC Topic 280, *Segment Reporting*, to reflect the manner in which our chief operating decision maker, our Chief Executive Officer, evaluates performance and allocates resources in managing the business. We have aggregated those operating segments into three reportable segments: Energy, Ag and Nitrogen Production.

Our Energy segment produces and provides primarily for the wholesale distribution of petroleum products and transportation of those products. Our Ag segment purchases and further processes or resells grain and oilseed originated by our country operations business, by our member cooperatives and by third parties; serves as a wholesaler and retailer of crop inputs; and produces and markets ethanol. Our Nitrogen Production segment consists of our equity method investment in CF Nitrogen and allocated expenses. Our supply agreement with CF Nitrogen entitles us to purchase up to a specified quantity of granular urea and UAN annually from CF Nitrogen. Corporate and Other represents our financing and hedging businesses, which primarily consists of a U.S. Commodity Futures Trading Commission-regulated futures commission merchant ("FCM") for commodities hedging and financial services related to crop production. Our nonconsolidated investments in Ventura Foods and Ardent Mills are also included in our Corporate and Other category. As of August 31, 2021, Ventura Foods was reported as a separate Foods reportable segment. Reported segment results and balances prior to fiscal 2022 have been recast to reflect the addition of Ventura Foods to our Corporate and Other category. There were no changes to the composition of our Energy, Ag or Nitrogen Production segments as a result of the addition of Ventura Foods to the Corporate and Other category.

Corporate administrative expenses and interest are allocated to each reportable segment and Corporate and Other, based on direct use of services, such as information technology and legal, and other factors or considerations relevant to the costs incurred.

Many of our business activities are highly seasonal and our operating results vary throughout the year. Our revenues generally trend lower during the second and fourth fiscal quarters and higher during the first and third fiscal quarters; however, our income before income taxes does not necessarily follow the same trend, due to weather and other events that can impact profitability. For example, in our Ag segment, our country operations business generally experiences higher volumes and revenues during the fall harvest and spring planting seasons, which generally correspond to our first and third fiscal quarters, respectively. Additionally, our agronomy business generally experiences higher volumes and revenues during the spring planting season. Our global grain and processing operations are subject to fluctuations in volume and revenues based on producer harvests, world grain prices, demand and international trade relationships. Our Energy segment generally experiences higher volumes and revenues in certain operating areas, such as refined products, in the spring, summer and early fall when gasoline and diesel fuel use by agricultural producers is highest and is subject to global supply and demand forces. Other energy products, such as propane, generally experience higher volumes and revenues during the winter heating and fall crop-drying seasons.

Our revenues, assets and cash flows can be significantly affected by global market prices for commodities such as petroleum products, natural gas, grain, oilseed, crop nutrients and flour. Changes in market prices for commodities that we purchase without a corresponding change in the selling prices of those products can affect revenues and operating earnings. Commodity prices are affected by a wide range of factors beyond our control, including weather, crop damage due to plant disease or insects, drought, availability and adequacy of supply, availability of reliable rail and river transportation networks, outbreaks of disease, government regulations and policies, global trade disputes, wars and civil unrest, and general political and economic conditions.

While our revenues and operating results are derived primarily from businesses and operations that are wholly-owned or subsidiaries and limited liability companies in which we have a controlling interest, a portion of our business operations are conducted through companies in which we hold ownership interests of 50% or less or do not control the operations. We account for these investments primarily using the equity method of accounting, wherein we record our proportionate share of income or loss reported by the entity as equity income from investments, without consolidating the revenues and expenses of the entity in our Consolidated Statements of Operations. In our Ag segment, this includes our 50% interest in TEMCO. In our Nitrogen Production segment, this consists of our approximate 8% membership interest (based on product tons) in CF Nitrogen. In Corporate and Other, this principally includes our 50% ownership in Ventura Foods and our 12% ownership in Ardent Mills. See Note 6, *Investments*, for more information related to our equity method investments.

Reconciling amounts represent the elimination of revenues between segments. Such transactions are executed at market prices to more accurately evaluate the profitability of the individual business segments.

NOTE 14: *Segment Reporting, continued*

Segment information for the years ended August 31, 2022, 2021 and 2020, is presented in the tables below.

(DOLLARS IN THOUSANDS)	ENERGY	AG	NITROGEN PRODUCTION	CORPORATE AND OTHER	RECONCILING AMOUNTS	TOTAL
Year ended August 31, 2022						
Revenues, including intersegment revenues	$ 10,964,304	$ 37,489,203	$ —	$ 45,278	$(707,119)	$ 47,791,666
Intersegment revenues	(669,530)	(28,992)	—	(8,597)	707,119	—
Revenues, net of intersegment revenues	$ 10,294,774	$ 37,460,211	$ —	$ 36,681	$ —	$ 47,791,666
Operating earnings (loss)	633,832	588,070	(55,600)	(37,216)		1,129,086
Interest expense	6,768	59,118	48,110	5,105	(4,945)	114,156
Other (income) expense	(3,474)	(46,277)	11,487	9,559	4,945	(23,760)
Equity (income) losses from investments	13,987	(82,357)	(593,182)	(109,775)		(771,327)
Income before income taxes	$ 616,551	$ 657,586	$ 477,985	$ 57,895	$ —	$ 1,810,017
Capital expenditures	$ 116,136	$ 203,851	$ —	$ 34,457	$ —	$ 354,444
Depreciation and amortization	$ 250,972	$ 173,488	$ —	$ 37,512	$ —	$ 461,972
Total assets as of August 31, 2022	$ 4,325,121	$ 8,159,191	$ 2,641,604	$ 3,698,891	$ —	$ 18,824,807

(DOLLARS IN THOUSANDS)	ENERGY	AG	NITROGEN PRODUCTION	CORPORATE AND OTHER	RECONCILING AMOUNTS	TOTAL
Year ended August 31, 2021						
Revenues, including intersegment revenues	$ 6,812,478	$ 32,058,064	$ —	$ 46,476	$ (468,985)	$ 38,448,033
Intersegment revenues	(437,217)	(22,722)	—	(9,046)	468,985	—
Revenues, net of intersegment revenues	$ 6,375,261	$ 32,035,342	$ —	$ 37,430	$ —	$ 38,448,033
Operating earnings (loss)	(15,775)	265,362	(35,432)	(8,358)		205,797
Interest expense	1,113	65,099	44,461	1,804	(7,912)	104,565
Other income	(2,819)	(47,452)	(2,489)	(14,711)	7,912	(59,559)
Equity income from investments	(3,473)	(50,381)	(198,439)	(102,236)		(354,529)
Income (loss) before income taxes	$ (10,596)	$ 298,096	$ 121,035	$ 106,785	$ —	$ 515,320
Capital expenditures	$ 112,160	$ 148,770	$ —	$ 56,864	$ —	$ 317,794
Depreciation and amortization	$ 245,273	$ 182,210	$ —	$ 34,247	$ —	$ 461,730
Total assets as of August 31, 2021	$ 4,286,677	$ 7,451,559	$ 2,683,652	$ 3,154,387	$ —	$ 17,576,275

(DOLLARS IN THOUSANDS)	ENERGY	AG	NITROGEN PRODUCTION	CORPORATE AND OTHER	RECONCILING AMOUNTS	TOTAL
Year ended August 31, 2020						
Revenues, including intersegment revenues	$ 5,820,154	$ 22,940,712	$ —	$ 55,567	$ (410,068)	$ 28,406,365
Intersegment revenues	(389,020)	(14,613)	—	(6,435)	410,068	—
Revenues, net of intersegment revenues	$ 5,431,134	$ 22,926,099	$ —	$ 49,132	$ —	$ 28,406,365
Operating earnings (loss)	219,861	82,543	(33,497)	8,358	—	277,265
Interest expense	308	71,682	45,255	11,806	(12,074)	116,977
Other income	(3,005)	(35,560)	(2,635)	(10,749)	12,074	(39,875)
Equity income from investments	(2,759)	(7,303)	(127,954)	(48,699)	—	(186,715)
Income before income taxes	$ 225,317	$ 53,724	$ 51,837	$ 56,000	$ —	$ 386,878
Capital expenditures	$ 175,169	$ 158,903	$ —	$ 84,287	$ —	$ 418,359
Depreciation and amortization	$ 245,983	$ 196,510	$ —	$ 34,882	$ —	$ 477,375

We have international sales, which are predominantly in our Ag segment. The following table presents our sales, based on the geographic location of the subsidiary making the sale, for the years ended August 31, 2022, 2021 and 2020:

(DOLLARS IN THOUSANDS)	2022	2021	2020
North America(a)	$ 45,039,981	$ 36,540,178	$ 25,360,077
South America	371,493	242,848	1,559,380
Europe, Middle East and Africa (EMEA)	1,093,974	955,605	774,068
Asia Pacific (APAC)	1,286,218	709,402	712,840
Total	$ 47,791,666	$ 38,448,033	$ 28,406,365

(a) Revenues in North America are substantially all attributed to revenues from the United States.

Long-lived assets include our property, plant and equipment, finance lease assets and capitalized major maintenance costs. The following table presents long-lived assets by geographical region based on physical location:

(DOLLARS IN THOUSANDS)	2022	2021
United States	$ 4,821,483	$ 4,944,574
International	70,997	62,072
Total	$ 4,892,480	$ 5,006,646

NOTE 15

Derivative Financial Instruments and Hedging Activities

We enter into various derivative instruments to manage our exposure to movements primarily associated with agricultural and energy commodity prices and, to a lesser degree, foreign currency exchange rates and interest rates. Except for certain cash-settled swaps related to future crude oil purchases and refined product sales, which are accounted for as cash flow hedges, our derivative instruments represent economic hedges of price risk for which hedge accounting under ASC Topic 815 is not applied. Rather, the derivative instruments are recorded on our Consolidated Balance Sheets at fair value with changes in fair value being recorded directly to earnings, primarily within cost of goods sold in our Consolidated Statements of Operations. See Note 16, *Fair Value Measurements,* for additional information. The majority of our exchange traded agricultural commodity futures are settled daily through CHS Hedging, LLC, our wholly-owned FCM.

Derivatives Not Designated as Hedging Instruments

The following tables present the gross fair values of derivative assets, derivative liabilities and margin deposits (cash collateral) recorded on our Consolidated Balance Sheets, along with related amounts permitted to be offset in accordance with U.S. GAAP. Although we have certain netting arrangements for our exchange-traded futures and options contracts and certain OTC contracts, we have elected to report our derivative instruments on a gross basis on our Consolidated Balance Sheets under ASC Topic 210-20, *Balance Sheet — Offsetting*.

	AUGUST 31, 2022			
		AMOUNTS NOT OFFSET ON THE CONSOLIDATED BALANCE SHEET BUT ELIGIBLE FOR OFFSETTING		
(DOLLARS IN THOUSANDS)	GROSS AMOUNTS RECOGNIZED	CASH COLLATERAL	DERIVATIVE INSTRUMENTS	NET AMOUNTS
Derivative assets				
Commodity derivatives	$ 464,167	$ —	$ 3,834	$ 460,333
Foreign exchange derivatives	52,923	—	8,901	44,022
Total	$ 517,090	$ —	$ 12,735	$ 504,355
Derivative liabilities				
Commodity derivatives	$ 378,291	$ 1,424	$ 12,574	$ 364,293
Foreign exchange derivatives	12,649	—	8,901	3,748
Total	$ 390,940	$ 1,424	$ 21,475	$ 368,041

	AUGUST 31, 2021			
		AMOUNTS NOT OFFSET ON THE CONSOLIDATED BALANCE SHEET BUT ELIGIBLE FOR OFFSETTING		
(DOLLARS IN THOUSANDS)	GROSS AMOUNTS RECOGNIZED	CASH COLLATERAL	DERIVATIVE INSTRUMENTS	NET AMOUNTS
Derivative assets				
Commodity derivatives	$ 532,832	$ —	$ 4,174	$ 528,658
Foreign exchange derivatives	19,429	—	5,582	13,847
Other derivatives	16,488	—	—	16,488
Total	$ 568,749	$ —	$ 9,756	$ 558,993
Derivative liabilities				
Commodity derivatives	$ 444,861	$ 2,485	$ 4,174	$ 438,202
Foreign exchange derivatives	8,506	—	5,582	2,924
Total	$ 453,367	$ 2,485	$ 9,756	$ 441,126

Derivative assets and liabilities with maturities of less than 12 months are recorded in other current assets and other current liabilities, respectively, on our Consolidated Balance Sheets. Derivative assets and liabilities with maturities greater than 12 months are recorded in other assets and other liabilities, respectively, on our Consolidated Balance Sheets. The amount of long-term derivative assets recorded on our Consolidated Balance Sheet as of August 31, 2022 and 2021, was $8.5 million and $21.6 million, respectively. The amount of long-term derivative liabilities recorded on our Consolidated Balance Sheet as of August 31, 2022 and 2021, was $4.0 million and $4.8 million, respectively.

The following table sets forth the pretax (losses) gains on derivatives not accounted for as hedging instruments that have been included in our Consolidated Statements of Operations for the years ended August 31, 2022, 2021 and 2020:

DERIVATIVE TYPE (DOLLARS IN THOUSANDS)	LOCATION OF (LOSS) GAIN	2022	2021	2020
Commodity derivatives	Cost of goods sold	$ (568,877)	$ (971,581)	$ 89,248
Foreign exchange derivatives	Cost of goods sold	9,587	25,277	(184,692)
Foreign exchange derivatives	Marketing, general and administrative expenses	577	1,105	(2,986)
Interest rate derivatives	Interest expense	—	—	(1,226)
Other derivatives	Other income	2,057	2,489	2,634
Total		$ (556,656)	$ (942,710)	$ (97,022)

Commodity Contracts

When we enter into a commodity purchase or sales commitment, we incur risks related to price changes and performance, including delivery, quality, quantity and shipment period. In the event that market prices decrease, we are exposed to risk of loss for the market value of inventory and purchase contracts with fixed- or partially fixed-prices. Conversely, we are exposed to risk of loss on our fixed- or partially fixed-price sales contracts in the event that market prices increase.

Our use of hedging reduces exposure to price volatility by protecting against adverse short-term price movements but also limits the benefits of favorable short-term price movements. To reduce the price risk associated with fixed-price commitments, we generally enter into commodity derivative contracts, to the extent practical, to achieve a net commodity position within the formal position limits we have established and deemed prudent for each commodity. These contracts are primarily transacted through our FCM on regulated commodity futures exchanges but may include OTC derivative instruments when deemed appropriate. These contracts are recorded at fair values based on quotes listed on regulated commodity exchanges or the market prices of the underlying products listed on the exchanges, except that certain contracts are accounted for as normal purchase and normal sales transactions. For commodities where there is no liquid derivative contract, risk is managed through the use of forward sales contracts, other pricing arrangements and, to some extent, futures contracts in highly correlated commodities. These contracts are economic hedges of price risk but are not designated as hedging instruments for accounting purposes. Unrealized gains and losses on these contracts are recognized in cost of goods sold in our Consolidated Statements of Operations.

When a futures position is established, initial margin must be deposited with the applicable exchange or broker. The amount of margin required varies by commodity and is set by the applicable exchange at its sole discretion. If the market price relative to a short futures position increases, an additional margin deposit would be required. Similarly, a margin deposit would be required if the market price relative to a long futures position decreases. Conversely, if the market price increases relative to a long futures position or decreases relative to a short futures position, margin deposits may be returned by the applicable exchange or broker.

Our policy is to manage our commodity price risk exposure according to internal policies and in alignment with our tolerance for risk. It is our policy that our profitability should come from operations, primarily derived from margins on products sold and grain merchandised, not from hedging transactions. At any one time, inventory and purchase contracts for delivery to us may be substantial. We have risk management policies and procedures that include established net physical position limits. These limits are defined for each commodity and business unit, and business units may include both trader and management limits as appropriate. The limits policy is overseen at a high level by our corporate middle office and compliance team, with day-to-day monitoring procedures being implemented within each individual business unit to ensure any limits overage is explained and exposures reduced, or a temporary limit increase is established if needed. The position limits are reviewed at least annually with our senior leadership and Board of Directors. We monitor current market conditions and may expand or reduce our net position limits or procedures in response to changes in those conditions.

The use of hedging instruments does not protect against nonperformance by counterparties to cash contracts. We evaluate counterparty exposure by reviewing contracts and adjusting the values to reflect potential nonperformance. Risk of nonperformance by counterparties includes the inability to perform because of a counterparty's financial condition and the risk that the counterparty will refuse to perform on a contract during periods of price fluctuations where contract prices are significantly different from the current market prices. We manage these risks by entering into fixed-price purchase and sales contracts with preapproved producers and by establishing appropriate limits for individual suppliers. Fixed-price contracts are entered into with customers of acceptable creditworthiness, as internally evaluated. Regarding our use of derivatives, we transact in exchange traded instruments or enter into over-the-counter derivatives that primarily clear through our FCM, which limits our counterparty exposure relative to hedging activities. Historically, we have not experienced significant events of nonperformance on open contracts. Accordingly, we only adjust the estimated fair values of specifically identified contracts for nonperformance. Although we have established policies and procedures, we make no assurances that historical nonperformance experience will carry forward to future periods.

As of August 31, 2022 and 2021, we had outstanding commodity futures and options contracts that were used as economic hedges, as well as fixed-price forward contracts related to physical purchases and sales of commodities. The table below presents the notional volumes for all outstanding commodity contracts:

DERIVATIVE TYPE (UNITS IN THOUSANDS)	2022		2021	
	LONG	SHORT	LONG	SHORT
Grain and oilseed (bushels)	609,300	773,239	666,726	851,582
Energy products (barrels)	10,541	5,706	9,881	7,656
Processed grain and oilseed (tons)	1,191	4,182	559	3,418
Crop nutrients (tons)	23	22	66	12
Ocean freight (metric tons)	60	—	210	—
Natural gas (MMBtu)	420	—	—	—

Foreign Exchange Contracts

We conduct a substantial portion of our business in U.S. dollars, but we are exposed to risks relating to foreign currency fluctuations primarily due to global grain marketing transactions in South America, the Asia Pacific region and Europe, and purchases of products from Canada. We use foreign currency derivative instruments to mitigate the impact of exchange rate fluctuations. Although CHS has some risk exposure relating to foreign currency transactions, a larger impact with exchange rate fluctuations is the ability of foreign buyers to purchase U.S. agricultural products and the competitiveness of U.S. agricultural products compared to the same products offered by alternative sources of world supply. The notional amount of our foreign exchange derivative contracts was $1.9 billion and $1.2 billion as of August 31, 2022 and 2021.

Derivatives Designated as Cash Flow Hedging Strategies

Certain pay-fixed, receive-variable, cash-settled swaps are designated as cash flow hedges of future crude oil purchases in our Energy segment. We also designate certain pay-variable, receive-fixed, cash-settled swaps as cash flow hedges of future refined product sales. These hedging instruments and the related hedged items are exposed to significant market price risk and potential volatility. As part of our risk management strategy, we look to hedge a portion of our expected future crude oil needs and the resulting refined product output based on prevailing futures prices, management's expectations about future commodity price changes and our risk appetite. We may also elect to dedesignate certain derivative instruments previously designated as cash flow hedges as part of our risk management strategy. Amounts recorded in other comprehensive income for these dedesignated derivative instruments remain in other comprehensive income and are recognized in earnings in the period in which the underlying transactions affect earnings. As of August 31, 2022 and 2021, the aggregate notional amount of cash flow hedges was 3.8 million and 2.7 million barrels, respectively.

The following table presents the fair value of our commodity derivative instruments designated as cash flow hedges and the line items on our Consolidated Balance Sheets in which they are recorded as of August 31, 2022 and 2021:

BALANCE SHEET LOCATION (DOLLARS IN THOUSANDS)	DERIVATIVE ASSETS 2022	DERIVATIVE ASSETS 2021	BALANCE SHEET LOCATION (DOLLARS IN THOUSANDS)	DERIVATIVE LIABILITIES 2022	DERIVATIVE LIABILITIES 2021
Other current assets	$ 27,154	$ 11,874	Other current liabilities	$ 11,818	$ 1,001

The following table presents the pretax losses recorded in other comprehensive income relating to cash flow hedges for the years ended August 31, 2022, 2021 and 2020:

(DOLLARS IN THOUSANDS)	2022	2021	2020
Commodity derivatives	$ (2,071)	$ (7,824)	$ (2,596)

The following table presents the pretax (losses) gains relating to our existing cash flow hedges that were reclassified from accumulated other comprehensive loss into our Consolidated Statements of Operations for the years ended August 31, 2022, 2021 and 2020:

(DOLLARS IN THOUSANDS)	LOCATION OF (LOSS) GAIN	2022	2021	2020
Commodity derivatives	Cost of goods sold	$ (6,254)	$ 21,262	$ 23,807

NOTE 16

Fair Value Measurements

ASC Topic 820, *Fair Value Measurement,* defines fair value as the price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date.

We determine fair values of derivative instruments and certain other assets, based on the fair value hierarchy established in ASC Topic 820, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Observable inputs are inputs that reflect the assumptions market participants would use in pricing the asset or liability based on the best information available in the circumstances. ASC Topic 820 describes three levels within its hierarchy that may be used to measure fair value, and our assessment of relevant instruments within those levels is as follows:

Level 1. Values are based on unadjusted quoted prices in active markets for identical assets or liabilities. These assets and liabilities may include exchange-traded derivative instruments, rabbi trust investments, deferred compensation investments, segregated investments and marketable securities.

Level 2. Values are based on quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. These assets and liabilities include interest rate, foreign exchange and commodity swaps; forward commodity contracts with a fixed price component; and other OTC derivatives whose values are determined with inputs that are based on exchange traded prices, adjusted for location-specific inputs that are primarily observable in the market or can be derived principally from, or corroborated by, observable market data.

Level 3. Values are generated from unobservable inputs that are supported by little or no market activity and that are a significant component of the fair value of the assets or liabilities. These unobservable inputs would reflect our own estimates of assumptions that market participants would use in pricing related assets or liabilities. Valuation techniques might include the use of pricing models, discounted cash flow models or similar techniques.

The following tables present assets and liabilities, included on our Consolidated Balance Sheets, that are recognized at fair value on a recurring basis and indicate the fair value hierarchy utilized to determine these fair values. Assets and liabilities are classified in their entirety based on the lowest level of input that is a significant component of the fair value measurement. The lowest level of input is considered Level 3. Our assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the classification of fair value assets and liabilities within the fair value hierarchy levels.

Recurring fair value measurements as of August 31, 2022 and 2021, are as follows:

	2022			
(DOLLARS IN THOUSANDS)	QUOTED PRICES IN ACTIVE MARKETS FOR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)	TOTAL
Assets				
Commodity derivatives	$ 1,161	$ 490,160	$ —	$ 491,321
Foreign currency derivatives	—	52,923	—	52,923
Deferred compensation assets	46,562	—	—	46,562
Segregated investments and marketable securities	238,124	—	—	238,124
Other assets	11,718	—	—	11,718
Total	$ 297,565	$ 543,083	$ —	$ 840,648
Liabilities				
Commodity derivatives	$ 10,256	$ 379,883	$ —	$ 390,139
Foreign currency derivatives	—	12,649	—	12,649
Total	$ 10,256	$ 392,532	$ —	$ 402,788

	2021			
(DOLLARS IN THOUSANDS)	QUOTED PRICES IN ACTIVE MARKETSF OR IDENTICAL ASSETS (LEVEL 1)	SIGNIFICANT OTHER OBSERVABLE INPUTS (LEVEL 2)	SIGNIFICANT UNOBSERVABLE INPUTS (LEVEL 3)	TOTAL
Assets				
Commodity derivatives	$ 2,453	$ 542,253	$ —	$ 544,706
Foreign currency derivatives	—	19,429	—	19,429
Deferred compensation assets	51,940	—	—	51,940
Segregated investments and marketable securities	99,837	—	—	99,837
Other assets	6,052	16,488	—	22,540
Total	$ 160,282	$ 578,170	$ —	$ 738,452
Liabilities				
Commodity derivatives	$ 1,615	$ 444,247	$ —	$ 445,862
Foreign currency derivatives	—	8,506	—	8,506
Total	$ 1,615	$ 452,753	$ —	$ 454,368

Commodity and foreign currency derivatives. Exchange-traded futures and options contracts are valued based on unadjusted quoted prices in active markets and are classified within Level 1. Our forward commodity purchase and sales contracts with fixed-price components, select ocean freight contracts and other OTC derivatives are determined using inputs that are generally based on exchange traded prices and/or recent market bids and offers, including location-specific adjustments, and are classified within Level 2. Location-specific inputs are driven by local market supply and demand and are generally based on broker or dealer quotations or market transactions in either listed or OTC markets. Changes in the fair values of these contracts are recognized in our Consolidated Statements of Operations as a component of cost of goods sold.

Deferred compensation assets. Our deferred compensation investments consist primarily of rabbi trust assets that are valued based on unadjusted quoted prices on active exchanges and classified within Level 1. Changes in the fair values of these other assets are primarily recognized in our Consolidated Statements of Operations as a component of marketing, general and administrative expenses.

Segregated investments and marketable securities and other assets. Our segregated investments and marketable securities and other assets are comprised primarily of investments in various government agencies, U.S. Treasury securities and money market funds, which are valued using quoted market prices and classified within Level 1.

NOTE 17

Commitments and Contingencies

Environmental

We are required to comply with various environmental laws and regulations incidental to our normal business operations. To meet our compliance requirements, we establish reserves for future costs of remediation associated with identified issues that are both probable and can be reasonably estimated. Estimates of environmental costs are based on current available facts, existing technology, undiscounted site-specific costs and currently enacted laws and regulations and are included in cost of goods sold and marketing, general and administrative expenses in our Consolidated Statements of Operations. Recoveries, if any, are recorded in the period in which recovery is received. Liabilities are monitored and adjusted as new facts or changes in law or technology occur. The resolution of any such matters may affect consolidated net income for any fiscal period; however, we currently believe any resulting liabilities, individually or in the aggregate, will not have a material effect on our consolidated financial position, results of operations or cash flows during any fiscal year.

Other Litigation and Claims

We are involved as a defendant in various lawsuits, claims and disputes, which are in the normal course of our business. The resolution of any such matters may affect consolidated net income for any fiscal period; however, we currently believe any resulting liabilities, individually or in the aggregate, will not have a material effect on our consolidated financial position, results of operations or cash flows during any fiscal year.

Guarantees

We are a guarantor for lines of credit and performance obligations of related, nonconsolidated companies. Our bank covenants allow maximum guarantees of others in the ordinary course of business that shall not exceed $1.0 billion, of which $173.6 million were outstanding as of August 31, 2022. We have collateral for a portion of these contingent obligations. We have not recorded a liability related to the contingent obligations as we do not expect to pay out any cash related to them, and the fair values are considered immaterial. The underlying loans to the counterparties for which we provide these guarantees are current as of August 31, 2022.

Credit Commitments

CHS Capital has commitments to extend credit to customers if there is no violation of any condition established in the contracts. As of August 31, 2022, CHS Capital customers have additional available credit of $770.0 million.

Unconditional Purchase Obligations

Unconditional purchase obligations are commitments to transfer funds in the future for fixed or minimum amounts or quantities of goods or services at fixed or minimum prices. Our long-term unconditional purchase obligations primarily relate to pipeline and grain handling take-or-pay and throughput agreements and are not recorded on our Consolidated Balance Sheets. As of August 31, 2022, minimum future payments required under long-term commitments that are noncancelable and that third parties have used to secure financing for facilities that will provide contracted goods, are as follows:

	PAYMENTS DUE BY PERIOD						
(DOLLARS IN THOUSANDS)	TOTAL	2023	2024	2025	2026	2027	THEREAFTER
Long-term unconditional purchase obligations	$ 522,941	$ 82,679	$ 69,416	$ 67,653	$ 61,212	$ 47,700	$ 194,281

Total payments under these arrangements were $75.2 million, $81.0 million and $77.6 million for the years ended August 31, 2022, 2021 and 2020, respectively.

NOTE 18

Related Party Transactions

We purchase and sell grain and other agricultural commodity products from certain equity investees, primarily CF Nitrogen, Ventura Foods, Ardent Mills and TEMCO. Sales to and purchases from related parties for the years ended August 31, 2022, 2021 and 2020, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021	2020
Sales	$ 1,511,532	$ 2,744,482	$ 2,528,921
Purchases	2,040,357	2,682,165	872,819

Receivables due from and payables due to related parties as of August 31, 2022 and 2021, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021
Due from related parties	$ 78,600	$ 40,485
Due to related parties	140,174	90,986

As a cooperative, we are owned by farmers and ranchers and member cooperatives, which are referred to as members. We buy commodities from and provide products and services to our members. Individually, our members do not have a significant ownership in CHS.

NOTE 19

Leases

We assess arrangements at inception to determine whether they contain a lease. An arrangement is considered to contain a lease if it conveys the right to control the use of an asset for a period of time in exchange for consideration. The right to control the use of an asset must include both (i) the right to obtain substantially all economic benefits associated with an identified asset and (ii) the right to direct how and for what purpose the identified asset is used. Certain service agreements may provide us with the right to use an identified asset; however, most of these arrangements are not considered to represent a lease as we do not control how and for what purpose the identified asset is used.

We lease property, plant and equipment used in our operations primarily under operating lease agreements and, to a lesser extent, under finance lease agreements. Our leases are primarily for railcars, equipment, vehicles and office space, many of which contain renewal options and escalation clauses. Renewal options are included as part of the right of use asset and liability when it is reasonably certain that we will exercise the renewal option; however, renewal options are generally not included as we are not reasonably certain to exercise such options.

After the adoption of ASC Topic 842 on September 1, 2019, right of use assets and liabilities for operating and finance leases are recognized at the lease commencement date for leases in excess of 12 months based on the present value of lease payments over the lease term. For measurement and classification of lease agreements, lease and nonlease components are grouped into a single lease component for all asset classes. Variable lease payments are excluded from measurement of right of use assets and liabilities and generally include payments for nonlease components such as maintenance costs, payments for leased assets beyond their noncancelable lease term and payments for other nonlease components such as sales tax. The discount rate used to calculate present value is our collateralized incremental borrowing rate or, if available, the rate implicit in the lease. The incremental borrowing rate is determined for each lease based primarily on its lease term. Certain lease arrangements include rental payments adjusted annually based on changes in an inflation index. Our lease arrangements generally do not contain residual value guarantees or material restrictive covenants.

Lease expense is recognized on a straight-line basis over the lease term. The components of lease expense recognized in our Consolidated Statements of Operations as of August 31, 2022, 2021 and 2020, are as follows:

(DOLLARS IN THOUSANDS)	2022	2021	2020
Operating lease expense	$ 71,209	$ 73,489	$ 71,541
Finance lease expense:			
Amortization of assets	8,967	8,065	8,205
Interest on lease liabilities	1,469	938	1,060
Short-term lease expense	16,915	16,955	15,991
Variable lease expense	1,699	2,300	3,674
Total net lease expense*	$ 100,259	$ 101,747	$ 100,471

* Income related to sublease activity is not material and has been excluded from the table above.

Supplemental balance sheet information related to operating and finance leases as of August 31, 2022 and 2021, is as follows:

(DOLLARS IN THOUSANDS)	BALANCE SHEET LOCATION	2022	2021
Operating leases			
Assets			
Operating lease right of use assets	Other assets	$ 242,859	$ 253,451
Liabilities			
Current operating lease liabilities	Accrued expenses	$ 54,702	$ 56,424
Long-term operating lease liabilities	Other liabilities	194,250	200,720
Total operating lease liabilities		$ 248,952	$ 257,144
Finance leases			
Assets			
Finance lease assets	Property, plant and equipment	$ 57,932	$ 48,625
Liabilities			
Current finance lease liabilities	Current portion of long-term debt	$ 7,609	$ 7,444
Long-term finance lease liabilities	Long-term debt	37,164	28,590
Total finance lease liabilities		$ 44,773	$ 36,034

Information related to the lease term and discount rate for operating and finance leases as of August 31, 2022 and 2021, is as follows:

	2022	2021
Weighted average remaining lease term (in years)		
Operating leases	7.6	7.9
Finance leases	10.4	10.3
Weighted average discount rate		
Operating leases	3.00%	3.01%
Finance leases	3.42%	3.50%

Supplemental cash flow and other information related to operating and finance leases as of August 31, 2022, 2021 and 2020, is as follows:

(DOLLARS IN THOUSANDS)	2022	2021	2020
Cash paid for amounts included in measurement of lease liabilities:			
Operating cash flows from operating leases	$ 61,750	$ 71,702	$ 71,003
Operating cash flows from finance leases	1,469	938	1,060
Financing cash flows from finance leases	9,171	8,235	7,949
Supplemental noncash information:			
Right of use assets obtained in exchange for lease liabilities	$ 54,199	$ 43,991	$ 56,461
Right of use asset modifications	12,887	27,664	7,333

NOTE 19: *Leases, continued*

Maturities of lease liabilities by fiscal year as of August 31, 2022, were as follows:

	AUGUST 31, 2022	
(DOLLARS IN THOUSANDS)	FINANCE LEASES	OPERATING LEASES
2023	$ 8,603	$ 57,894
2024	6,483	54,279
2025	5,055	42,358
2026	4,679	32,975
2027	4,477	18,471
Thereafter	27,764	79,148
Total maturities of lease liabilities	57,061	285,125
Less amounts representing interest	12,288	36,173
Present value of future minimum lease payments	44,773	248,952
Less current obligations	7,609	54,702
Long-term obligations	$ 37,164	$ 194,250

Board of Directors

Dan Schurr
Chair
LeClaire, Iowa

C.J. Blew
First vice chair
Castleton, Kansas

Russ Kehl
Secretary-treasurer
Quincy, Washington

Jon Erickson
Second vice chair
Minot, North Dakota

Alan Holm
Assistant secretary-treasurer
Sleepy Eye, Minnesota

David Beckman
Elgin, Nebraska

Hal Clemensen
Aberdeen, South Dakota

Scott Cordes
Wanamingo, Minnesota

Mark Farrell
Cross Plains, Wisconsin

Steve Fritel
Barton, North Dakota

David Johnsrud
Starbuck, Minnesota

Tracy Jones
Kirkland, Illinois

David Kayser
Alexandria, South Dakota

Perry Meyer
New Ulm, Minnesota

Steve Riegel
Ford, Kansas

Kevin Throener
Cogswell, North Dakota

Cortney Wagner
Hardin, Montana

Detailed biographical information on the CHS Board of Directors is available at chsinc.com.

From left, front row, Holm, Blew, Schurr, Erickson, Kehl; second row, Beckman, Kayser, Farrell, Wagner, Throener; third row, Riegel, Cordes, Fritel, Johnsrud; fourth row, Clemensen, Meyer, Jones

Executive Team

Jay Debertin
President and chief executive officer

David Black
Senior vice president, enterprise transformation, and chief information officer

Rick Dusek
Executive vice president, country operations

John Griffith
Executive vice president, ag business and CHS Hedging

Gary Halvorson
Senior vice president, enterprise customer development

Darin Hunhoff
Executive vice president, energy

Mary Kaul-Hottinger
Senior vice president, human resources

Olivia Nelligan
Executive vice president, chief financial officer and chief strategy officer

Brandon Smith
Executive vice president and general counsel

Detailed biographical information on the CHS leadership team is available at chsinc.com.

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To create this annual report, CHS worked with cooperative teams and farmer-owners and their families. We thank them for their cooperative spirit.

Illinois: Kyle Meece and the United Prairie, LLC, team, Tolono

Kansas: Taylor Goering and family, McPherson

Minnesota: John Edel, Brett Henslin and Tom Jorgenson, Rochester area; Geoff Erdman and Michael Gehling, Grand Meadow; Agronomy Sales Representative Josh Benning, Rochester; Jerry Kramer and the CHS team, Herman

Montana: Taylor Broyles, Jayson Robbins and the Laurel refinery team

North Dakota: Tera Steffens and family, Hankinson

Washington: Kyler Beard and family, Ellensburg; National FFA President Cole Baerlocher, Colfax

Wisconsin: Superior terminal manager Daniel Vandenhouten and team; Mark Nelson, Erskine; Russell Bortz and the Allied Cooperative team, West Salem; National FFA Central Region Vice President Cortney Zimmerman, Spencer

Wyoming: Ron Rabou and family, Albin

From left, Griffith, Smith, Hunhoff, Debertin, Black, Nelligan, Halvorson, Dusek, Kaul-Hottinger

5500 Cenex Drive
Inver Grove Heights, MN 55077
651-355-6000
chsinc.com

NASDAQ: CHSCP, CHSCO, CHSCN, CHSCM, CHSCL