

2022

People, Growth and Possibilities



**Commerce
Bancshares, Inc.**

Annual Report
& Form 10-K





Outstanding
Community
Reinvestment Act
rating for 25 years



4.7



Rating on
Android® & iOS
Platforms



This past year brought a mix of economic uncertainty and market volatility. However, it also brought some reasons for optimism. Portions of the year were marked by negative economic growth and soaring inflation. At the same time, we saw the creation of 4.8 million jobs and positive data that suggest most consumers and businesses are financially healthy. Looking ahead, many economists predict a recession.

At Commerce, we have a strong foundation to build from and have historically performed well in challenging times. Underpinning this performance is an engaged team and a best-in-class culture we have shaped for nearly 160 years. This provides us with a strong framework to take care of our customers through the cycle, helping them focus on what matters most. While the outlook is uncertain, the investments in our people and in our long-term growth are key to our success as we discover new ways to unlock our potential and imagine new possibilities in the coming year.



About the Cover

At Commerce, our long-term success depends on our ability to attract and retain the best talent. We invest in a variety of developmental programs and activities designed to enhance the professional growth of our team members. The Advanced Leadership Development Program (ALDP) is geared toward our seasoned, high-performing talent who also embody our core values. Pictured are some members of the 2022 ALDP cohort:

- **James Forse** — Division Manager, Commercial Banking
- **Jodi Clinton** — Senior Group Manager, Retail Banking
- **Jackie Loya-Torres** — Manager, Community Reinvestment Act & Community Development
- **Daniel Shirley** — Manager, Data Analytics – Enterprise Analytics & Banking Intelligence

Financial Highlights

(In thousands, except per share data)

	2018	2019	2020	2021	2022
OPERATING RESULTS					
Net interest income	\$ 823,825	\$ 821,293	\$ 829,847	\$ 835,424	\$ 942,185
Provision for credit losses	42,694	50,438	137,190	(66,326)	28,071
Non-interest income	501,341	524,703	505,867	560,393	546,535
Investment securities gains (losses), net	(488)	3,626	11,032	30,059	20,506
Non-interest expense	737,821	767,398	768,378	805,901	848,777
Net income attributable to Commerce Bancshares, Inc.	433,542	421,231	354,057	530,765	488,399
Net income available to common shareholders	424,542	412,231	342,091	530,765	488,399
Cash dividends on common stock	100,238	113,466	120,818	122,693	127,466

AT YEAR END

Total assets	\$ 25,463,842	\$ 26,065,789	\$ 32,922,974	\$ 36,689,088	\$ 31,875,931
Loans, including held for sale	14,160,992	14,751,626	16,374,730	15,184,974	16,308,095
Investment securities	8,698,666	8,741,888	12,645,693	14,699,511	12,519,177
Deposits	20,323,659	20,520,415	26,946,745	29,813,073	26,187,440
Equity	2,937,149	3,138,472	3,399,972	3,448,324	2,481,577
Non-accrual loans	12,536	10,220	26,540	9,157	8,306
Common shares outstanding ¹	135,077	129,806	129,145	127,509	124,999
Tier I common risk-based capital ratio	14.22%	13.93%	13.71%	14.34%	14.13%
Tier I risk-based capital ratio	14.98	14.66	13.71	14.34	14.13
Total risk-based capital ratio	15.82	15.48	14.82	15.12	14.89
Tier I leverage ratio	11.52	11.38	9.45	9.13	10.34
Tangible common equity to tangible assets ratio	10.45	10.99	9.92	9.01	7.32
Efficiency ratio	55.58	56.87	57.19	57.64	56.90

OTHER FINANCIAL DATA (based on average balances)

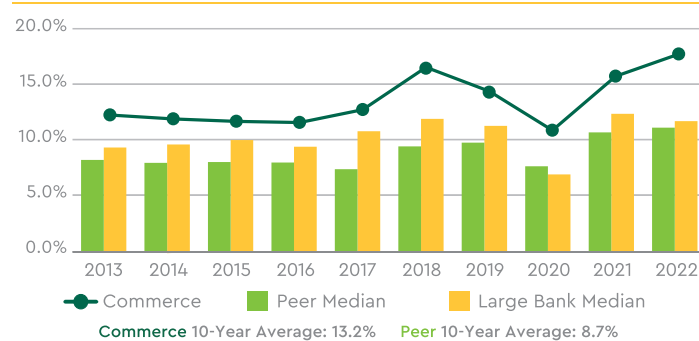
Return on total assets	1.76%	1.67%	1.20%	1.55%	1.45%
Return on common equity	16.16	14.06	10.64	15.37	17.31
Loans to deposits	69.27	71.54	67.73	56.46	55.41
Equity to total assets	11.24	12.20	11.18	10.11	8.39
Net yield on interest earning assets (FTE)	3.53	3.48	2.99	2.58	2.85

PER COMMON SHARE DATA

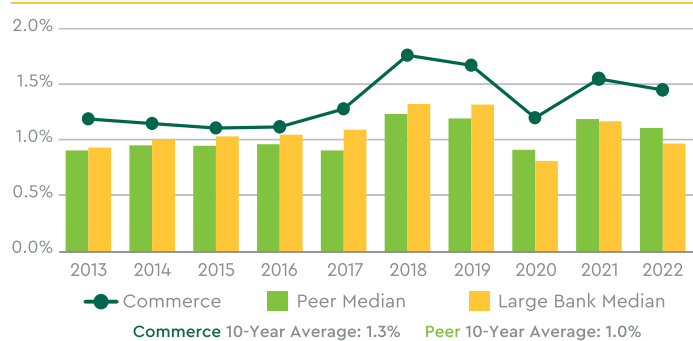
Net income – basic ¹	\$ 3.12	\$ 3.10	\$ 2.64	\$ 4.12	\$ 3.86
Net income – diluted ¹	3.11	3.09	2.64	4.11	3.85
Market price ¹	46.38	58.69	59.59	65.47	68.07
Book value ¹	20.67	23.06	26.33	27.05	19.85
Cash dividends ¹	0.737	0.856	0.933	0.952	1.010
Cash dividend payout ratio	23.61%	27.52%	35.32%	23.12%	26.10%

¹Restated for the 5% stock dividend distributed in December 2022

Return on Average Common Equity



Return on Average Assets



Sources: S&P Global Market Intelligence, and company reports and filings as of December 31, 2022

Letter to Our Shareholders



David W. Kemper
Executive Chairman

COMMERCE BANCSHARES, INC.
FEBRUARY 22, 2023



As we begin 2023, the macroeconomic environment is both fragile and volatile. The worldwide surge in inflation has prompted global central banks to respond through aggressive interest rate hikes, which has had a moderating effect on demand and growth. Adding to this economic backdrop, increasing geopolitical tensions are further contributing to an uncertain outlook. Unfortunately, signals from economic and market data suggest that the Federal Reserve's interest rate hikes could tip the U.S. into recession in 2023.

In the face of these headwinds, your company delivered a solid year of financial performance in 2022. Profit was strong, fueled by a rate-driven increase in the net interest margin over the course of the year, reasonably well-controlled expenses, and low credit costs. Resilient fee-based businesses, coupled with a well-rounded and healthy balance sheet, continue to provide strong revenue diversification. We have ample liquidity and capital, and credit performance remains excellent, reflecting our disciplined approach to underwriting and a still-benign credit environment. As we look to the future, we are well-positioned to build upon these strong results and to deliver value-added solutions for our customers. At the same time, we know there is a lot of uncertainty in the world, and we actively prepare for the risks that may arise.

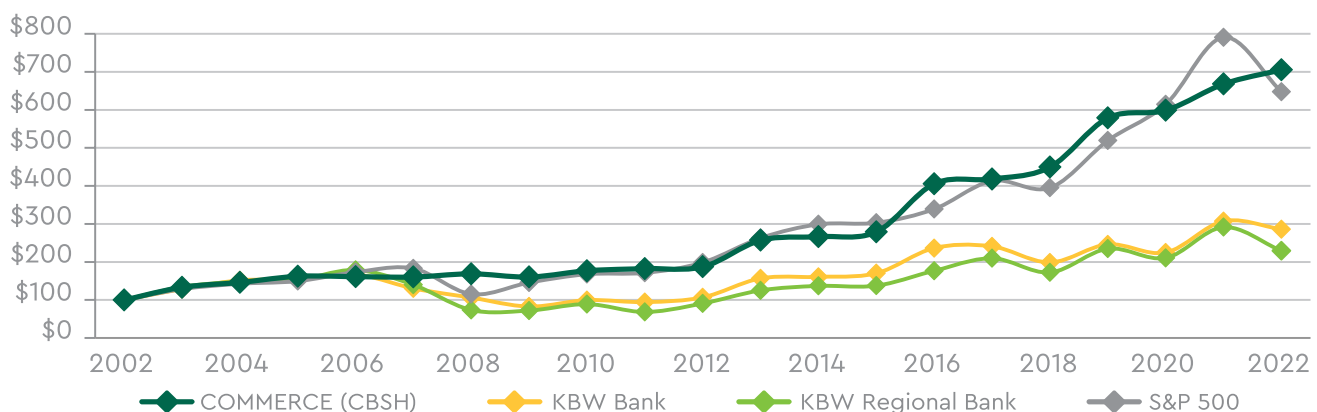
We remain focused on generating risk-adjusted returns for our shareholders, and we are very proud of our track record through the decades. Consistent with our steady earnings, we returned capital to shareholders through increased dividends. In February 2023, we increased our quarterly common dividend 7% to \$.27 per share, the 55th consecutive year of dividend increases. Over the past 20 years, the annualized total return to shareholders has been more than 10%, significantly outperforming the KBW Bank Index annualized return of 4%.

Looking ahead, we continue to build on the foundation that Commerce Bank has established for nearly 160 years, making strategic investments that will allow us to deliver healthy earnings for many years to come. I would like to thank our team members, our customers and you, our shareholders, for your ongoing support. We look forward to working with you and to our shared success in the coming year.

David Kemper

Long-Term Shareholder Return

Cumulative Total Return Indexed, 12/31/2002 = \$100



People, Growth & Possibilities



John W. Kemper
President and Chief Executive Officer

COMMERCE BANCSHARES, INC.
FEBRUARY 22, 2023

Dear Commerce Shareholders:

Despite the hope that 2022 would bring a more normal and steady operating environment, the year instead saw a volatile mix of market dynamics, including historic inflation, unforeseen geopolitical disruption, and an uneven economic emergence from the pandemic. Strong consumer demand, record levels of fiscal stimulus and liquidity, continued shutdowns in China, and unreliable supply chains all fueled persistently high inflation. Responding to price instability, the Federal Reserve initiated a series of interest rate hikes in 2022, with more expected in 2023. Given all this, many economists are predicting that a recession looms in the near future.

Against this highly uncertain picture, we believe there are still reasons for optimism. U.S. employment remains surprisingly resilient, and as we enter the new year, the job market is still expanding. Consumer and commercial spending remain at healthy levels. Supply chains are being repaired, and the pace of inflation has slowed in recent months. At the same time, we recognize that a slowdown could weigh on bank industry earnings — slowing loan growth, rising credit costs, and an eventual decline in net interest margins. Commerce Bancshares has a strong foundation in place and an operating model that should

perform well, even if challenging times are on the horizon. Our ability to take care of our customers in a difficult environment can also create opportunity for the bank. Historically in times like these, our culture, our teamwork, and our strength have set us apart.

I think you will see in the following report that your company is focused on the priorities that will drive it forward — our people, our long-term growth, and the possibilities ahead.

Our Results

Against the backdrop of a somewhat volatile economic environment, we are pleased with our performance in 2022. Like many banks, Commerce's profitability was buoyed by a steady increase in the net interest margin as rates rose. Our financial results were also helped by our disciplined expense management and low credit costs, despite a tough inflationary environment. Our balance sheet continues to be well-positioned, and we have core, stable deposit funding (both consumer and commercial) which has been more valuable in this rising rate environment.

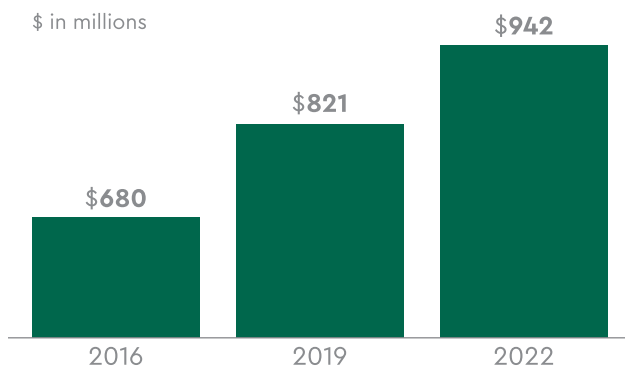
Fee income as a percent of total revenue continued to be strong overall, although key categories such as asset management and mortgage banking fees were challenged by the broader macroeconomic environment. As in years past, we

Non-Interest
Income
37%
of Total Revenue
in 2022

had very sound credit metrics, generated ample capital to support regular dividends, and have maintained robust liquidity levels to meet loan demand across our markets. Taken together, this amounted to a fundamentally strong year for the company with healthy

returns on assets and equity, both of which remain solidly in the top quartile compared to peer banks. Our long-term shareholder returns remain very positive relative to the industry.

Net Interest Income



Strong Foundation for Growth

Commerce has long operated from a strong foundation, built on the steady execution of a unique super-community bank model. This operating model combines the best of small with the best of big — marrying sophisticated solutions, capabilities, and advice with high-touch delivery in the context of deep relationships, excellent customer service and bankers who are empowered to take care of their customers and communities.

Foundational to our success and the source of our long-term competitive advantage is our culture — one we've worked very hard to shape over time. We take an intentional approach to introducing and reinforcing culture at every level of the organization. The strength of the Commerce

franchise also depends on the diversity of our loan portfolio and fee-based businesses, which gives the bank earnings resiliency and excellent risk-adjusted profitability. Our cultural alignment, strong balance sheet, and diversified revenue sources have proven to be particularly valuable during this period of uncertainty.

Commerce has a long history of sound asset quality, prudent expense management, and strong levels of capital and liquidity, all of which position us well, both for future growth and for times of economic stress. Commerce is proud to be counted among the safest banks in the country. In

2022, Moody's reaffirmed our bank's financial strength by assigning Commerce an a1 baseline credit assessment. Commerce is one of only five banks in the country to hold a credit rating at this level or better.

1 of 5
Banks with a Moody's
a1 Baseline Credit
Assessment

None of this would be possible without our talented team members and their unwavering commitment to our purpose and culture. Our results are a reflection of the way this team works collaboratively, communicates, and strives toward the shared goal of helping our customers focus on what matters most.

Beyond the Numbers

Commerce is committed to making an impact beyond the financials we produce and continuously seeks opportunities to make a difference. We make ongoing investments in programs and products that serve our customers, strengthen our communities, and support a healthy working environment for our team members. We have a long history of embedding these principles throughout the organization. As we have for nearly 160 years, we maintain strong governance practices to ensure our strategies, operations and decision-making align with our principles as a trustworthy company.

A strong sense of accountability drives our commitment to improve Diversity, Equity and Inclusion (DEI) in and around Commerce. We have made great strides to advance our DEI efforts against four pillars — our customers, our communities, our suppliers, and our internal workplace. Our community outreach and banking program helps unbanked and underbanked individuals gain access to the banking system and to capital. We expanded the scope of this

outreach program in 2022 after a pilot produced encouraging results in the community.



We successfully launched Velocity Pay, a prepaid card, to help the unbanked segment access necessary financial services across our footprint.

In conjunction with the development of this product, we received the

Bank On accreditation seal for connecting consumers with safe and affordable banking solutions. We implemented a new diverse supplier platform powered by Supplier.io to improve our supplier diversity data and create rich reporting and robust search tools. Internally, we continue to enhance our culture and foster an inclusive and engaging team member experience — one where all team members can thrive.

At Commerce, we recognize that our workplace diversity makes us a stronger company. To assist our team members in making personal connections and finding a sustaining sense of community at work, Commerce supports multiple voluntary, employee-led resource groups (ERGs) including RISE (empowering women), EMERGE (connecting young professionals), VIBE (valuing multicultural perspectives), and PRIDE (engaging the LGBTQIA+ community). In late 2022, we launched our newest employee resource group, SALUTE, to support our veterans and their careers at Commerce. Participation in our ERGs is entirely voluntary, and more than 40% of team members belong to one



SALUTE

of these groups, with 18% participating in more than one group.

Commerce's culture emphasizes the need to build strong relationships with our communities. We take care to ensure our lending products and solutions meet the needs of the community, and we offer affordable options for homeownership through various customer programs. We are proud of the "outstanding" Community Reinvestment Act rating the company has consistently received over the past 25 years for our efforts to support low- and moderate-income communities. In addition to the services we provide as bankers, we contribute philanthropically through the Commerce Bancshares Foundation and the volunteerism that we formally encourage through dedicated paid time off for our team members. Our team members support hundreds of nonprofits in our communities with their time, talent and financial resources. We are honored to work alongside members of our communities to find sustainable and meaningful ways to build a better future.

While we are encouraged by the progress made over the last year, we recognize there is more to do. We will continue to advance our work to make our communities and our company a better place to live and work. To learn more about our efforts in these areas, please see our Environmental, Social and Governance Report at commercebank.com.



Pursuing the Possibilities in Our Business Segments

Consumer Banking

Over the past year, our customers navigated an uncertain environment. Commerce was there to be their financial partner and to take on their challenges — providing guidance and advice, introducing new programs and solutions, and enhancing the variety of ways customers engage with us.

Fundamental to taking care of our customers is our ability to communicate with them through the channels they prefer. Our investments in our team, branches, customer care center, and in digital have positioned us well in this regard. To give our customers more flexibility in the ways they handle their finances, we provided new tools to manage liquidity and financial wellness, including a grace period allowing additional time to remedy overdrafts. We continued our progress in the development of flexible payments options. We launched a new artificial intelligence-guided tool to better understand the needs of small business banking clients and pair them with the right solutions. We also enhanced our Premier Banking program, designed to provide an elevated experience and reward customers for their relationship with Commerce.

Over the course of the year, we continued to invest in our digital platforms, releasing 20 updates across online and mobile banking to deliver new features and functionality. We improved our mobile deposit experience and added new self-service capabilities, including internal account-to-account transfers and improved security at login. Additionally, we expanded the Commerce Bank CONNECT® mobile app experience to provide our customers a way to make personal connections with our bankers anytime and anywhere, through their smartphone.

Our relationships with customers continue to be strong. In 2022, we maintained a primary banking relationship with 76% of our retail banking customers, marking the fourth consecutive year at this level or above. For the past three years, we exceeded our overall customer experience goal,

based on understanding our customers' needs and connecting them with relevant solutions. We are committed to continuing to provide a best-in-class experience for our customers, which we believe will serve as the foundation for growth in the years to come.

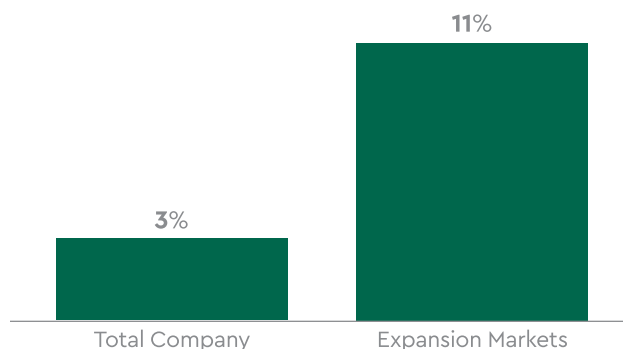
Commercial Banking and Commercial Payments

Our commercial banking and payments teams serve more than 13,000 customers nationally, helping them obtain funding to capitalize on new opportunities, maximize cash flow, and manage risk to grow their businesses.

Commercial loan balances grew to exceed \$10 billion in 2022, with notable increases from our expansion markets. In aggregate, expansion market loan balances exceeded \$3 billion for the first time. The credit quality of our borrowers continues to be strong as net loan charge-offs were \$1 million, and our watchlist of troubled credits continued to shrink throughout the year.

Expansion Market Loan Growth

5-year CAGR



Our leading position as a payments bank continues to be a primary driver for attracting deposits, which ended the year at nearly \$11 billion. In addition, our payments solutions drove an increase of 7% in commercial fee income for the year, with treasury management, accounts payable and card-based services experiencing the highest levels of growth. The bank saw particularly strong growth in the healthcare vertical, where our RemitConnect® payment processing automation solution is experiencing robust demand.

A particular point of emphasis for our product development teams has been to equip our solutions to integrate directly with core platforms, such as provider networks for insurance payments, electronic medical records and enterprise resource planning software. This work extends the reach and capabilities of our solutions while advancing our reputation in specific industry verticals. Furthermore, we continue to cultivate an array of strategic partnerships with industry trade associations and group purchasing organizations.

Looking to the future, we continue to explore growth, both organically and through acquisition, to expand and diversify our commercial segment. In 2022, we entered into a definitive agreement to acquire L.J. Hart & Company, a leading regional municipal bond underwriter and advisory firm. This partnership will enhance Commerce's offerings for our capital markets customers by adding proprietary municipal products and bolstering our institutional fixed-income business.

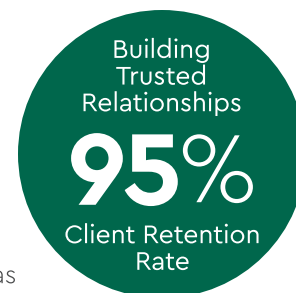
During 2022, our team continued working on the implementation of a new instant payments service. Commerce was selected by the Federal Reserve as one of approximately 120 organizations to participate in its FedNowSM pilot program. The platform's go-live date is scheduled for mid-2023 and will enable us to provide customers with an efficient method for making near-real-time payments at any time of their choosing.

Wealth Management

Like other areas of the bank, our wealth management business faced market-driven challenges in 2022 as the conspiring headwinds of inflation, elevated interest rates, and a deteriorating outlook for the economy created a broad correction in financial asset prices.

Alongside broader markets, Commerce Trust's assets under management fell in 2022, ending the year at \$37 billion. Despite this market correction, asset attrition was negligible, and new asset management sales remained strong.

Building trusted relationships with our clients — individuals, families, and institutions — continues to be our primary focus at Commerce Trust. As such, we redoubled our efforts to engage and deepen existing relationships as market conditions diminished throughout the year, as reflected in our strong client satisfaction scores (9.5 out of 10) and superior client retention rate of 95%.



With a new year upon us, we are poised for strategic growth with plans to enter wealth markets that will complement our existing footprint. Looking ahead, we will seek to build our wealth clientele in high-growth geographies like Dallas and Houston, as well as establish a physical presence in Naples, Florida.

Lastly, we are keenly focused on our wealth "blue chip" initiatives. These include transforming our private bank business, revitalizing our client support model, deepening sales training for client service officers, and enhancing our recruiting efforts to retain and attract the best talent in our industry.

The wealth management business continues to distinguish itself by offering proactive, holistic advice and portfolio management solutions that are unique for every individual and institutional client, while delivering excellent risk-adjusted profitability to our shareholders.

“Commerce’s ability to endure and thrive as an organization is driven by the right cultural mindset.”

Continuous Improvement and Innovation

Commerce's ability to endure and thrive as an organization is driven by the right cultural mindset. Our culture emphasizes the importance of continuous improvement and innovation. The compounding effect of even modest improvement over long periods of time can be enormously powerful. Done correctly, these improvements sustain a profitable enterprise that can invest in innovation — new products and solutions, technology, and talent. We believe investments such as these will position us for continued growth and superior returns well into the future.

Commerce delivered improvements, large and small, in many ways over the course of 2022. Our team invested heavily in digital delivery across all our businesses, and consistently updated our products and customer portals, working in agile fashion. We improved internal processes, adopting tools to streamline and distribute work among our team. Our ongoing investment in customer relationship management tools allowed our teams to stay close to customers through the pandemic, communicating regularly and in targeted, meaningful ways. Our teams continue to embrace hybrid ways of getting work done, using communication tools and reconfiguring physical workplaces to give more flexibility and to improve collaboration. In many ways, collaboration has improved in the last three years, despite the challenges of a virtual or hybrid work environment.

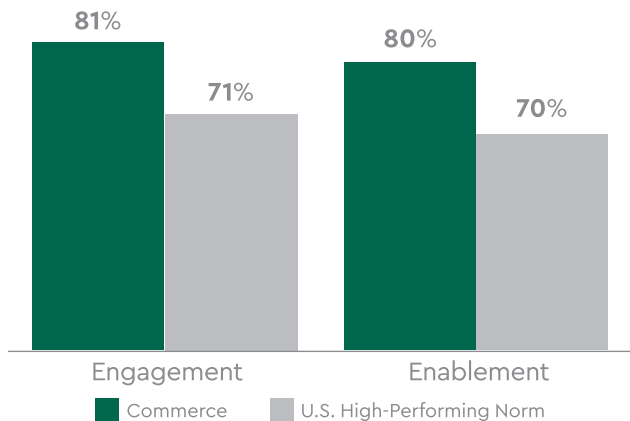
In addition to these incremental improvements, other accomplishments were more pioneeringly innovative. In early 2022, Commerce successfully implemented a new core banking application. This project was a tremendous accomplishment for our collective team and an extraordinary example of collaboration, agility, innovation, and our ongoing commitment to our customers. The new core solution positions us to support the evolving technologies of tomorrow and to grow alongside our customers. It helps power greater insight into our customers, allows us to bring new products to market more quickly, and positions Commerce for success well into the future.

None of these improvements are possible without a diverse team of high-performing individuals. Some of our most important initiatives are focused on helping our team members grow their career at Commerce, and we are fortunate to have a highly engaged team. Our 2022 team member engagement survey results showed that we scored at or above the high-performing organization benchmark on 95% of the questions asked. According to our survey administrator Korn Ferry, the percentage of effective employees, or those that identify as both engaged and enabled to do their job, is significantly above the high-performing company norm.

Just as important, our engagement and enablement scores have improved over time. This is what we strive for as an organization: steady progress built on the hard work of shaping our culture with a continuous improvement mindset. Affirming these efforts, *Forbes* named Commerce to its 2022 list of America's Best Midsize Employers for the fifth consecutive year.

Effective Teams are Engaged and Enabled

based on 2022 Team Member Survey by Korn Ferry



Looking Ahead: People, Growth & Possibilities

Commerce delivered strong results in 2022 — a reflection of our culture in action and our diversified operating model. We successfully executed on our “blue chip” priorities, including the implementation of a new core banking system. We invested in our team and in areas that will provide long-term growth and deliver value to our stakeholders.

Over the past year, we helped our customers and team members through some of the most dynamic economic times in modern history. The impact of the Federal Reserve’s actions remains unclear for the overall economy. The good news is that elevated interest rates combined with consistent operational execution can lead to strong performance for Commerce. At the same time, as rates rise and uncertainty persists, balance sheet growth and loan demand may slow. The industry has seen few signs of credit stress thus far, but we are mindful that in an economic downturn, credit losses quickly

compound. Looking ahead, we will continue to stay close to our customers. Communication is a top priority, and we have been investing in our technology capabilities over the past year to ensure our communication continues to evolve with the times. Looking further into the future, we continue to have bright growth prospects in payments and wealth management, and we are making steady gains in some geographic markets with attractive growth demographics.

This past year was full of twists and turns, and we expect more of the same in 2023. We remain encouraged by the resiliency of our customers, our team members, and the communities we serve. The road is uncertain, but with our strong foundation of people and culture, I am optimistic about our growth and the possibilities that lie ahead. Thank you for the confidence you place in our team. We are focused on the future and grateful for your continued support.

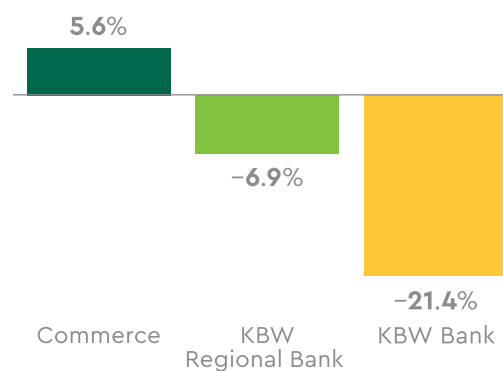
Growth in EPS and Stock Price



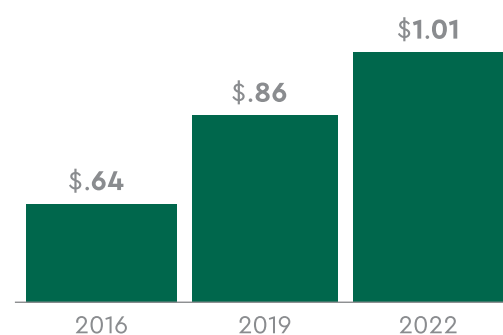
Performance Highlights

- Commerce reported earnings per share of \$3.85, compared to \$4.11 in 2021. Return on average assets totaled 1.45% in 2022 and return on average equity was 17.3%. This compares favorably to the top 50 bank industry median of 1.09% for return on average assets and 10.7% for return on average equity.
- For 2022, annualized total shareholder return was 5.6%, outperforming both the KBW Regional Bank Index of -6.9% and the KBW Bank Index return of -21.4%.
- Net income available to common shareholders totaled \$488 million in 2022, compared to \$531 million in 2021.
- In 2022, Commerce paid a regular cash dividend of \$1.01 per share (restated) on common shares, representing a 6% increase over 2021. In February 2023, we increased our regular cash dividend 7%, marking the 55th consecutive year of cash dividend increases. Also in 2022, for the 29th year in a row, we paid a 5% stock dividend.
- Total shareholders' equity was \$2.5 billion, and our Tier I common risk-based capital ratio remained strong, ending 2022 at 14.1%.
- Period end total loans grew \$1.1 billion, or 7%, in 2022, including growth of \$358 million, or 7%, in business loans and \$348 million, or 11%, in business real estate loans.
- Total revenue, comprised of net interest income and non-interest income, increased \$93 million in 2022 to a record level of \$1.5 billion.
- Net interest income grew \$107 million, or 13%, compared to 2021, mostly driven by higher average rates earned on loans.
- The net yield on interest earning assets (FTE) increased 27 basis points in 2022 to 2.85%.
- Bank card transaction fees grew \$8 million, or 5%, compared to 2021, driven by higher net corporate card fees.
- Our efficiency ratio improved to 56.9% in 2022.
- Net loan charge-offs totaled \$19 million in both 2022 and 2021. Net charge-offs totaled .12% of average loans in 2022 and the non-accrual loans to total loans ratio was .05% at December 31, 2022.
- Commerce Bank was recognized on *Forbes'* America's Best Banks 2022 list — one of the most respected lists in the industry — for the 13th consecutive year.

2022 Annualized Total Return

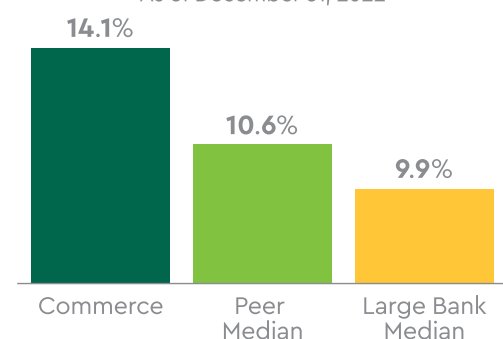


Cash Dividends per Common Share



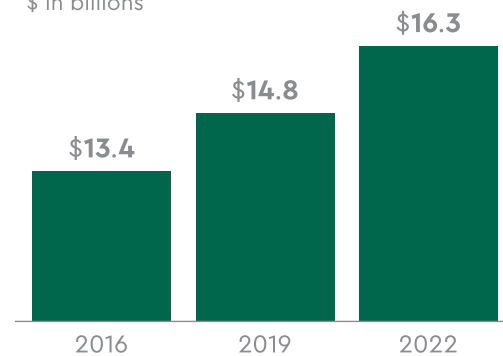
Tier I Common Risk-Based Capital Ratio

As of December 31, 2022



Total Loans

\$ in billions



Commerce by the Numbers

\$31.9
BILLION

Total Assets

Ranked **42nd**
Among U.S. Banks¹

\$8.5
BILLION

Market Capitalization

Ranked **22nd**
Among U.S. Banks¹

\$37.3
BILLION

Trust Assets Under Management

Ranked **18th**
Among U.S. Banks¹

17.3%

Return on Average Common Equity YTD

Ranked **6th**
Among U.S. Banks²

\$26.2
BILLION

Total Deposits

\$16.3
BILLION

Total Loans

a1

Baseline Credit Assessment³

4,594

Full-Time Equivalent Employees

● **FULL-SERVICE BANKING FOOTPRINT**

148 full-service branches and 293 ATMs
St. Louis • Kansas City
Springfield • Central Missouri
Central Illinois • Wichita
Tulsa • Oklahoma City • Denver

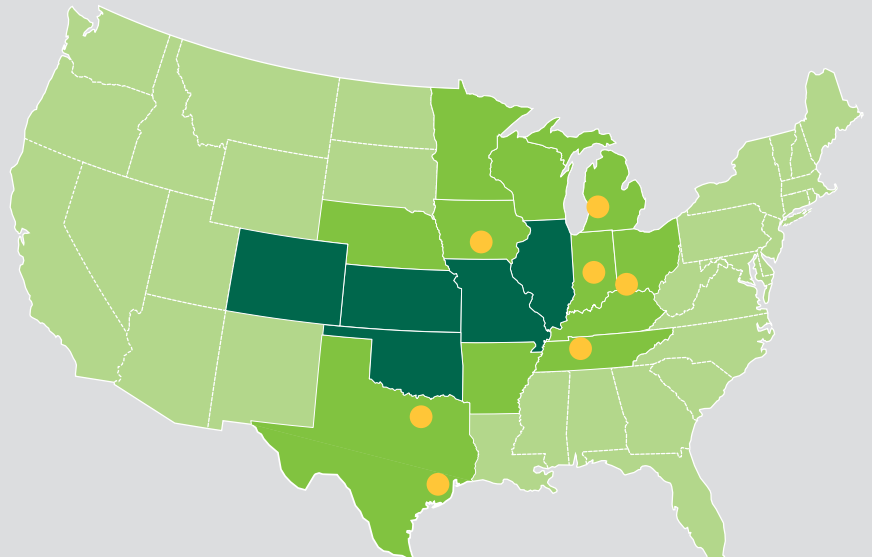
● **COMMERCIAL OFFICES**

Cincinnati • Nashville • Dallas
Des Moines • Indianapolis
Grand Rapids • Houston

● **U.S. PRESENCE**

● **Extended Commercial Market Area**

● **Commercial Payments Services**
Offered in 48 states across the U.S.



Source: S&P Global Market Intelligence, and company reports and filings as of December 31, 2022

¹Regulated U.S. depositories, which includes commercial banks, bank holding companies and credit unions, as of September 30, 2022

²Based on the top 50 publicly traded U.S. banks by total assets, as of September 30, 2022

³Commerce is 1 of 5 U.S. banks with a Moody's rating of a1 or better, "Moody's U.S. Bank Rankings", November 18, 2022

Community Advisors

Our Community Advisors help us understand the unique needs and challenges of our customers and communities. They are business owners, educators, professionals and civic leaders who take on the challenges of their organizations and communities every day. We're continually impressed by their hard work and grateful to them for sharing their valuable insights. It is because of our Community Advisors in each of our markets that we're able to say "Challenge Accepted.®"

Missouri

CAPE GIRARDEAU

Nick Burger
Commerce Bank

Tim Coad
Coad Chevrolet and Coad Toyota

Gregg E. Hollabaugh
Commerce Bancshares, Inc.

Mike Kasten
Beef Alliance

Adam Kidd
Kidd's Gas & Convenience Store

Frank Kinder
Retired

Steve Sowers
Commerce Bank

Susan Layton Tomlin
Layton & Southard, LLC

Allen Toole
Schaefer's Electrical Enclosures

Ben Traxel
Temmile Companies

COLUMBIA

Dan Atwill
Boone County Commission

Dr. Holly Bondurant
Tiger Pediatrics

Sarah Dubbert
Commerce Bank

Mark Fenner
Former Energy Industry CEO

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Commerce Bank

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Commerce Bank

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Commerce Bank

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Company

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AW Holdings, LLC

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CPW Partnership

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Webber Pharmacy

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Orscheln Management Co.

Dr. Clifford J. Miller
Green Hills Veterinary Clinic

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Jim Rolls
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Steve Sowers
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MONITEAU COUNTY

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Burgers' Smokehouse

Brad Clay
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HANNIBAL / QUINCY

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Hannibal Regional Healthcare System

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Bleigh Ready Mix Company

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POPLAR BLUFF

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KUMC

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Lawrence W. O'Donnell, Jr., CPA
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Jay Reardon
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Jay D. Reece, P.C. Attorney at Law

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Oklahoma

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Orange Power Group

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Jim Cleaver
Midsouth Financial Company

Clay Cockrill
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Fischer Investments

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Eagle Drilling Fluids

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Cimarron Production

TULSA

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HUB International Limited

R. Scott Case
Case & Associates, Inc.

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Breast Health Specialists of Oklahoma

Gip Gibson
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Daryl Woodard
SageNet

Colorado

DENVER

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The IMA Financial Group, Inc.

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Running Creek Ranch

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i2 Construction, LLP

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James C. Lewien
Retired, Commerce Bank

Alek Orloff
Frontier Waste Solutions

David Schunk
Volunteers of America, Colorado Branch

Olivia Thompson
Retired, AlloSource

Jason Zickerman
The Alternative Board

Officers

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Executive Chairman

John K. Handy
Executive Vice President

Derrick R. Brooks
Senior Vice President

Douglas D. Neff
Senior Vice President

Jana L. Webb
Chief Risk Officer
and Vice President

John W. Kemper
President
and Chief Executive Officer

Robert S. Holmes
Executive Vice President

Richard W. Heise
Senior Vice President

Thomas J. Noack
Senior Vice President

Paul A. Steiner
Controller

Charles G. Kim
Chief Financial Officer
and Executive Vice President

David L. Orf
Chief Credit Officer
and Executive Vice President

Kim L. Jakovich
Senior Vice President

David L. Roller
Senior Vice President

Aaron C. Meinert
Auditor

Kevin G. Barth
Executive Vice President

Paula S. Petersen
Executive Vice President

Patricia R. Kellerhals
Senior Vice President

Margaret M. Rowe
Secretary, General Counsel
and Vice President

Directors

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Retired
Chief Executive Officer
and President
Eversys, Inc.

Karen L. Daniel*
Retired
Chief Financial Officer
and Executive Director
Black & Veatch

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President
and Chief Executive Officer
Commerce Bancshares, Inc.

Benjamin F. Rassieur, III*
President
Paulo Products Company

Kimberly G. Walker*
Retired
Chief Investment Officer
Washington University
in St. Louis

Blackford F. Brauer*
President
Hunter Engineering Company

Earl H. Devanny, III
Retired
Chief Executive Officer
TractManager

Jonathan M. Kemper
Chairman Emeritus
Commerce Bank
Kansas City Region

Todd R. Schnuck*
Chairman of the Board
and Chief Executive Officer
Schnuck Markets, Inc.

W. Kyle Chapman
President and Board Member
Barry-Wehmiller Group, Inc.

David W. Kemper
Executive Chairman
Commerce Bancshares, Inc.

June McAllister Fowler
Retired
Senior Vice President
Communications, Marketing and
Public Affairs of BJC HealthCare

Christine B. Taylor
Chief Executive Officer
and President
Enterprise Holdings, Inc.

*Audit and Risk Committee Member

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

(Mark One)

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

For the Fiscal Year Ended December 31, 2022

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

OR

For the transition period from _____ to _____

Commission File No. 001-36502

COMMERCE BANCSHARES, INC.

Missouri

43-0889454

(Exact name of registrant as specified in its charter)

(State of Incorporation)

(IRS Employer Identification No.)

1000 Walnut

Kansas City, MO

(Address of principal executive offices)

64106

(Zip Code)

Registrant's telephone number, including area code: (816) 234-2000

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

Title of class	Trading symbol(s)	Name of exchange on which registered
\$5 Par Value Common Stock	CBSH	NASDAQ Global Select Market

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files).

Yes No

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

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

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

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

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

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

As of June 30, 2022, the aggregate market value of the voting stock held by non-affiliates of the Registrant was approximately \$7,329,000,000.

As of February 16, 2023, there were 124,801,957 shares of Registrant's \$5 Par Value Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive proxy statement for its 2023 annual meeting of shareholders, which will be filed within 120 days of December 31, 2022, are incorporated by reference into Part III of this Report.

Commerce Bancshares, Inc.

Form 10-K

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PART I

Item 1. BUSINESS

General

Commerce Bancshares, Inc., a bank holding company as defined in the Bank Holding Company Act of 1956, as amended, was incorporated under the laws of Missouri on August 4, 1966. Through a second tier wholly-owned bank holding company, it owns all the outstanding capital stock of Commerce Bank (the “Bank”), which is headquartered in Missouri. The Bank engages in general banking business, providing a broad range of retail, mortgage banking, corporate, investment, trust, and asset management products and services to individuals and businesses. Commerce Bancshares, Inc. also owns, directly or through the Bank, various non-banking subsidiaries. Their activities include private equity investment, securities brokerage, insurance agency, specialty lending, and leasing activities. A list of Commerce Bancshares, Inc.'s subsidiaries is included as Exhibit 21.

Commerce Bancshares, Inc. and its subsidiaries (collectively, the "Company") is one of the nation's top 50 bank holding companies, based on asset size. At December 31, 2022, the Company had consolidated assets of \$31.9 billion, loans of \$16.3 billion, deposits of \$26.2 billion, and equity of \$2.5 billion. The Company's principal markets, which are served by 148 branch facilities, are located throughout Missouri, Kansas, and central Illinois, as well as Tulsa and Oklahoma City, Oklahoma and Denver, Colorado. Its two largest markets are St. Louis and Kansas City, which serve as central hubs for the Company. The Company also has offices in Dallas, Houston, Cincinnati, Nashville, Des Moines, Indianapolis, and Grand Rapids that support customers in its commercial and/or wealth segments and operates a commercial payments business with sales representatives covering the continental United States of America (“U.S.”).

The Company's goal is to be the preferred provider of financial services in its communities, based on strong customer relationships built through providing top quality service with a strong risk management culture, and employing a strong balance sheet with strong capital levels. The Company operates under a super-community banking format which incorporates large bank product offerings coupled with deep local market knowledge, augmented by experienced, centralized support in select, critical areas. The Company's focus on local markets is supported by an experienced team of bankers assigned to each market coupled with industry specialists. The Company also uses regional advisory boards, comprised of local business leaders, professionals and other community representatives, who assist the Company in responding to local banking needs. In addition to this local market, community-based focus, the Company offers sophisticated financial products usually only available at much larger financial institutions.

The markets the Bank serves are mainly located in the lower Midwest, which provides natural sites for production and distribution facilities and serve as transportation hubs. The economy has been well-diversified in these markets with many major industries represented, including telecommunications, automobile, technology, financial services, aircraft and general manufacturing, health care, numerous service industries, and food and agricultural production. The personal real estate lending operations of the Bank are predominantly centered in its lower Midwestern markets.

From time to time, the Company evaluates the potential acquisition of various financial institutions. In addition, the Company regularly considers the purchase and disposition of real estate assets and branch locations. The Company seeks merger or acquisition partners that are culturally similar, have experienced management and either possess significant market presence or have potential for improved profitability through financial management, economies of scale and expanded services. The Company has not completed any bank acquisitions since 2013.

Employees and Human Capital

The Company employed 4,447 persons on a full-time basis and 151 persons on a part-time basis at December 31, 2022. None of the Company's employees are represented by collective bargaining agreements.

Attracting and retaining talented team members is key to the Company's ability to execute its strategy and compete effectively. The Company values the unique combination of talents and experiences each team member contributes toward the Company's success and strives to offer rewards that meet team members' individual, evolving needs. Well-being is much more than a paycheck and that's why the Company takes a comprehensive approach to Total Rewards, supporting team members' physical well-being, financial well-being, and emotional well-being and career development. The Company's financial well-being program includes a company-matching 401(k) plan and health savings accounts, educational and adoption assistance programs. Emotional well-being programs include paid time off, an employee assistance program (EAP) and company-paid membership to Care.com. Physical well-being is supported by the Company's health, dental, vision, life and various other insurances, and a wellness program that incentivizes team members to live a healthy and balanced lifestyle. Career development is also a key component of the Company's Total Rewards, and the Company has a variety of programs to support team members as they continue to grow within their current role or develop for their next role. Job shadowing, leadership

development programs, Aspiring Managers program, Managing at Commerce, competency assessments and education assistance are just a few of the ways the Company helps team members excel.

During the COVID-19 pandemic, the Company focused efforts on providing team members support and resources to navigate the ever-changing environment. Initiatives included routine communications providing relevant updates and information, resources for leaders to help keep their teams engaged and connected, new resources for working parents, and access to emotional support resources. The Company implemented a phased-in approach to returning to on-site work and created more flexible work categories for team members to provide for ongoing flexibility. While the most significant impacts of the pandemic appear to have passed, the Company continues to provide most of its team members flexible work schedules.

The Company believes diversity, equity, and inclusion (DEI) builds stronger companies with better results. In 2022, the Company's efforts continued around a key initiative focusing on DEI through the lens of our workforce, our suppliers, our community and our customers. Internal teams continue to iterate to build plans for growth in all four areas. The Company continues to build a sense of belonging by engaging team members in a variety of Employee Resource Groups (ERGs) to support its diverse workforce. RISE (empowering women), EMERGE (connecting young professionals), VIBE (valuing multicultural perspectives), PRIDE (engaging the LGBTQIA+ community), and SALUTE (supporting veterans) are important forums that provide team members opportunities to connect, learn, and encourage diverse perspectives. Participation in these ERGs is voluntary, and more than 40% of team members belong to one of these groups. Other internal DEI efforts have included unconscious bias training, book clubs, listen, talk, and learn sessions, courageous conversation training, mentoring programs, and review of talent at all levels of the organization. The Company's longstanding approach of "doing what's right" continues to guide its focus on its team members and communities.

The Company's robust listening strategy allows it to stay connected to the team member experience to understand the evolving needs of its team members and to focus on what matters most to them. This strategy includes a balance of surveys, focus groups, and one on one conversations to allow for two-way conversation and provides trends over time by key demographics. The Company's goal is to create a sense of belonging which it believes is connected to high levels of engagement, enablement, retention, and results. The Company's intentional strategy has allowed it to maintain levels of engagement that have been recognized by its annual survey partner, Korn Ferry, for being "best-in-class" and to be recognized by Forbes as one of the best mid-sized employers.

Competition

The Company operates in the highly competitive environment of financial services. The Company regularly faces competition from banks, savings and loan associations, credit unions, brokerage companies, mortgage companies, insurance companies, trust companies, credit card companies, private equity firms, leasing companies, securities brokers and dealers, financial technology companies, e-commerce companies, investment management companies, and other companies providing financial services. Some of these competitors are not subject to the same regulatory restrictions as domestic banks and bank holding companies. Some other competitors are significantly larger than the Company, and therefore have greater economies of scale, greater financial resources, higher lending limits, and may offer products and services that the Company does not provide. The Company competes by providing a broad offering of products and services to support the needs of customers, matched with a strong commitment to customer service. The Company also competes based on quality, innovation, convenience, reputation, industry knowledge, and price. In its two largest markets, the Company has approximately 12% of the deposit market share in Kansas City and approximately 8% of the deposit market share in St. Louis.

Operating Segments

The Company is managed in three operating segments: Commercial, Consumer, and Wealth. The Commercial segment provides a full array of corporate lending, merchant and commercial bank card products, payment solutions, leasing, and international services, as well as business and government deposit, investment, and cash management services. The Consumer segment includes the retail branch network, consumer installment lending, personal mortgage banking, and consumer debit and credit bank card activities. The Wealth segment provides traditional trust and estate planning services, brokerage services, and advisory and discretionary investment portfolio management services to both personal and institutional corporate customers. In 2022, the Commercial, Consumer and Wealth segments contributed 53%, 23% and 24% of total segment pre-tax income, respectively. See the section captioned "Operating Segments" in Item 7, Management's Discussion and Analysis, of this report and Note 13 to the consolidated financial statements for additional discussion on operating segments.

Government Policies

The Company's operations are affected by federal and state legislative changes, by the U.S. government, and by policies of various regulatory authorities, including those of the numerous states in which they operate. These include, for example, the

statutory minimum legal lending rates, domestic monetary policies of the Board of Governors of the Federal Reserve System, U.S. fiscal policy, international currency regulations and monetary policies, the U.S. Patriot Act, and capital adequacy and liquidity constraints imposed by federal and state bank regulatory agencies.

Supervision and Regulation

The following information summarizes existing laws and regulations that materially affect the Company's operations. It does not discuss all provisions of these laws and regulations, and it does not include all laws and regulations that affect the Company presently or may affect the Company in the future.

General

The Company, as a bank holding company, is primarily regulated by the Board of Governors of the Federal Reserve System under the Bank Holding Company Act of 1956, as amended (BHC Act). Under the BHC Act, the Federal Reserve Board's prior approval is required in any case in which the Company proposes to acquire all or substantially all the assets of any bank, acquire direct or indirect ownership or control of more than 5% of the voting shares of any bank, or merge or consolidate with any other bank holding company. With certain exceptions, the BHC Act also prohibits the Company from acquiring direct or indirect ownership or control of more than 5% of any class of voting shares of any non-banking company. Under the BHC Act, the Company may not engage in any business other than managing and controlling banks or furnishing certain specified services to subsidiaries, and may not acquire voting control of non-banking companies unless the Federal Reserve Board determines such businesses and services to be closely related to banking. When reviewing bank acquisition applications for approval, the Federal Reserve Board considers, among other things, the Bank's record in meeting the credit needs of the communities it serves in accordance with the Community Reinvestment Act of 1977, as amended (CRA). Under the terms of the CRA, banks have a continuing obligation, consistent with safe and sound operation, to help meet the credit needs of their communities, including providing credit to individuals residing in low- and moderate-income areas. The Bank has a current CRA rating of "outstanding."

The Company is required to file various reports and additional information with the Federal Reserve Board. The Federal Reserve Board regularly performs examinations of the Company. The Bank is a state-chartered Federal Reserve member bank and is subject to regulation, supervision and examination by the Federal Reserve Bank of Kansas City and the Missouri Division of Finance. The Bank is also subject to regulation by the Federal Deposit Insurance Corporation (FDIC). In addition, there are numerous other federal and state laws and regulations which control the activities of the Company, including requirements and limitations relating to capital and reserve requirements, permissible investments and lines of business, transactions with affiliates, loan limits, mergers and acquisitions, issuance of securities, dividend payments, and extensions of credit. The Bank is subject to federal and state consumer protection laws, including laws designed to protect customers and promote fair lending. These laws include the Equal Credit Opportunity Act, the Fair Credit Reporting Act, the Truth in Lending Act, the Home Mortgage Disclosure Act, the Real Estate Settlement Procedures Act, and their respective state law counterparts. If the Company fails to comply with these or other applicable laws and regulations, it may be subject to civil monetary penalties, imposition of cease and desist orders or other written directives, removal of management and, in certain circumstances, criminal penalties. This regulatory framework is intended primarily for the protection of depositors and the preservation of the federal deposit insurance funds. Statutory and regulatory controls increase a bank holding company's cost of doing business and limit the options of its management to employ assets and maximize income.

In addition to its regulatory powers, the Federal Reserve Bank affects the conditions under which the Company operates by its influence over the national supply of bank credit. The Federal Reserve Board employs open market operations in U.S. government securities and oversees changes in the discount rate on bank borrowings, changes in the federal funds rate on overnight inter-bank borrowings, and changes in reserve requirements on bank deposits in implementing its monetary policy objectives. These methods are used in varying combinations to influence the overall level of the interest rates charged on loans and paid for deposits, the price of the dollar in foreign exchange markets, and the level of inflation. The monetary policies of the Federal Reserve have a significant effect on the operating results of financial institutions, most notably on the interest rate environment. In view of changing conditions in the national economy and in the money markets, as well as the effect of credit policies of monetary and fiscal authorities, the Company makes no prediction as to possible future changes in interest rates, deposit levels or loan demand, or their effect on the financial statements of the Company.

The financial industry operates under laws and regulations that are under regular review by various agencies and legislatures and are subject to change. The Company currently operates as a bank holding company, as defined by the Gramm-Leach-Bliley Financial Modernization Act of 1999 (GLB Act), and the Bank qualifies as a financial subsidiary under the GLB Act, which allows it to engage in investment banking, insurance agency, brokerage, and underwriting activities that were not available to banks prior to the GLB Act. The GLB Act also included privacy provisions that limit banks' abilities to disclose non-public information about customers to non-affiliated entities.

The Company must also comply with the requirements of the Bank Secrecy Act (BSA). The BSA is designed to help fight drug trafficking, money laundering, and other crimes. Compliance is monitored by the Federal Reserve. The BSA was enacted to prevent banks and other financial service providers from being used as intermediaries for, or to hide the transfer or deposit of money derived from, criminal activity. Since its passage, the BSA has been amended several times. These amendments include the Money Laundering Control Act of 1986 which made money laundering a criminal act, as well as the Money Laundering Suppression Act of 1994 which required regulators to develop enhanced examination procedures and increased examiner training to improve the identification of money laundering schemes in financial institutions.

The USA PATRIOT Act, established in 2001, substantially broadened the scope of U.S. anti-money laundering laws and regulations by imposing significant new compliance and due diligence obligations, creating new crimes and penalties and expanding the extra-territorial jurisdiction of the U.S. The regulations impose obligations on financial institutions to maintain appropriate policies, procedures and controls to detect, prevent, and report money laundering and terrorist financing. The regulations include significant penalties for non-compliance.

The Company is subject to regulation under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2011 (Dodd-Frank Act). Among its many provisions, the Dodd-Frank Act required stress-testing for certain financial services companies and established a new council of “systemic risk” regulators. The Dodd-Frank Act also established the Consumer Financial Protection Bureau (CFPB) which is authorized to supervise certain financial services companies and has responsibility to implement, examine for compliance with, and enforce “Federal consumer financial law.” The Company is subject to examinations by the CFPB. The Dodd-Frank Act, through Title VI, commonly known as the Volcker Rule, placed trading restrictions on financial institutions and separated investment banking, private equity and proprietary trading (hedge fund) sections of financial institutions from their consumer lending arms. The Volcker Rule also restricts financial institutions from investing in and sponsoring certain types of investments.

In May 2018, the Economic Growth, Regulatory Relief, and Consumer Protection Act was signed into law which provides a number of limited amendments to the Dodd-Frank Act. Notable provisions of the legislation include: an increase in the asset threshold from \$50 billion to \$250 billion, above which the Federal Reserve is required to apply enhanced prudential standards; an exemption from the Volcker Rule for insured depository institutions with less than \$10 billion in consolidated assets; modifications to the Liquidity Coverage and Supplementary Leverage ratios; and the elimination of Dodd-Frank company-run stress tests for banks and bank holding companies with less than \$250 billion in assets. Most of these provisions affect institutions larger than the Company, and the Company is not required to prepare stress testing as specified by the Dodd-Frank Act.

Subsidiary Bank

Under Federal Reserve policy, the bank holding company, Commerce Bancshares, Inc. (the "Parent"), is expected to act as a source of financial strength to its bank subsidiary and to commit resources to support it in circumstances when it might not otherwise do so. In addition, loans by a bank holding company to any of its subsidiary banks are subordinate in right of payment to deposits and to certain other indebtedness of such subsidiary banks. In the event of a bank holding company's bankruptcy, any commitment by the bank holding company to a federal bank regulatory agency to maintain the capital of a subsidiary bank will be assumed by the bankruptcy trustee and entitled to a priority of payment.

Deposit Insurance

Substantially all of the deposits held by the Bank are insured up to applicable limits (generally \$250,000 per depositor for each account ownership category) by the FDIC's Deposit Insurance Fund (DIF) and are subject to deposit insurance assessments to maintain the DIF. In 2011, the FDIC released a final rule to implement provisions of the Dodd-Frank Act that affected deposit insurance assessments. Among other things, the Dodd-Frank Act raised the minimum designated reserve ratio from 1.15% to 1.35% of estimated insured deposits, removed the upper limit of the designated reserve ratio, required that the designated reserve ratio reach 1.35% by September 30, 2020, and required the FDIC to offset the effect of increasing the minimum designated reserve ratio on depository institutions with total assets of less than \$10 billion. The Dodd-Frank Act provided the FDIC flexibility in the implementation of the increase in the designated reserve ratio and also required that the FDIC redefine the assessment base to average consolidated assets minus average tangible equity. Due to growth in insured deposits during the first half of 2020, the DIF reserve ratio fell below statutory minimum of 1.35% on June 30, 2022. The FDIC Board of Directors adopted an Amended Restoration Plan in an effort to restore the reserve ratio to at least 1.35% by September 30, 2028. The FDIC Board also increased base deposit insurance assessment rates by 2 basis points, which takes effect on January 1, 2023. For the year ended December 31, 2022, the Company's deposit insurance expense was \$10.6 million.

Payment of Dividends

The Federal Reserve Board may prohibit the payment of cash dividends to shareholders by bank holding companies if their actions constitute unsafe or unsound practices. The principal source of the Parent's cash revenues is cash dividends paid by the Bank. The amount of dividends paid by the Bank in any calendar year is limited to the net profit of the current year combined with the retained net profits of the preceding two years, and permission must be obtained from the Federal Reserve Board for dividends exceeding these amounts. The payment of dividends by the Bank may also be affected by factors such as the maintenance of adequate capital.

Capital Adequacy

The Company is required to comply with the capital adequacy standards established by the Federal Reserve, which are based on the risk levels of assets and off-balance sheet financial instruments. Capital adequacy guidelines and prompt corrective action regulations involve quantitative measures of assets, liabilities, and certain off-balance sheet items calculated under regulatory accounting practices. Capital amounts and classifications are also subject to judgments by regulators regarding qualitative components, risk weightings, and other factors.

A comprehensive capital framework was established by the Basel Committee on Banking Supervision, which was effective for large and internationally active U.S. banks and bank holding companies on January 1, 2015. A key goal of the Basel III framework was to strengthen the capital resources of banking organizations during normal and challenging business environments. Basel III increased minimum requirements for both the quantity and quality of capital held by banking organizations. The rule includes a minimum ratio of common equity Tier 1 capital to risk-weighted assets of 4.5% and a common equity Tier 1 capital conservation buffer of 2.5% of risk-weighted assets. The capital conservation buffer is intended to absorb losses during periods of economic stress. Failure to maintain the buffer will result in constraints on dividends, stock repurchases and executive compensation. The rule also adjusted the methodology for calculating risk-weighted assets to enhance risk sensitivity. At December 31, 2022, the Company's capital ratios are well in excess of those minimum ratios required by Basel III.

The Federal Deposit Insurance Corporation Improvement Act (FDICIA) requires each federal banking agency to take prompt corrective action to resolve the problems of insured depository institutions, including but not limited to those that fall below one or more prescribed minimum capital ratios. Pursuant to FDICIA, the FDIC promulgated regulations defining the following five categories in which an insured depository institution will be placed, based on the level of its capital ratios: well-capitalized, adequately capitalized, undercapitalized, significantly undercapitalized, and critically undercapitalized. Under the prompt corrective action provisions of FDICIA, an insured depository institution generally will be classified as well-capitalized (under the Basel III rules mentioned above) if it has a Tier 1 capital ratio of at least 8%, a common equity Tier 1 capital ratio of at least 6.5%, a total capital ratio of at least 10%, and a Tier 1 leverage ratio of at least 5%. An institution that, based upon its capital levels, is classified as "well-capitalized," "adequately capitalized," or "undercapitalized," may be treated as though it were in the next lower capital category if the appropriate federal banking agency, after notice and opportunity for hearing, determines that an unsafe or unsound condition, or an unsafe or unsound practice warrants such treatment. At each successive lower capital category, an insured depository institution is subject to more restrictions and prohibitions, including restrictions on growth, restrictions on interest rates paid on deposits, restrictions or prohibitions on payment of dividends, and restrictions on the acceptance of brokered deposits. Furthermore, if a bank is classified in one of the undercapitalized categories, it is required to submit a capital restoration plan to the federal bank regulator, and the holding company must guarantee the performance of that plan. The Bank has consistently maintained regulatory capital ratios above the "well-capitalized" standards.

Stress Testing

As required by the Dodd-Frank Act, the Company performed stress tests as specified by the Federal Reserve requirement and published results beginning in 2014 through 2017. On May 24, 2018, the Economic Growth, Regulatory Relief, and Consumer Protection Act was enacted, which eliminated the required stress testing under the Dodd-Frank Act for banks with consolidated assets of less than \$250 billion. The Company continues to perform periodic stress-testing based on its own internal criteria.

Executive and Incentive Compensation

Guidelines adopted by federal banking agencies prohibit excessive compensation as an unsafe and unsound practice, and describe compensation as "excessive" when the amounts paid are unreasonable or disproportionate to the services performed by an executive officer, employee, director or principal shareholder. The Federal Reserve Board has issued comprehensive guidance on incentive compensation intended to ensure that the incentive compensation policies do not undermine safety and soundness by encouraging excessive risk taking. This guidance covers all employees that have the ability to materially affect the risk profile of an organization, either individually or as part of a group, based on key principles that (i) incentives do not

encourage risk-taking beyond the organization's ability to identify and manage risk, (ii) compensation arrangements are compatible with effective internal controls and risk management, and (iii) compensation arrangements are supported by strong corporate governance, including active and effective board oversight. Deficiencies in compensation practices may affect supervisory ratings and enforcement actions may be taken if incentive compensation arrangements pose a risk to safety and soundness.

Transactions with Affiliates

The Federal Reserve Board regulates transactions between the Bank and its subsidiaries. Generally, the Federal Reserve Act and Regulation W, as amended by the Dodd-Frank Act, limit the Company's banking subsidiary and its subsidiaries to lending and other "covered transactions" with affiliates. The aggregate amount of covered transactions a banking subsidiary or its subsidiaries may enter into with an affiliate may not exceed 10% of the capital stock and surplus of the banking subsidiary. The aggregate amount of covered transactions with all affiliates may not exceed 20% of the capital stock and surplus of the banking subsidiary.

Covered transactions with affiliates are also subject to collateralization requirements and must be conducted on arm's length terms. Covered transactions include (a) a loan or extension of credit by the banking subsidiary, including derivative contracts, (b) a purchase of securities issued to a banking subsidiary, (c) a purchase of assets by the banking subsidiary unless otherwise exempted by the Federal Reserve, (d) acceptance of securities issued by an affiliate to the banking subsidiary as collateral for a loan, and (e) the issuance of a guarantee, acceptance or letter of credit by the banking subsidiary on behalf of an affiliate.

Certain transactions with the Company's directors, officers or controlling persons are also subject to conflicts of interest regulations. Among other things, these regulations require that loans to such persons and their related interests be made on terms substantially the same as for loans to unaffiliated individuals, and must not create an abnormal risk of repayment or other unfavorable features for the financial institution. See Note 2 to the consolidated financial statements for additional information on loans to related parties.

Available Information

The Company's principal offices are located at 1000 Walnut Street, Kansas City, Missouri (telephone number 816-234-2000). The Company makes available free of charge, through its website at www.commercebank.com, reports filed with the Securities and Exchange Commission as soon as reasonably practicable after the electronic filing. Additionally, a copy of our electronically filed materials can be found at www.sec.gov. These filings include the annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports.

Item 1a. RISK FACTORS

Making or continuing an investment in securities issued by the Company, including its common stock, involves certain risks that you should carefully consider. If any of the following risks actually occur, the Company's business, financial condition or results of operations could be negatively affected, the market price for your securities could decline, and you could lose all or a part of your investment. Further, to the extent that any of the information contained in this Annual Report on Form 10-K constitutes forward-looking statements, the risk factors set forth below also are cautionary statements identifying important factors that could cause the Company's actual results to differ materially from those expressed in any forward-looking statements made by or on behalf of Commerce Bancshares, Inc.

Market Risks

Difficult market conditions may affect the Company's industry.

The concentration of the Company's banking business in the United States particularly exposes it to downturns in the U.S. economy. In particular, the Company may face the following risks in connection with market conditions:

- In 2022, the United States economy saw an uneven year. Consumer spending and corporate profit growth were resilient despite high inflation, rising geopolitical tensions, and supply chain disruptions. The Federal Reserve responded to persistently high inflation by raising its benchmark interest rate in a series of hikes starting in March 2022 and continuing into 2023. While unemployment levels remained low during 2022, an increasing number of companies, especially in the technology sector, announced layoffs toward the end of 2022 and into 2023. The pace of inflation slowed late in 2022, but the probability of a looming recession appears to be growing, as many economists are now predicting a recession in 2023.
- The U.S. economy is affected by global events and conditions, including U.S. trade disputes and renewed trade agreements with various countries. Although the Company does not directly hold foreign debt or have significant activities with foreign customers, the global economy, the strength of the U.S. dollar, international trade conditions, and oil prices may ultimately affect interest rates, business import/export activity, capital expenditures by businesses, and investor confidence. Unfavorable changes in these factors may result in declines in consumer credit usage, adverse changes in payment patterns, reduced loan demand, and higher loan delinquencies and default rates. These could impact the Company's future provision for credit losses, as a significant part of the Company's business includes consumer and credit card lending.
- In addition to the results above, a slowdown in economic activity may cause declines in financial services activity, including declines in bank card, corporate cash management and other fee businesses, as well as the fees earned by the Company on such transactions.
- The process used to estimate credit losses in the Company's loan portfolio requires difficult, subjective, and complex judgments, including consideration of economic conditions and how these economic predictions might impair the ability of its borrowers to repay their loans. If an instance occurs that renders these predictions no longer capable of accurate estimation, this may in turn impact the reliability of the process.
- Competition in the industry could intensify as a result of the increasing consolidation of financial services companies in connection with current market conditions, thereby reducing market prices for various products and services which could in turn reduce the Company's revenues.

The performance of the Company is dependent on the economic conditions of the markets in which the Company operates.

The Company's success is heavily influenced by the general economic conditions of the specific markets in which it operates. Unlike larger national or other regional banks that are more geographically diversified, the Company provides financial services primarily throughout the states of Missouri, Kansas, central Illinois, Oklahoma, and Colorado. It also has a growing presence in additional states through its commercial banking offices in: Texas, Iowa, Indiana, Michigan, Ohio, and Tennessee. As the Company does not have a significant banking presence in other parts of the country, a prolonged economic downturn in these markets could have a material adverse effect on the Company's financial condition and results of operations.

The Company operates in a highly competitive industry and market area.

The Company operates in the financial services industry and has numerous competitors including other banks and insurance companies, securities dealers, brokers, trust and investment companies, mortgage bankers, and financial technology companies. Consolidation among financial service providers and new changes in technology, product offerings and regulation continue to challenge the Company's marketplace position. As consolidation occurs, larger regional and national banks may enter the Company's markets and add to existing competition. Large, national financial institutions have substantial capital, technology and marketing resources. These new competitors may lower fees to grow market share, which could result in a loss of

customers and lower fee revenue for the Company. They may have greater access to capital at a lower cost than the Company, and may have higher loan limits, both of which may adversely affect the Company's ability to compete effectively. The Company must continue to make investments in its products and delivery systems to stay competitive with the industry, or its financial performance may suffer.

The soundness of other financial institutions could adversely affect the Company.

The Company's ability to engage in routine funding transactions could be adversely affected by the actions and commercial soundness of other financial institution counterparties. Financial services institutions are interrelated because of trading, clearing, counterparty or other relationships. The Company has exposure to many different industries and counterparties and routinely executes transactions with counterparties in the financial industry, including brokers and dealers, commercial banks, investment banks, mutual funds, and other institutional clients. Transactions with these institutions include overnight and term borrowings, interest rate swap agreements, securities purchased and sold, short-term investments, and other such transactions. Because of this exposure, defaults by, or rumors or questions about, one or more financial services institutions or the financial services industry in general, could lead to market-wide liquidity problems and defaults by other institutions. Many of these transactions expose the Company to credit risk in the event of default of its counterparty or client, while other transactions expose the Company to liquidity risks should funding sources quickly disappear. In addition, the Company's credit risk may be exacerbated when the collateral held cannot be realized or is liquidated at prices not sufficient to recover the full amount of the exposure due to the Company. Any such losses could materially and adversely affect results of operations.

Regulatory and Compliance Risks

The Company is subject to extensive government regulation and supervision.

As part of the financial services industry, the Company is subject to extensive federal and state regulation and supervision. Banking regulations are primarily intended to protect depositors' funds, federal deposit insurance funds, and the banking system, not shareholders. These regulations affect the Company's lending practices, capital structure, investment practices, dividend policy, and growth, among other things. Congress and federal regulatory agencies continually review banking laws, regulations, and policies for possible changes. Changes to statutes, regulations, or regulatory policies, including changes in interpretation or implementation of statutes, regulations, or policies, could affect the Company in substantial and unpredictable ways. Such changes could subject the Company to additional costs, limit the types of financial services and products it may offer, and/or increase the ability of non-banks to offer competing financial services and products, among other things. Failure to comply with laws, regulations, or policies could result in sanctions by regulatory agencies, civil money penalties, and/or reputation damage, which could have a material adverse effect on the Company's business, financial condition, and results of operations. While the Company has policies and procedures designed to prevent any such violations, there can be no assurance that such violations will not occur.

Significant changes in federal monetary policy could materially affect the Company's business.

The Federal Reserve System regulates the supply of money and credit in the United States. Its policies determine in large part the cost of funds for lending and interest rates earned on loans and paid on borrowings and interest-bearing deposits. Credit conditions are influenced by its open market operations in U.S. government securities, changes in the member bank discount rate, and bank reserve requirements. Changes in Federal Reserve Board policies are beyond the Company's control and difficult to predict, and such changes may result in lower interest margins and a lack of demand for credit products.

Liquidity and Capital Risks

The Company is subject to both interest rate and liquidity risk.

With oversight from its Asset-Liability Management Committee, the Company devotes substantial resources to monitoring its liquidity and interest rate risk on a monthly basis. The Company's net interest income is the largest source of overall revenue to the Company, representing 63% of total revenue for the year ended December 31, 2022. The interest rate environment in which the Company operates fluctuates in response to general economic conditions and policies of various governmental and regulatory agencies, particularly the Federal Reserve Board, which regulates the supply of money and credit in the U.S. Changes in monetary policy, including changes in interest rates, will influence loan originations, deposit generation, demand for investments and revenues and costs for earning assets and liabilities, and could significantly impact the Company's net interest income.

As the economy rebounded from the COVID-19 pandemic-induced recession, strong inflation in 2022 caused the Federal Reserve Board to significantly increase the benchmark interest rate from nearly zero to between 4.25% and 4.50%. Future economic conditions or other factors could shift monetary policy resulting in additional increases or decreases in the benchmark

rate. Furthermore, changes in interest rates could result in unanticipated changes to customer deposit balances and adversely affect the Company's liquidity position.

Commerce Bancshares, Inc. relies on dividends from its subsidiary bank for most of its revenue.

Commerce Bancshares, Inc. is a separate and distinct legal entity from its banking and other subsidiaries. It receives substantially all of its revenue from dividends from its subsidiary bank. These dividends, which are limited by various federal and state regulations, are the principal source of funds to pay dividends on its common stock and to meet its other cash needs. In the event the subsidiary bank is unable to pay dividends, the Company may not be able to pay dividends or other obligations, which would have a material adverse effect on the Company's financial condition and results of operations.

Operational Risks

The impact of the phase-out of LIBOR is uncertain.

In 2017, the United Kingdom Financial Conduct Authority, which regulates LIBOR, announced that LIBOR would likely be discontinued at the end of 2021 as panel banks would no longer be required to submit estimates that are used to construct LIBOR. U.S. regulatory authorities voiced similar support for phasing out LIBOR. On March 5, 2021, LIBOR's regulator and its administrator announced that the publication of certain LIBOR tenors will cease immediately after December 31, 2021 and the remaining LIBOR tenors, including 1-month USD LIBOR, will cease immediately after June 30, 2023. The Alternative Rates Reference Committee (the "ARRC"), a group of market participants convened by the Federal Reserve Board and the New York Fed to help ensure a successful transition from LIBOR, identified the Secured Overnight Financing Rate ("SOFR") as its preferred alternative rate.

The Company established a LIBOR Transition Program, which is led by the LIBOR Transition Steering Committee (Committee) whose purpose is to guide the overall transition process for the Company. The Committee is an internal, cross-functional team with representatives from all relevant business lines, support functions and legal counsel. A LIBOR impact and risk assessment has been performed, and the Company has developed and prioritized action items. All of the Company's financial contracts that reference LIBOR have been identified, and LIBOR fallback language has been included in key loan provisions of new and renewed loans in preparation for the cessation of LIBOR. Significant progress has been made in converting loans that reference LIBOR to an alternative reference rate during 2022. Additionally, changes to the Company's systems to utilize alternative reference rates were completed in 2022.

The Company has loans, derivative contracts, and other financial instruments with attributes that are either directly or indirectly dependent on LIBOR, mostly 1-month LIBOR. As of December 31, 2022, the Company had approximately \$1.0 billion of commercial loans, \$948 million of derivative contracts (notional value), and \$691 million of investment securities that are expected to mature after June 30, 2023. These amounts are expected to decrease as the Company continues to work with customers to replace contracts that use LIBOR with alternative reference rates. The Company ceased entering any new loan contracts that use USD LIBOR as a reference rate in December 2021.

The Company may be adversely affected if the interest rates currently tied to LIBOR on the Company's loans, derivatives, and other financial instruments are not able to be transitioned to an alternative rate. Furthermore, the Company may be faced with disputes or litigation with customers regarding interpretation and enforcement of fallback language used in loan agreements as the transition to a new benchmark rate continues to evolve.

The Company's asset valuation may include methodologies, models, estimations and assumptions which are subject to differing interpretations and could result in changes to asset valuations that may materially adversely affect its results of operations or financial condition.

The Company uses estimates, assumptions, and judgments when certain financial assets and liabilities are measured and reported at fair value. Assets and liabilities carried at fair value inherently result in greater financial statement volatility. Fair values and the information used to record valuation adjustments for certain assets and liabilities are based on quoted market prices and/or other observable inputs provided by independent third-party sources, when available. When such third-party information is not available, fair value is estimated primarily by using cash flow and other financial modeling techniques utilizing assumptions such as credit quality, liquidity, interest rates and other relevant inputs. Changes in underlying factors, assumptions, or estimates in any of these areas could materially impact the Company's future financial condition and results of operations. Furthermore, if models used to calculate fair value of financial instruments are inadequate or inaccurate due to flaws in their design or execution, upon sale, the Company may not realize the cash flows of a financial instrument as modeled and could incur material, unexpected losses.

During periods of market disruption, including periods of significantly rising or high interest rates, rapidly widening credit spreads or illiquidity, it may be difficult to value certain assets if trading becomes less frequent and/or market data becomes less observable. There may be certain asset classes in active markets with significant observable data that become illiquid due to the current financial environment. In such cases, certain asset valuations may require more subjectivity and management judgment. As such, valuations may include inputs and assumptions that are less observable or require greater estimation. Further, rapidly changing and unprecedented credit and equity market conditions could materially impact the valuation of assets as reported within the Company's consolidated financial statements, and the period-to-period changes in value could vary significantly. Decreases in value may have a material adverse effect on results of operations or financial condition.

The Company's operations rely on certain external vendors.

The Company relies on third-party vendors to provide products and services necessary to maintain day-to-day operations. For example, the Company outsources a portion of its information systems, communication, data management, and transaction processing to third parties. Accordingly, the Company is exposed to the risk that these vendors might not perform in accordance with the contracted arrangements or service level agreements because of changes in the vendor's organizational structure, financial condition, support for existing products and services, or strategic focus. Such failure to perform could be disruptive to the Company's operations, which could have a materially adverse impact on its business, financial condition and results of operations. These third parties are also sources of risk associated with operational errors, system interruptions or breaches and unauthorized disclosure of confidential information. If the vendors encounter any of these issues, the Company could be exposed to disruption of service, damage to reputation and litigation. Because the Company is an issuer of both debit and credit cards, it is periodically exposed to losses related to security breaches which occur at retailers that are unaffiliated with the Company (e.g., customer card data being compromised at retail stores). These losses include, but are not limited to, costs and expenses for card reissuance as well as losses resulting from fraudulent card transactions.

Credit Risks

The allowance for credit losses may be insufficient or future credit losses could increase.

The allowance for credit losses on loans and the liability for unfunded lending commitments at December 31, 2022 reflect management's estimate of credit losses expected in the loan portfolio, including unfunded lending commitments, as of the balance sheet date. See Note 2 to the consolidated financial statements and the section captioned "Allowance for Credit Losses on Loans and Liability for Unfunded Lending Commitments" in Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, of this report for further discussion related to the Company's process for determining the appropriate level of the allowance for credit losses on loans and the liability for unfunded lending commitments at December 31, 2022.

The Company's estimate of credit losses utilizes a life of loan loss concept, and the level of the allowance is based on management's methodology that utilizes historical net charge-off rates and adjusts for the impacts in the reasonable and supportable forecast and other qualitative factors. Key assumptions include the application of historical loss rates, prepayment speeds, forecast results of a reasonable and supportable period, the period to revert to historical loss rates, and qualitative factors. The Company's allowance level is subject to review by regulatory agencies, and that review could also result in adjustments to the allowance for credit losses. Additionally, the volatility of the Company's provision for credit losses may change from year to year due to macroeconomic variables that influence the Company's loss estimates, and the volatility in credit losses may be material to the Company's earnings.

The Company's investment portfolio values may be adversely impacted by deterioration in the credit quality of underlying collateral within the various categories of investment securities it owns.

The Company generally invests in liquid, investment grade securities, however, these securities are subject to changes in market value due to changing interest rates and implied credit spreads. While the Company maintains prudent risk management practices over bonds issued by municipalities and other issuers, credit deterioration in these bonds could occur and result in losses. Certain mortgage and asset-backed securities (which are collateralized by residential mortgages, credit cards, automobiles, mobile homes or other assets) may decline in value due to actual or expected deterioration in the underlying collateral. Under accounting rules, when an available for sale debt security is in an unrealized loss position, the entire loss in fair value is required to be recognized in current earnings if the Company intends to sell the security or believes it is more likely than not that the Company will be required to sell the security before the value recovers. Additionally, the current expected credit loss model (CECL) implemented by the Company on January 1, 2020, requires that lifetime expected credit losses on securities be recorded in current earnings. This could result in significant losses.

Strategic Risk

New lines of business or new products and services may subject the Company to additional risk.

From time to time, the Company may implement new lines of business or offer new products and services within existing lines of business. There are substantial risks and uncertainties associated with these efforts, particularly in instances where the markets are not fully developed. In developing and marketing new lines of business and new products or services, the Company may invest significant time and resources. Initial timetables for the introduction and development of new lines of business and new products or services may not be achieved and price and profitability targets may not prove feasible. External factors, such as compliance with regulations, competitive alternatives and shifting market preferences may also impact the successful implementation of a new line of business or a new product or service. Furthermore, any new line of business, or new product or service, could have a significant impact on the effectiveness of the Company's system of internal controls. Failure to successfully manage these risks in the development and implementation of new lines of business and new products or services could have a material adverse effect on the Company's financial condition and results of operations.

General Risks

A successful cyber attack or other computer system breach could significantly harm the Company, its reputation and its customers.

The Company relies heavily on communications and information systems to conduct its business, and as part of its business, the Company maintains significant amounts of data about its customers and the products they use. The Company's data is maintained on its own systems and on the systems of its vendors, business partners and third-party service providers. The Company relies on a layered system of security controls to secure collection, transmission, storage, and retrieval of data, including confidential data, in its computer systems and the systems of third parties. Information security risks continue to increase due to new technologies, the increasing use of the Internet and telecommunication technologies (including mobile devices) to conduct financial and other business transactions, and the increased sophistication and activities of organized crime, perpetrators of fraud, hackers, and others. The Company has faced security incidents, which have been minor in scope and impact, and it expects unauthorized parties to continue to attempt to gain access to its systems or information, as well as those of its business partners and service providers. The Company makes significant investments in various technology to identify and prevent intrusions into its information systems. The Company has policies, procedures and controls designed to identify, protect, detect, respond, and recover from security incidents. The Company also requires ongoing security awareness training for employees, hosts tabletop exercises to test response readiness, and performs regular audits using both internal and outside resources. However, there can be no assurance that any such failures, interruptions or security breaches will not occur, or if they do occur, that they will be adequately addressed. In addition to unauthorized access, denial-of-service attacks or other operational disruptions could prevent the Company from adequately serving customers. Should any of the Company's systems become compromised or customer information be obtained by unauthorized parties, the reputation of the Company could be damaged, relationships with existing customers may be impaired, and the Company could be subject to lawsuits, all of which could result in lost business and have a material adverse effect on the Company's business, financial condition and results of operations.

The Company continually encounters technological change.

The financial services industry is continually undergoing rapid technological change with frequent introductions of new technology-driven products and services, including the entrance of financial technology companies offering new financial service products. The Company regularly upgrades or replaces technological systems to increase efficiency, enhance product and service capabilities, eliminate risks of end-of-lifecycle products, reduce costs, and better serve our customers. During 2022, the Company replaced its core customer and deposit systems and other ancillary systems (collectively referred to as "core system"). While the conversion was completed successfully, the Company may face operational risks after the conversion, including disruptions to its technology systems, which may adversely impact customers. The Company's future success depends, in part, upon its ability to address the needs of its customers by using technology to provide products and services that will satisfy customer demands, as well as to create additional efficiencies in the Company's operations. Many of the Company's competitors have substantially greater resources to invest in technological improvements. The Company may encounter significant problems in effectively implementing new technology-driven products and services and may not be successful in marketing the new products and services to its customers. These problems might include significant time delays, cost overruns, loss of key people, and technological system failures. Failure to successfully keep pace with technological change affecting the financial services industry or failure to successfully complete the replacement of technological systems could have a material adverse effect on the Company's business, financial condition and results of operations.

The Company must attract and retain skilled employees.

The Company's success depends, in large part, on its ability to attract and retain key people. Competition for the best people can be intense, and the Company spends considerable time and resources attracting, hiring, and retaining qualified people for its various business lines and support units. Companies throughout the U.S. saw significant turnover during 2021 and into 2022, and the number of candidates in the job market was generally much lower than the demand for talent. The unexpected loss of the services of one or more of the Company's key personnel could have a material adverse impact on the Company's business because of their skills, knowledge of the Company's market, and years of industry experience, as well as the difficulty of promptly finding qualified replacement personnel.

Public health threats or outbreaks of communicable diseases could have an adverse effect on the Company's operations and financial results.

The Company may face risks related to public health threats or outbreaks of communicable diseases. A widespread healthcare crisis, such as an outbreak of a communicable disease could adversely affect the global economy and the Company's financial performance. For example, the global COVID-19 pandemic caused significant disruption and harm to the economy and the financial markets in which the Company operates.

The situation surrounding the COVID-19 pandemic remains uncertain. While the U.S. economy has rebounded significantly since the peak of the pandemic-induced recession, fallout from economic and societal changes resulting from the pandemic may cause prolonged global or national recessionary economic conditions, which could have a material adverse effect on the Company's business, results of operations and financial condition. Beyond the impact of the COVID-19 pandemic, the potential impacts of future epidemics, pandemics, or other outbreaks of an illness, disease, or virus could therefore materially and adversely affect the Company's business, revenue, operations, financial condition, liquidity and cash flows.

Our business and financial results may be affected by societal and governmental responses to climate change and related environmental issues.

The current and anticipated effects of climate change have raised concerns for the condition of the global environment. These concerns have changed and will continue to change the behavior of consumers and businesses. Further, governments have increased their attention on the issue of climate change. As a result, international agreements have been signed to attempt to reduce global temperatures and federal and state legislative and regulatory initiatives have been proposed to seek to mitigate the effects of climate change. The Company and its customers may need to respond to new laws and regulations as well as new consumer and business preferences resulting from climate change concerns. These changes may result in cost increases, asset value reductions, and operating process changes to the Company and its customers. The impact on our customers will likely vary depending on their specific attributes, including reliance on or role in carbon intensive activities. Among the impacts to the Company could be a drop in demand for our products and services, particularly in certain industries. In addition, the Company could experience reductions in creditworthiness on the part of some customers or in the value of assets securing loans. The Company's efforts to take these risks into account in making lending and other decisions, including by increasing the Company's business with climate-friendly companies, may not be effective in protecting the Company from the adverse impact of new laws and regulations or changes in consumer or business behavior.

Item 1b. UNRESOLVED STAFF COMMENTS

None

Item 2. PROPERTIES

The main offices of the Company are located in Kansas City and St. Louis, Missouri. The Company owns its main offices and leases unoccupied premises to the public. The larger office buildings include:

<u>Building</u>	<u>Net rentable square footage</u>	<u>% occupied in total</u>	<u>% occupied by Bank</u>
1000 Walnut Kansas City, MO	391,000	95%	53%
922 Walnut Kansas City, MO	256,000	95	91
811 Main Kansas City, MO	237,000	100	100
8000 Forsyth Clayton, MO	178,000	100	100

The Company has an additional 148 branch locations in Missouri, Illinois, Kansas, Oklahoma and Colorado which are owned or leased.

Item 3. LEGAL PROCEEDINGS

The information required by this item is set forth in Item 8 under Note 21, Commitments, Contingencies and Guarantees on page 137.

Item 4. MINE SAFETY DISCLOSURES

Not applicable

Information about the Company's Executive Officers

The following are the executive officers of the Company as of February 22, 2023, each of whom is designated annually. There are no arrangements or understandings between any of the persons so named and any other person pursuant to which such person was designated an executive officer.

<u>Name and Age</u>	<u>Positions with Registrant</u>
Kevin G. Barth, 62	Executive Vice President of the Company since April 2005, and Community President and Chief Executive Officer of Commerce Bank since October 1998. Senior Vice President of the Company and Officer of Commerce Bank prior thereto.
Derrick R. Brooks, 46	Senior Vice President of the Company and Executive Vice President of Commerce Bank since January 2021. Senior Vice President of Commerce Bank prior thereto.
John K. Handy, 59	Executive Vice President of the Company since January 2018 and Senior Vice President of the Company prior thereto. Community President and Chief Executive Officer of Commerce Bank since January 2018 and Senior Vice President of Commerce Bank prior thereto.
Richard W. Heise, 54	Senior Vice President of the Company since April 2022 and Executive Vice President of Commerce Bank since July 2021. Prior to his employment with Commerce Bank in February 2017, he was employed at a healthcare tech services company where he served as a senior vice president of revenue cycle and financial services.
Robert S. Holmes, 59	Executive Vice President of the Company since April 2015, and Community President and Chief Executive Officer of Commerce Bank since January 2016. Prior to his employment with Commerce Bank in March 2015, he was employed at a Midwest regional bank where he served as managing director and head of Regional Banking.
Kim L. Jakovich, 53	Senior Vice President of the Company since April 2022, and Officer of the Company prior thereto. Senior Vice President of Commerce Bank since July 2015.

Name and Age	Positions with Registrant
Patricia R. Kellerhals, 65	Senior Vice President of the Company since February 2016 and Vice President of the Company prior thereto. Executive Vice President of Commerce Bank since 2005.
David W. Kemper, 72	Executive Chairman of the Company and of the Board of Directors of the Company since August 2018. Prior thereto, he was Chief Executive Officer of the Company and Chairman of the Board of Directors of the Company. He was President of the Company from April 1982 until February 2013. He is the brother of Jonathan M. Kemper (a former Vice Chairman of the Company), and father of John W. Kemper, President and Chief Executive Officer of the Company.
John W. Kemper, 45	Chief Executive Officer of the Company and Chairman and Chief Executive Officer of Commerce Bank since August 2018. Prior thereto, he was Chief Operating Officer of the Company. President of the Company since February 2013 and President of Commerce Bank since March 2013. Member of Board of Directors since September 2015. He is the son of David W. Kemper (Executive Chairman of the Company) and nephew of Jonathan M. Kemper (a former Vice Chairman of the Company).
Charles G. Kim, 62	Chief Financial Officer of the Company since July 2009. Executive Vice President of the Company since April 1995 and Executive Vice President of Commerce Bank since January 2004. Prior thereto, he was Senior Vice President of Commerce Bank.
Douglas D. Neff, 54	Senior Vice President of the Company since January 2019 and Chairman and Chief Executive Officer of Commerce Bank Southwest Region since 2013.
Thomas J. Noack, 67	Senior Vice President of the Company since October 2018 and was also Secretary and General Counsel of the Company from October 2018 to March 2022. He was Secretary, General Counsel and Vice President of the Company prior to October 2018. Executive Vice President of Commerce Bank since September 2021. Prior thereto, he was Secretary, General Counsel and Vice President of Commerce Bank.
David L. Orf, 56	Executive Vice President of the Company since October 2020 and Chief Credit Officer of the Company since January 2021. Executive Vice President of Commerce Bank since January 2014 and Senior Vice President of Commerce Bank prior thereto.
Paula S. Petersen, 56	Executive Vice President of the Company since January 2022 and Senior Vice President of the Company prior thereto. Executive Vice President of Commerce Bank since March 2012.
David L. Roller, 52	Senior Vice President of the Company since July 2016 and Senior Vice President of Commerce Bank since September 2010.
Paul A. Steiner, 51	Controller of the Company since April 2019. He is also Controller of the Company's subsidiary bank, Commerce Bank. Assistant Controller and Director of Tax of the Company prior thereto.

PART II

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

Commerce Bancshares, Inc.

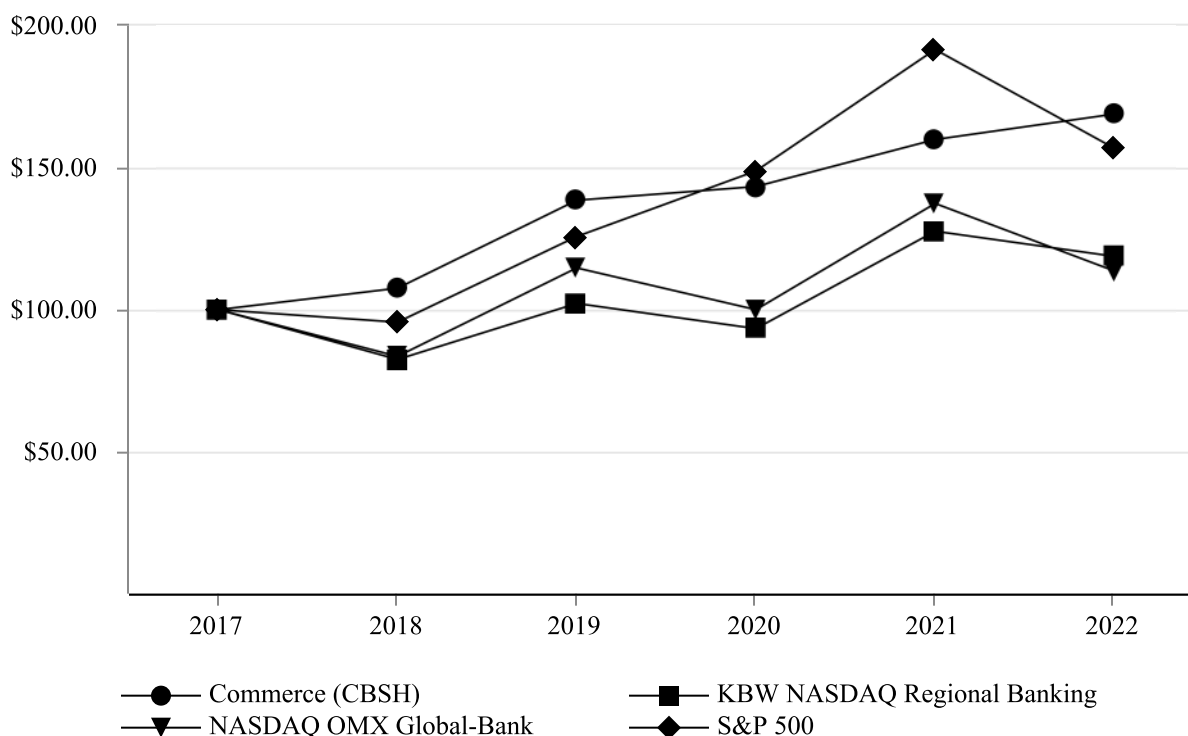
Common Stock Data

Commerce Bancshares, Inc. common shares are listed on the Nasdaq Global Select Market (NASDAQ) under the symbol CBSH. The Company had 3,421 common shareholders of record as of December 31, 2022. Certain of the Company's shares are held in "nominee" or "street" name and the number of beneficial owners of such shares is approximately 148,500.

Performance Graph

The following graph presents a comparison of Company (CBSH) performance to the indices named below. It assumes \$100 invested on December 31, 2017 with dividends reinvested on a cumulative total shareholder return basis.

Five Year Cumulative Total Return



	2017	2018	2019	2020	2021	2022
Commerce (CBSH)	\$ 100.00	\$ 107.56	\$ 138.44	\$ 143.26	\$ 159.78	\$ 168.73
KBW NASDAQ Regional Banking	100.00	82.51	102.20	93.35	127.57	118.73
NASDAQ OMX Global-Bank	100.00	83.60	114.68	100.00	137.32	113.60
S&P 500	100.00	95.61	125.70	148.74	191.40	156.70

In the preceding year, the Company selected the NASDAQ OMX Global-Bank Index with which to compare its performance. The Company is replacing this index with the KBW NASDAQ Regional Banking Index as it believes the index to be more representative of companies similar in size and market capitalization to the Company. In addition, the Company is a member of the KBW NASDAQ Regional Banking Index.

The Company has a long history of paying dividends. 2022 marked the 54th consecutive year of growth in our regular common dividend, and the Company has also issued an annual 5% common stock dividend for the past 29 years. However,

payment of future dividends is within the discretion of the Board of Directors and will depend, among other factors, on earnings, capital requirements, and the operating and financial condition of the Company. The Board of Directors makes the dividend determination quarterly.

The following table sets forth information about the Company's purchases of its \$5 par value common stock, its only class of common stock registered pursuant to Section 12 of the Exchange Act, during the fourth quarter of 2022.

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Maximum Number that May Yet Be Purchased Under the Program
October 1 - 31 2022	1,491	\$71.23	1,491	3,442,745
November 1 - 30 2022	189,860	\$72.27	189,860	3,252,885
December 1 - 31 2022	140,827	\$67.28	140,827	3,112,058
Total	332,178	\$70.15	332,178	3,112,058

The Company's stock purchases shown above were made under authorizations by the Board of Directors. Under the most recent authorization in April 2022 of 5,000,000 shares, 3,112,058 shares remained available for purchase at December 31, 2022.

Item 6. RESERVED

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

Forward-Looking Statements

This report may contain “forward-looking statements” that are subject to risks and uncertainties and include information about possible or assumed future results of operations. Many possible events or factors could affect the future financial results and performance of Commerce Bancshares, Inc. and its subsidiaries (the “Company”). This could cause results or performance to differ materially from those expressed in the forward-looking statements. Words such as “expects”, “anticipates”, “believes”, “estimates”, variations of such words and other similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions which are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in, or implied by, such forward-looking statements. Readers should not rely solely on the forward-looking statements and should consider all uncertainties and risks discussed throughout this report. Forward-looking statements speak only as of the date they are made. The Company does not undertake to update forward-looking statements to reflect circumstances or events that occur after the date the forward-looking statements are made or to reflect the occurrence of unanticipated events. Such possible events or factors include the risk factors identified in Item 1a Risk Factors and the following: changes in economic conditions in the Company’s market area; changes in policies by regulatory agencies, governmental legislation and regulation; fluctuations in interest rates; changes in liquidity requirements; demand for loans in the Company’s market area; changes in accounting and tax principles; estimates made on income taxes; failure of litigation settlement agreements to become final in accordance with their terms; and competition with other entities that offer financial services.

Overview

The Company operates as a super-community bank and offers a broad range of financial products to consumer and commercial customers, delivered with a focus on high-quality, personalized service. The Company is headquartered in Missouri, with its principal offices in Kansas City and St. Louis, Missouri. Customers are served from 275 locations in Missouri, Kansas, Illinois, Oklahoma and Colorado and commercial offices throughout the nation's midsection. A variety of delivery platforms are utilized, including an extensive network of branches and ATM machines, full-featured online banking, a mobile application, and a centralized contact center.

The core of the Company’s competitive advantage is its focus on the local markets in which it operates, its offering of competitive, sophisticated financial products, and its concentration on relationship banking and high-touch service. In order to enhance shareholder value, the Company targets core revenue growth. To achieve this growth, the Company focuses on strategies that will expand new and existing customer relationships, offer opportunities for controlled expansion in additional markets, utilize improved technology, and enhance customer satisfaction.

Various indicators are used by management in evaluating the Company’s financial condition and operating performance. Among these indicators are the following:

- Net income and earnings per share — Net income attributable to Commerce Bancshares, Inc. was \$488.4 million, a decrease of 8.0% compared to the previous year. The return on average assets was 1.45% in 2022, and the return on average common equity was 17.31%. Diluted earnings per share decreased 6.3% in 2022 compared to 2021.
- Total revenue — Total revenue is comprised of net interest income and non-interest income. Total revenue in 2022 increased \$92.9 million, or 6.7%, from 2021, as net interest income grew \$106.8 million, and non-interest income decreased \$13.9 million. Growth in net interest income resulted principally from increases in interest income from investment securities and loans, partly offset by an increase in interest expense on deposits and borrowings. The decrease in non-interest income in 2022 was mainly due to lower loan fees and sales income.
- Non-interest expense — Total non-interest expense increased 5.3% this year compared to 2021, mainly due to higher salaries and employee benefits expense and data processing and software expense.
- Asset quality — Net loan charge-offs totaled \$19.1 million in 2022, an increase of \$496 thousand from those recorded in 2021, and averaged .12% of loans in both 2022 and 2021. Total non-performing assets, which include non-accrual loans and foreclosed real estate, amounted to \$8.4 million at December 31, 2022, compared to \$9.3 million at December 31, 2021, and represented .05% of loans outstanding at December 31, 2022.
- Shareholder return — During 2022, the Company paid cash dividends of \$1.01 per share on its common stock, representing an increase of 6.1% over the previous year. In 2022, the Company issued its 29th consecutive annual 5% common stock dividend, and in February 2023, the Company's Board of Directors authorized an increase of 7.1% in the common cash dividend. The Company purchased 2,684,667 shares in 2022. Total shareholder return, including

the change in stock price and dividend reinvestment, was 11.0%, 14.2%, and 10.4% over the past 5, 10, and 15 years, respectively.

The following discussion and analysis should be read in conjunction with the consolidated financial statements and related notes. The historical trends reflected in the financial information presented below are not necessarily reflective of anticipated future results.

Key Ratios

	2022	2021	2020	2019	2018
<i>(Based on average balances)</i>					
Return on total assets	1.45%	1.55%	1.20%	1.67%	1.76%
Return on common equity	17.31	15.37	10.64	14.06	16.16
Equity to total assets	8.39	10.11	11.18	12.20	11.24
Loans to deposits ⁽¹⁾	55.41	56.46	67.73	71.54	69.27
Non-interest bearing deposits to total deposits	39.02	40.46	37.83	32.03	33.43
Net yield on interest earning assets (tax equivalent basis)	2.85	2.58	2.99	3.48	3.53
<i>(Based on end of period data)</i>					
Non-interest income to revenue ⁽²⁾	36.71	40.15	37.87	38.98	37.83
Efficiency ratio ⁽³⁾	56.90	57.64	57.19	56.87	55.58
Tier I common risk-based capital ratio	14.13	14.34	13.71	13.93	14.22
Tier I risk-based capital ratio	14.13	14.34	13.71	14.66	14.98
Total risk-based capital ratio	14.89	15.12	14.82	15.48	15.82
Tier I leverage ratio	10.34	9.13	9.45	11.38	11.52
Tangible common equity to tangible assets ratio ⁽⁴⁾	7.32	9.01	9.92	10.99	10.45
Common cash dividend payout ratio	26.10	23.12	35.32	27.52	23.61

(1) Includes loans held for sale.

(2) Revenue includes net interest income and non-interest income.

(3) The efficiency ratio is calculated as non-interest expense (excluding intangibles amortization) as a percent of total revenue.

(4) The tangible common equity to tangible assets ratio is a measurement which management believes is a useful indicator of capital adequacy and utilization. It provides a meaningful basis for period to period and company to company comparisons, and also assist regulators, investors and analysts in analyzing the financial position of the Company. Tangible common equity and tangible assets are non-GAAP measures and should not be viewed as substitutes for, or superior to, data prepared in accordance with GAAP.

The following table is a reconciliation of the GAAP financial measures of total equity and total assets to the non-GAAP measures of total tangible common equity and total tangible assets.

<i>(Dollars in thousands)</i>	2022	2021	2020	2019	2018
Total equity	\$ 2,481,577	\$ 3,448,324	\$ 3,399,972	\$ 3,138,472	\$ 2,937,149
Less non-controlling interest	16,286	11,026	2,925	3,788	5,851
Less preferred stock	—	—	—	144,784	144,784
Less goodwill	138,921	138,921	138,921	138,921	138,921
Less intangible assets*	4,305	4,604	4,958	1,785	2,316
Total tangible common equity (a)	\$ 2,322,065	\$ 3,293,773	\$ 3,253,168	\$ 2,849,194	\$ 2,645,277
Total assets	\$31,875,931	\$36,689,088	\$32,922,974	\$26,065,789	\$25,463,842
Less goodwill	138,921	138,921	138,921	138,921	138,921
Less intangible assets*	4,305	4,604	4,958	1,785	2,316
Total tangible assets (b)	\$31,732,705	\$36,545,563	\$32,779,095	\$25,925,083	\$25,322,605
Tangible common equity to tangible assets ratio (a)/(b)	7.32%	9.01%	9.92%	10.99%	10.45%

* Intangible assets other than mortgage servicing rights.

Results of Operations

<i>(Dollars in thousands)</i>	2022	2021	2020	\$ Change		% Change	
				'22-'21	'21-'20	'22-'21	'21-'20
Net interest income	\$ 942,185	\$ 835,424	\$ 829,847	\$ 106,761	\$ 5,577	12.8%	.7%
Provision for credit losses	(28,071)	66,326	(137,190)	94,397	(203,516)	(142.3)	(148.3)
Non-interest income	546,535	560,393	505,867	(13,858)	54,526	(2.5)	10.8
Investment securities gains, net	20,506	30,059	11,032	(9,553)	19,027	(31.8)	N.M.
Non-interest expense	(848,777)	(805,901)	(768,378)	42,876	37,523	5.3	4.9
Income taxes	(132,358)	(145,711)	(87,293)	(13,353)	58,418	(9.2)	66.9
Income (expense) attributable to non-controlling interest	(11,621)	(9,825)	172	1,796	9,997	18.3	N.M.
Net income attributable to Commerce Bancshares, Inc.	488,399	530,765	354,057	(42,366)	176,708	(8.0)	49.9
Preferred stock dividends	—	—	(11,966)	—	11,966	—	(100.0)
Net income available to common shareholders	\$ 488,399	\$ 530,765	\$ 342,091	\$ (42,366)	\$ 188,674	(8.0)%	55.2%

N.M. - Not meaningful.

Net income attributable to Commerce Bancshares, Inc. (net income) for 2022 was \$488.4 million, a decrease of \$42.4 million, or 8.0%, compared to \$530.8 million in 2021. Diluted income per common share was \$3.85 in 2022, compared to \$4.11 in 2021. The decrease in net income resulted from an increase of \$94.4 million in the provision for credit losses, as well as an increase of \$42.9 million in non-interest expense and a decrease of \$13.9 million in non-interest income. These decreases to net income were partly offset by increases in net interest income of \$106.8 million and a decrease in income tax expense of \$13.4 million. The return on average assets was 1.45% in 2022 compared to 1.55% in 2021, and the return on average common equity was 17.31% in 2022 compared to 15.37% in 2021. At December 31, 2022, the ratio of tangible common equity to assets decreased to 7.32%, compared to 9.01% at year end 2021.

During 2022, net interest income grew mainly due to increases of \$77.6 million in interest income earned on investment securities, due to higher average rates earned and higher average balances, and \$75.5 million in interest income earned on loans, mainly due to higher average rates earned, partly offset by an increase in interest expense on deposits and borrowings of \$43.9 million, due to higher average rates paid. Total rates earned on average interest earning assets increased 41 basis points this year, while funding costs for deposits and borrowings increased 23 basis points. The provision for credit losses increased in 2022 compared to 2021 due to a significant reduction in the allowance for credit losses on loans during 2021, which did not reoccur in 2022. In addition, there was an increase in the liability for unfunded lending commitments during 2022, compared to a decrease in 2021. Net loan charge-offs increased \$496 thousand, mainly due to business loan net charge-offs in 2022, compared to net loan recoveries recorded in 2021, partly offset by lower credit card loan net charge-offs in 2022.

Non-interest income fell 2.5% in 2022, mainly due to a decrease in loan fees and sales income. Net investment securities gains of \$20.5 million were recorded in 2022 and were comprised mainly of net fair value gains on the Company's private equity investment portfolio, partly offset by losses on sales of available for sale securities. Non-interest expense increased \$42.9 million in 2022 compared to 2021, mainly due to higher salaries and benefits expense and data processing and software expense.

Net income attributable to Commerce Bancshares, Inc. (net income) for 2021 was \$530.8 million, an increase of \$176.7 million, or 49.9%, compared to \$354.1 million in 2020. Diluted income per common share was \$4.11 in 2021, compared to \$2.64 in 2020. The increase in net income resulted from a decrease of \$203.5 million in the provision for credit losses, as well as an increase of \$54.5 million in non-interest income. These increases to net income were partly offset by increases in non-interest expense and income tax expense of \$37.5 million and \$58.4 million, respectively. The return on average assets was 1.55% in 2021 compared to 1.20% in 2020, and the return on average common equity was 15.37% in 2021 compared to 10.64% in 2020. At December 31, 2021, the ratio of tangible common equity to assets decreased to 9.01%, compared to 9.92% at year end 2020.

During 2021, net interest income grew mainly due to a decrease of \$29.9 million in interest expense on deposits and borrowings, due to lower average rates paid, coupled with an increase of \$19.5 million in interest income earned on investment securities, mainly due to higher average balances. These increases to net interest income were partly offset by a decline of \$41.5 million in interest earned on loans, mainly due to lower rates earned. Total rates earned on average interest earning assets fell 53 basis points in 2021, while funding costs for deposits and borrowings decreased 19 basis points. The provision for credit losses decreased due to an improved credit outlook and the release of loan loss reserves provided for anticipated credit losses in

2020, which did not occur. Net loan charge-offs decreased \$16.3 million in 2021 compared to 2020, mainly due to lower credit card loan net charge-offs and net recoveries on business loans.

Non-interest income grew 10.8% in 2021, mainly due to growth in trust and net bank card fee income. Net gains on investment securities in 2021 were comprised mainly of net fair value gains on the Company's private equity investment portfolio, partly offset by net losses on bond sales. Non-interest expense increased \$37.5 million in 2021 compared to 2020, largely due to higher salaries and benefits expense and data processing and software expense, as well as lower deferred loan origination costs and non-recurring litigation settlement costs recorded in the third quarter of 2021.

The Company distributed a 5% stock dividend for the 29th consecutive year on December 19, 2022. All per share and average share data in this report has been restated for the 2022 stock dividend.

Critical Accounting Estimates and Related Policies

The Company's consolidated financial statements are prepared based on the application of certain accounting policies, the most significant of which are described in Note 1 to the consolidated financial statements. Certain of these policies require numerous estimates and strategic or economic assumptions that may prove inaccurate or be subject to variations which may significantly affect the Company's reported results and financial position for the current period or future periods. The use of estimates, assumptions, and judgments are necessary when financial assets and liabilities are required to be recorded at, or adjusted to reflect, fair value. Current economic conditions may require the use of additional estimates, and some estimates may be subject to a greater degree of uncertainty due to the current instability of the economy. The Company has identified several policies as being critical because they require management to make particularly difficult, subjective and/or complex judgments about matters that are inherently uncertain and because of the likelihood that materially different amounts would be reported under different conditions or using different assumptions. These estimates and related policies are the Company's allowance for credit losses and fair value measurement policies.

Allowance for Credit Losses

The Company's Allowance for Credit Losses policies govern the processes and procedures used to estimate the collectability of its loan portfolio and unfunded lending commitments, and the potential for credit losses in its available for sale investment portfolio.

Allowance for Credit Losses – Loans and Unfunded Lending Commitments

The Company performs periodic and systematic detailed reviews of its loan portfolio and unfunded lending commitments to assess overall collectability. The level of the allowance for credit losses on loans and unfunded lending commitments reflects the Company's estimate of the losses expected in the loan portfolio and unfunded lending commitments over the assets' contractual term.

The allowance for credit loss is an estimate that is subject to uncertainty due to the various assumptions and judgments used in the estimation process.

The allowance for credit losses is measured on a collective (pool) basis. Loans are aggregated into pools based on similar risk characteristics including borrower type, collateral type and expected credit loss patterns. Loans that do not share similar risk characteristics, primarily large loans on non-accrual status, are evaluated on an individual basis.

The allowance for credit losses is measured using an average historical loss model which incorporates relevant information about past events (including historical credit loss experience on loans with similar risk characteristics), current conditions, and an economic forecast that may affect the collectability of the remaining cash flows over the contractual term of the loans. The calculated loss rate is increased or decreased to reflect expectations of future losses given a single path economic forecast. These adjustments to the loss rate are based on results from various regression models projecting the impact of the macroeconomic variables. The forecast is used for a reasonable and supportable period before reverting to historical averages using a straight-line method.

Additionally, the allowance for credit losses considers other qualitative factors not included in historical loss rates or macroeconomic forecast such as changes in portfolio composition, underwriting practices, or significant unique events or conditions.

Adjustments to the allowance for credit losses are made by increases to or reductions in the provision for credit losses, which are reflected in the consolidated statements of income.

Assumptions, Judgments, and Uncertainties: The uncertainty in the estimation of the allowance for credit losses is created because key assumptions and judgements are applied throughout the process. Key assumptions include segmentation of the portfolio into pools, calculations of life of a loan using a combination of contractual terms and expected prepayment speeds and forecast of macroeconomic conditions. The Company utilizes a third-party macro-economic forecast that continuously changes due to economic conditions and events. The single path economic forecast includes key macroeconomic variables including GDP, disposable income, unemployment rate, various interest rates, consumer price index (CPI) inflation rate, housing price index (HPI), commercial real estate price index (CREPI) and market volatility. Each reporting period, the base macroeconomic forecast scenario is evaluated to ensure it is not inconsistent with management's expectations. Changes in the forecast cause fluctuations in the estimates of the allowance for credit losses on loans and the liability for unfunded lending commitments. Potential changes in any one economic variable *may or may not* affect the overall allowance because a variety of economic variables and inputs are considered in estimating the allowance, and changes in those variables and inputs may not occur at the same rate, may not be consistent across product types and may have offsetting impacts to other changing variables and inputs.

Data points such as loan mix, level of loan balances outstanding, portfolio performance, line utilization trends and risk ratings change throughout the life of a portfolio which could cause changes to the expected credit losses.

Qualitative factors not included in historical information or macroeconomic forecast require significant judgment to identify and determine how to apply to the estimate for credit losses. The qualitative factors continuously evolve in reaction to other changing assumptions, data inputs and industry trends.

The Company uses its best judgment to assess the macroeconomic forecast, key assumptions and internal and external data in estimating the allowance for credit losses on loans and the liability for unfunded lending commitments. These estimates are subject to continuous refinement based on changes in the underlying external and internal data.

Impact if actual results differ from assumptions: The allowance for credit losses represents management's best estimate of expected current credit losses in the loan portfolio and within the Company's unfunded lending commitments, but changes in the inputs and assumptions described above could significantly impact the calculated estimated credit losses. Therefore, actual credit losses may differ significantly from estimated results. Significant deterioration in circumstances relating to loan quality and economic conditions could result in a requirement for additional allowance. Likewise, an upturn in loan quality and improved economic conditions may allow a reduction in the required allowance. In either instance, changes could have a significant impact on our financial condition and results of operations.

Allowance for Credit Losses - Available for Sale Debt Securities

The level of the allowance for credit losses on available for sale securities reflects the Company's estimate of the losses expected in the available for sale debt security portfolio. In order to estimate the allowance for credit losses on available for sale debt securities, the Company performs quarterly reviews of its investment portfolio to identify securities in an unrealized loss position. If the unrealized loss is not expected to be recovered, the Company performs further analyses to determine whether any portion of the unrealized loss indicates that a credit loss exists.

Changes to the allowance for credit losses are made by changes to or reductions in the provision for credit losses, which are reflected in the consolidated statements of income.

Assumptions, Judgments, and Uncertainties: The Company's model for establishing its allowance for credit losses uses cash flows projected to be received over the estimated life of the securities, discounted to present value, and compared to the current amortized cost bases of the securities. Securities for which fair value is less than amortized cost are reviewed for impairment. Special emphasis is placed on securities whose credit rating has fallen below Baa3 (Moody's) or BBB- (Standard & Poor's), whose fair values have fallen more than 20% below purchase price, or who have been identified based on management's judgment. These securities are placed on a watch list and cash flow analyses are prepared on an individual security basis. Certain securities are analyzed using a projected cash flow model, discounted to present value, and compared to the current amortized cost bases of the securities. The model uses input factors such as cash flow projections, contractual payments required, expected delinquency rates, credit support from other tranches, prepayment speeds, collateral loss severity rates (including loan to values), and various other information related to the underlying collateral. Securities not analyzed using the cash flow model are analyzed by reviewing risk ratings, credit support agreements, and industry knowledge to project future cash flows and any possible credit impairment.

Impact if actual results differ from assumptions: The allowance for credit losses represents management's best estimate of expected credit losses in the available for sale debt portfolio, but significant deterioration in interest rates and economic

conditions could result in a requirement for additional allowance. Likewise, an increase in interest rates and improved economic conditions may allow a reduction in the required allowance. In either instance, anticipated changes could have a significant impact on our financial condition and results of operations.

Fair Value Measurement

Investment securities, including available for sale debt, trading, equity and other securities, residential mortgage loans held for sale, derivatives and deferred compensation plan assets and associated liabilities are recorded at fair value on a recurring basis. Additionally, from time to time, other assets and liabilities may be recorded at fair value on a nonrecurring basis, such as loan values that have been reduced based on the fair value of the underlying collateral, other real estate (primarily foreclosed property), non-marketable equity securities and certain other assets and liabilities. These nonrecurring fair value adjustments typically involve write-downs of individual assets or application of lower of cost or fair value accounting.

Assumptions, Judgments, and Uncertainties: Fair value is an estimate of the exchange price that would be received to sell an asset or paid to transfer a liability in an orderly transaction (i.e., not a forced transaction, such as a liquidation or distressed sale) between market participants at the measurement date and is based on the assumptions market participants would use when pricing an asset or liability. Fair value measurement and disclosure guidance establishes a three-level hierarchy for disclosure of assets and liabilities recorded at fair value.

Fair value is measured based on a variety of inputs. Fair value may be based on quoted market prices for identical assets or liabilities traded in active markets (Level 1 valuations). If market prices are not available, quoted market prices for similar instruments traded in active markets, quoted prices for identical or similar instruments in markets that are not active, or model-based valuation techniques for which all significant assumptions are observable in the market are used (Level 2 valuations). Where observable market data is not available, the valuation is generated from model-based techniques that use significant assumptions not observable in the market (Level 3 valuations). Unobservable assumptions reflect the Company's estimates for assumptions that market participants would use in pricing the asset or liability. Valuation techniques typically include discounted cash flow models and similar techniques, but may also include the use of market prices of assets or liabilities that are not directly comparable to the subject asset or liability.

The selection and weighting of the various fair value techniques may result in a fair value higher or lower than carrying value. Considerable judgment may be involved in determining the amount that is most representative of fair value.

For assets and liabilities recorded at fair value, the Company looks to active and observable market data when developing fair value measurements for those items where there is an active market. Certain assets and liabilities are not actively traded in observable markets, and the Company must use alternative valuation techniques to derive an estimated fair value measurement. In doing so, the Company may be required to make judgments about assumptions market participants would use in estimating the fair value of the financial instrument. The assumptions used to determine fair value adjustments are regularly evaluated by management for relevance under current facts and circumstances.

Changes in market conditions may reduce the availability of quoted prices or observable data. For example, reduced liquidity in the capital markets or changes in secondary market activities could result in observable market inputs becoming unavailable. When market data is not available, the Company uses valuation techniques requiring more management judgment to estimate the appropriate fair value.

Impairment analysis also relates to long-lived assets and core deposit and other intangible assets. An impairment loss is recognized if the carrying amount of the asset is not likely to be recoverable and exceeds its fair value. In determining the fair value, management uses models and applies the techniques and assumptions previously discussed.

At December 31, 2022, assets and liabilities measured using observable inputs that are classified as either Level 1 or Level 2 represented 98.5% and 99.8% of total assets and liabilities recorded at fair value, respectively. Valuations generated from model-based techniques that use at least one significant assumption not observable in the market are considered Level 3, and the Company's Level 3 assets totaled \$180.0 million, or 1.4% of total assets recorded at fair value on a recurring basis. The fair value hierarchy, the extent to which fair value is used to measure assets and liabilities, and the valuation methodologies and key inputs used are discussed in Note 17 on Fair Value Measurements.

Impact if actual results differ from assumptions: Changes in fair value are recorded either in earnings or accumulated other comprehensive income. Adjustments in the inputs and assumptions described above could significantly impact the fair values of the Company's assets and liabilities and have a significant impact on our financial condition and results of operations.

Net Interest Income

Net interest income, the largest source of revenue, results from the Company's lending, investing, borrowing, and deposit gathering activities. It is affected by both changes in the level of interest rates and changes in the amounts and mix of interest earning assets and interest bearing liabilities. The following table summarizes the changes in net interest income on a fully taxable equivalent basis, by major category of interest earning assets and interest bearing liabilities, identifying changes related to volumes and rates. Changes not solely due to volume or rate changes are allocated to rate.

(In thousands)	2022			2021		
	Change due to		Total	Change due to		Total
	Average Volume	Average Rate		Average Volume	Average Rate	
Interest income, fully taxable-equivalent basis						
Loans:						
Business	\$ (14,493)	\$ 25,763	\$ 11,270	\$ (16,872)	\$ 7,591	\$ (9,281)
Real estate - construction and land	3,034	18,157	21,191	7,585	(5,502)	2,083
Real estate - business	6,909	22,671	29,580	1,744	(7,495)	(5,751)
Real estate - personal	1,452	1,159	2,611	6,459	(9,027)	(2,568)
Consumer	2,516	5,167	7,683	1,859	(11,594)	(9,735)
Revolving home equity	(200)	3,002	2,802	(1,806)	(776)	(2,582)
Consumer credit card	(3,377)	3,935	558	(10,758)	(3,672)	(14,430)
Total interest on loans	(4,159)	79,854	75,695	(11,789)	(30,475)	(42,264)
Loans held for sale	(434)	191	(243)	96	(76)	20
Investment securities:						
U.S. government and federal agency obligations	12,468	(4,261)	8,207	336	15,183	15,519
Government-sponsored enterprise obligations	92	21	113	(1,726)	(440)	(2,166)
State and municipal obligations	1,089	(1,689)	(600)	12,259	(6,798)	5,461
Mortgage-backed securities	(82)	40,827	40,745	24,048	(38,707)	(14,659)
Asset-backed securities	12,336	13,675	26,011	27,557	(24,611)	2,946
Other securities	4,599	(2,133)	2,466	7,760	4,128	11,888
Total interest on investment securities	30,502	46,440	76,942	70,234	(51,245)	18,989
Federal funds sold	61	347	408	4	(3)	1
Securities purchased under agreements to resell	6,449	(21,179)	(14,730)	20,355	(23,625)	(3,270)
Interest earning deposits with banks	(1,375)	13,271	11,896	2,610	(1,681)	929
Total interest income	31,044	118,924	149,968	81,510	(107,105)	(25,595)
Interest expense						
Interest bearing deposits:						
Savings	107	(496)	(389)	294	(218)	76
Interest checking and money market	732	17,247	17,979	2,697	(13,115)	(10,418)
Certificates of deposit of less than \$100,000	(174)	485	311	(957)	(2,782)	(3,739)
Certificates of deposit of \$100,000 and over	(499)	1,820	1,321	(1,410)	(8,961)	(10,371)
Federal funds purchased	42	1,777	1,819	(646)	(131)	(777)
Securities sold under agreements to resell	31	22,362	22,393	1,366	(5,034)	(3,668)
Other borrowings	1,817	18	1,835	(1,029)	5	(1,024)
Total interest expense	2,056	43,213	45,269	315	(30,236)	(29,921)
Net interest income, fully taxable-equivalent basis	\$ 28,988	\$ 75,711	\$ 104,699	\$ 81,195	\$ (76,869)	\$ 4,326

Net interest income totaled \$942.2 million in 2022, increasing \$106.8 million, or 12.8%, compared to \$835.4 million in 2021. On a fully taxable-equivalent (FTE) basis, net interest income totaled \$951.8 million, and increased \$104.7 million over 2021. This growth was mainly due to an increase of \$75.7 million in interest earned on loans, due to higher average rates paid and an increase of \$76.9 million in interest earned on investment securities, due to higher rates and average balances, partly offset by an increase of \$45.3 million in interest expense on deposits and borrowings, due to higher average rates paid. The net yield on earning assets (FTE) was 2.85% in 2022 compared with 2.58% in 2021.

During 2022, loan interest income (FTE) grew \$75.7 million over 2021 mainly due to an increase in rates earned for all loan categories. The average fully taxable-equivalent rate earned on the loan portfolio increased 51 basis points to 4.18% in 2022 compared to 3.67% in 2021. The higher rates earned on the loan portfolio were mostly related to actions taken by the Federal Reserve to raise short-term interest rates, which caused most of the Company's variable rate loan portfolio to re-price higher. Additionally, fixed rate loans were generally originated in 2022 at higher interest rates than the weighted-average of the portfolio of fixed rate loans. The increase in interest rates earned was partly offset a decline in average loan balances of \$102.4 million, or .7%, this year. Increased interest earned on business real estate and construction and land loans was the main driver of overall higher interest income. Business real estate loan interest grew \$29.6 million in 2022 compared to 2021 as a result of an increase of 71 basis points in the average rate earned and higher average balances of \$199.1 million, or 6.6%. Interest earned on construction and land loans increased \$21.2 million due to an increase of 147 basis points in the average rate earned and growth of \$85.2 million, or 7.4%, in average balances. Business loan interest income increased \$11.3 million mainly due to a 49 basis point increase in the average rate earned, partly offset by a decrease of \$462.1 million in average balances. Average balances of business loans included average balances of \$41.9 million in Paycheck Protection Program (PPP) loans at December 31, 2022, which was a decline of \$812.2 million from balances of \$854.1 billion at December 31, 2021. Interest on personal real estate loans increased \$2.6 million as the average balance grew \$44.0 million and the average rate earned increased four basis points. Interest on consumer loans grew \$7.7 million over the prior year as the average rate earned increased 25 basis points and average balances were higher by \$66.2 million. Revolving home equity loan interest increased \$2.8 million due to an increase of 108 basis points in the average rate earned, slightly offset by lower average balances of \$5.8 million. Interest on consumer credit card loans was higher by \$558 thousand due to an increase of 72 basis points in the average rate earned, mostly offset by a decline of \$30.3 million, or 5.3%, in average balances.

Fully taxable-equivalent interest income on total investment securities increased \$76.9 million during 2022, as average balances grew \$1.5 billion and the average rate earned increased 34 basis points. The average rate on the total investment securities portfolio was 2.15% in 2022 compared to 1.81% in 2021, while the average balance of the total investment securities portfolio (excluding unrealized fair value adjustments on available for sale debt securities) was \$14.9 billion in 2022 compared to an average balance of \$13.5 billion in 2021. The increase in interest income was mainly due to higher interest income earned on mortgage-backed, asset-backed and U.S. government securities. Interest earned on mortgage-backed securities increased \$40.7 million due to a 59 basis point increase in the average rate earned. The increase of \$26.0 million in interest earned on asset-backed securities was due to an increase of 35 basis points in the average rate earned coupled with growth of \$1.1 billion in average balances. Interest earned on U.S. government securities grew \$8.2 million and was mainly impacted by growth of \$7.3 million in inflation income on treasury inflation-protected securities (TIPS). Average balances of U.S. government securities increased \$301.9 million, while the average rate earned declined 39 basis points.

Interest on securities purchased under resell agreements decreased \$14.7 million compared to 2021 due to a decrease of 142 basis points in the average rate, partly offset by growth in average balances of \$220.1 million. Interest earned on deposits with banks increased \$11.9 million over 2021, mainly due to a 98 basis point increase in the average rate earned, partly offset by a decline in average balances of \$1.1 billion.

During 2022, interest expense on deposits increased \$19.2 million over 2021 and resulted mainly from an 11 basis point increase in the overall average rate paid on deposits. Interest expense on interest checking and money market accounts increased \$18.0 million mainly due to higher rates paid, which grew 12 basis points, coupled with higher average balances of \$1.1 billion. Interest expense on certificates of deposit over \$100,000 grew \$1.3 million, mainly due to a 37 basis point increase in the average rate paid. The overall rate paid on total deposits increased from .07% in 2021 to .18% in the current year. Interest expense on borrowings increased \$26.0 million mainly due to a 95 basis point increase in the rate paid on securities sold under repurchase agreements. The overall average rate incurred on all interest bearing liabilities was .30% in 2022, compared to .07% in 2021.

Net interest income totaled \$835.4 million in 2021, increasing \$5.6 million, or .7%, compared to \$829.8 million in 2020. On a FTE basis, net interest income totaled \$847.1 million, and increased \$4.3 million over 2020. This increase was mainly due to a decline of \$29.9 million in interest expense on deposits and borrowings, due to lower average rates paid, coupled with an increase of \$19.0 million in interest earned on investment securities, mainly due to higher average balances. These increases to net interest income (FTE) were partly offset by lower interest earned on loans, which declined \$42.3 million, mainly due to lower rates earned. The net yield on earning assets (FTE) was 2.58% in 2021 compared with 2.99% in 2020.

During 2021, loan interest income (FTE) fell \$42.3 million from 2020 mainly due to a decline in rates earned for most loan categories and lower average business and consumer credit card loan balances. The average fully taxable-equivalent rate earned on the loan portfolio decreased 21 basis points to 3.67% in 2021 compared to 3.88% in 2020. Average loan balances decreased \$232.5 million, or 1.5%, in 2021. The decrease in consumer credit card loan interest income was the main driver of overall lower interest income. Consumer credit card loan interest declined \$14.4 million due to lower average balances of \$91.4 million and a decrease of 64 basis points in the average rate earned. Business loan interest income declined \$9.3 million mainly due to a decrease of \$548.7 million in average balances, partly offset by a 13 basis point increase in the average rate earned. Average balances of business loans included average balances of \$854.1 million in PPP loans at December 31, 2021, which was a decline of \$204.9 million from balances of \$1.1 billion at December 31, 2020. The average rate earned on PPP loans increased 193 basis points to 4.81% in 2021 compared to 2.88% in 2020, partly offsetting the decline in average balances. During 2021, the Company recognized \$41.0 million in interest income on PPP loans. As of December 31, 2021, 93% of the PPP loans originated by the Company had been forgiven. Business real estate loan interest was lower by \$5.8 million in 2021 compared to 2020 as a result of a decrease of 25 basis points in the average rate, partly offset by higher average balances of \$46.9 million. Interest on personal real estate loans decreased \$2.6 million as the average rate earned declined 32 basis points, while average balances increased \$178.4 million. Interest on consumer loans declined \$9.7 million from 2020 as the average rate earned decreased 58 basis points, but was partly offset by growth in average balances of \$42.4 million. These decreases to loan interest income (FTE) were partly offset by an increase of \$2.1 million in interest earned on construction and land loans. This increase resulted from higher average balances of \$187.7 million, partly offset by a 48 basis point decrease in the average rate earned.

Fully taxable-equivalent interest income on total investment securities increased \$19.0 million during 2021, as average balances grew \$3.2 billion, while the average rate earned decreased 38 basis points. The average rate on the total investment securities portfolio was 1.81% in 2021 compared to 2.19% in 2020, while the average balance of the total investment securities portfolio (excluding unrealized fair value adjustments on available for sale debt securities) was \$13.5 billion in 2021 compared to an average balance of \$10.3 billion in 2020. The increase in interest income was mainly due to higher interest income earned on U.S. government securities, state and municipal obligations, asset-backed securities and other securities. Interest earned on U.S. government securities grew \$15.5 million and was mainly impacted by growth of the same amount in inflation income on TIPS. Average balances of U.S. government securities increased \$15.1 million and the average rate earned grew 191 basis points. The increase in interest earned on state and municipal obligations resulted mainly from growth of \$453.2 million in average balances, partly offset by a 33 basis point decrease in the average rate earned. Interest on asset-backed securities increased \$2.9 million mainly due to growth of \$1.4 billion in the average balance, partly offset by an 87 basis point decrease in the average rate earned. Other securities interest increased \$11.9 million mainly due to higher interest earned on equity securities, largely as a result of one-time dividend payments of \$5.5 million received on private equity portfolio investments in 2021. Partly offsetting these increases in interest income was a decline of \$14.7 million in interest income on mortgage-backed securities, due to a decrease of 56 basis points in the average rate earned, partly offset by higher average balances of \$1.3 billion.

Interest on securities purchased under resell agreements decreased \$3.3 million compared to 2020 due to a decrease of 185 basis points in the average rate, partly offset by growth in balances of \$425.8 million. Interest earned on deposits with banks increased \$929 thousand over 2020, mainly due to growth in average balances of \$1.3 billion, partly offset by a seven basis point decrease in the average rate earned.

During 2021, interest expense on deposits decreased \$24.5 million from 2020 and resulted mainly from a 17 basis point decrease in the overall average rate paid on deposits. Interest expense on interest checking and money market accounts decreased \$10.4 million mainly due to lower rates paid, which fell 10 basis points, but was partly offset by higher average balances of \$1.8 billion. Interest expense on certificates of deposit over \$100,000 declined \$10.4 million, mainly due to a 74 basis point decline in the average rate paid. The overall rate paid on total deposits decreased from .24% in 2020 to .07% in 2021. Interest expense on borrowings decreased \$5.5 million mainly due to lower rates paid on securities sold under repurchase agreements, partly offset by higher average balances. The overall average rate incurred on all interest bearing liabilities was .07% in 2021, compared to .26% in 2020.

Provision for Credit Losses

The provision for credit losses is comprised of provisions for credit losses on loans and for unfunded lending commitments and is recorded to adjust the allowance for credit losses on loans and the liability for unfunded lending commitments to a level deemed adequate by management based on the factors mentioned in the “Allowance for Credit Losses on Loans and Liability for Unfunded Lending Commitments” section of this discussion. The provision for credit losses was \$28.1 million in 2022, an increase of \$94.4 million over the 2021 provision, which was a recovery of \$66.3 million.

The provision for credit losses on loans in 2022 was \$19.2 million, compared to a recovery in the provision for credit losses on loans of \$52.2 million in 2021. The allowance for credit losses on loans totaled \$150.1 million at December 31, 2022, an increase of \$92 thousand compared to the prior year, and represented .92% of loans at year end 2022, compared to .99% at December 31, 2021.

The provision for unfunded lending commitments was \$8.9 million during 2022, compared to a recovery of \$14.1 million in 2021, and the liability for unfunded lending commitments was \$33.1 million at December 31, 2022, compared to \$24.2 million at December 31, 2021.

Non-Interest Income

<i>(Dollars in thousands)</i>	2022	2021	2020	% Change	
				'22-'21	'21-'20
Trust fees	\$ 184,719	\$ 188,227	\$ 160,637	(1.9)%	17.2%
Bank card transaction fees	176,144	167,891	151,797	4.9	10.6
Deposit account charges and other fees	94,381	97,217	93,227	(2.9)	4.3
Consumer brokerage services	19,117	18,362	15,095	4.1	21.6
Capital market fees	14,231	15,943	14,582	(10.7)	9.3
Loan fees and sales	13,141	29,720	26,684	(55.8)	11.4
Other	44,802	43,033	43,845	4.1	(1.9)
Total non-interest income	\$ 546,535	\$ 560,393	\$ 505,867	(2.5)%	10.8%
Non-interest income as a % of total revenue*	36.7%	40.1%	37.9%		
Total revenue per full-time equivalent employee	\$ 324.1	\$ 305.6	\$ 280.3		

* Total revenue is calculated as net interest income plus non-interest income.

Below is a summary of net bank card transaction fees for the years ended December 31, 2022, 2021 and 2020, respectively.

<i>(Dollars in thousands)</i>	2022	2021	2020	% Change	
				'22-'21	'21-'20
Net corporate card fees	100,012	91,701	82,374	9.1	11.3
Net debit card fees	\$ 40,968	\$ 41,010	\$ 37,644	(.1)%	8.9%
Net merchant fees	20,604	20,036	18,386	2.8	9.0
Net credit card fees	14,560	15,144	13,393	(3.9)	13.1
Total bank card transaction fees	\$ 176,144	\$ 167,891	\$ 151,797	4.9%	10.6%

Non-interest income totaled \$546.5 million, a decrease of \$13.9 million, or 2.5%, compared to \$560.4 million in 2021. Trust fee income decreased \$3.5 million, or 1.9%, as a result of lower institutional (down 7.0%), mutual fund (down 10.9%) and private client trust fees (down .3%). Private client trust fees comprised 79.7% of trust fee income in 2022. The market value of total customer trust assets totaled \$60.3 billion at year end 2022, which was a decrease of 13.0% from year end 2021 balances. Bank card fees increased \$8.3 million, or 4.9%, over the prior year, mainly due to an increase in net corporate card fees of \$8.3 million. The growth in net corporate card fees over the prior year was mainly due to higher interchange income, partly offset by higher rewards expense. Deposit account fees decreased \$2.8 million, or 2.9%, mainly due to lower overdraft and return item fees of \$4.2 million and personal account deposit fees of \$1.2 million, partly offset by growth in corporate cash management fees of \$2.5 million. In 2022, corporate cash management fees comprised 55.6% of total deposit fees, while overdraft fees comprised 21.1% of total deposit fees. In September 2022, the Company implemented enhancements to consumer checking accounts that eliminated return items fees and lowered overdraft fees. Capital market fees decreased \$1.7 million, or 10.7%, compared to the prior year, while revenue from consumer brokerage services increased \$755 thousand, or 4.1%, mainly due to growth in annuity fees. Loan fees and sales decreased \$16.6 million, or 55.8%, mainly due to lower mortgage banking revenue. Other non-interest income increased \$1.8 million, or 4.1%, over the prior year mainly due to higher

cash sweep commissions of \$8.2 million and lease income of \$1.3 million, income of \$2.2 million from a life insurance death benefit recorded in the second quarter of 2022, a \$2.6 million loss on an equity method investment recorded in 2021 and a lease impairment of \$1.1 million recorded in 2021. These increases were partly offset by gains of \$5.6 million recorded mainly on the sales of branch properties last year. In addition, a decrease of \$6.6 million in fair value adjustments was recorded on the Company's deferred compensation plan assets, which are held in a trust, recorded as both an asset and a liability and affect both other income and other expense.

During 2021, non-interest income totaled \$560.4 million, an increase of \$54.5 million, or 10.8%, compared to \$505.9 million in 2020. Bank card fees increased \$16.1 million, or 10.6%, over 2020, due to increases in net corporate card fees of \$9.3 million, net debit card fees of \$3.4 million, net credit card fees of \$1.8 million and net merchant fees of \$1.7 million. The growth in net corporate and credit card fees over the prior year was due to higher interchange income, partly offset by higher rewards expense. Net debit card fees increased due to higher interchange income, partly offset by an increase in network expense. Net merchant fees were up due to an increase in merchant discount fees, partly offset by higher rewards expense. Trust fee income increased \$27.6 million, or 17.2%, as a result of growth in private client trust fees (up 19.1%) and higher institutional trust fees (up 11.0%). Private client trust fees comprised 78.4% of trust fee income in 2021. The market value of total customer trust assets totaled \$69.3 billion at year end 2021, which was an increase of 13.2% over year end 2020 balances. Deposit account fees increased \$4.0 million, or 4.3%, mainly due to growth in corporate cash management fees and overdraft and return item fees of \$3.3 million and \$1.2 million, respectively, partly offset by lower personal deposit account service charge fees of \$1.2 million. In 2021, corporate cash management fees comprised 51.5% of total deposit fees, while overdraft fees comprised 24.8% of total deposit fees. Capital market fees grew \$1.4 million, or 9.3%, compared to 2020, while revenue from consumer brokerage services increased \$3.3 million, or 21.6%, due to growth in advisory and annuity fees. Loan fees and sales increased \$3.0 million, or 11.4%, mainly due to growth in mortgage banking revenue and loan commitment fees. Other non-interest income decreased \$812 thousand, or 1.9%, from 2020 mainly due to lower cash sweep commissions of \$7.9 million and a \$2.6 million loss recorded on an equity method investment in 2021. These decreases were partly offset by gains of \$5.6 million recorded mainly on sales of branch properties during 2021 and increases in interest rate swap fees and check sales and wire fees of \$2.2 million and \$1.0 million, respectively.

Investment Securities Gains (Losses), Net

<i>(In thousands)</i>	2022	2021	2020
Net gains (losses) on sales of available for sale debt securities	\$ (20,273)	\$ (3,284)	\$ 21,096
Net gains on sales of equity securities	17	—	2
Fair value adjustments on equity securities, net	(943)	187	37
Net gains (losses) on sales of private equity investments	(2,128)	1,452	—
Fair value adjustments of private equity investments	43,833	31,704	(10,103)
Total investment securities gains, net	\$ 20,506	\$ 30,059	\$ 11,032

Net gains and losses on investment securities during 2022, 2021 and 2020 are shown in the table above. Included in these amounts are gains and losses arising from sales of securities from the Company's available for sale debt portfolio and gains and losses relating to private equity investments, which are primarily held by the Parent's majority-owned private equity subsidiary. The gains and losses on private equity investments include fair value adjustments, in addition to gains and losses realized upon disposition. The portions of private equity investment gains and losses that are attributable to minority interests are reported as non-controlling interest in the consolidated statements of income, and resulted in expense of \$8.5 million in 2022 and \$6.5 million in 2021, compared to income of \$1.4 million in 2020.

Net securities gains of \$20.5 million were recorded in 2022, which included net gains of \$43.8 million in fair value adjustments on private equity investments. This increase was partly offset by losses of \$20.3 million realized on sales resulting from the Company's sale of approximately \$105 million (book value) in bonds, mainly mortgage-backed and corporate bond securities, net losses of \$2.1 million on sales of private equity investments, and net losses of \$943 thousand in fair value adjustments on equity securities.

Net securities gains of \$30.1 million were recorded in 2021, which included \$1.5 million in net gains realized on sales of private equity investments, net gains totaling \$31.7 million of fair value adjustments on private equity investments, and \$187 thousand of fair value adjustments on equity investments. These net gains were offset by losses of \$3.3 million realized on bond sales resulting from the Company's sale of approximately \$73 million (book value) of bonds, mainly mortgage-backed securities.

Net securities gains of \$11.0 million were recorded in 2020, which included \$21.1 million in net gains realized on bond sales resulting from the Company's sale of approximately \$602 million (book value) of bonds, mainly mortgage-backed securities and municipal securities. These gains were offset by net losses totaling \$10.1 million of fair value adjustments on private equity investments.

Non-Interest Expense

<i>(Dollars in thousands)</i>	2022	2021	2020	% Change	
				'22-'21	'21-'20
Salaries	\$ 471,260	\$ 447,238	\$ 436,087	5.4%	2.6%
Employee benefits	82,787	78,010	76,900	6.1	1.4
Data processing and software	110,692	101,792	95,325	8.7	6.8
Net occupancy	49,117	48,185	46,645	1.9	3.3
Equipment	19,359	18,089	18,839	7.0	(4.0)
Supplies and communication	18,101	17,118	17,419	5.7	(1.7)
Marketing	23,827	21,856	19,734	9.0	10.8
Other	73,634	73,613	57,429	—	28.2
Total non-interest expense	\$ 848,777	\$ 805,901	\$ 768,378	5.3%	4.9%
Efficiency ratio	56.9%	57.6%	57.2%		
Salaries and benefits as a % of total non-interest expense	65.3%	65.2%	66.8%		
Number of full-time equivalent employees	4,594	4,567	4,766		

Non-interest expense was \$848.8 million in 2022, an increase of \$42.9 million, or 5.3%, over the previous year. Salaries and benefits expense increased \$28.8 million, or 5.5%, mainly due to higher costs for full-time salaries, incentive compensation, stock compensation, payroll taxes and 401(k) expense. Salaries expense included expense of \$5.4 million for special bonuses paid to non-incentivized full-time and part-time employees in 2022. Full-time equivalent employees totaled 4,594 at December 31, 2022, compared to 4,567 at December 31, 2021. Data processing and software expense increased \$8.9 million, or 8.7%, primarily due to higher bank card processing fees, software amortization and expense, and increased costs for service providers. Net occupancy expense increased \$932 thousand, or 1.9%, mainly due to higher depreciation, utilities and outside services expense, partly offset by lower real estate taxes expense. Equipment expense increased \$1.3 million, or 7.0%, mainly due to higher depreciation and equipment service contract expense, while marketing expense increased \$2.0 million, or 9.0%. Supplies and communication expense increased \$983 thousand, or 5.7%, mainly due to higher postage and courier expense and bank card reissuance fees, partly offset by lower data network expense. Other non-interest expense increased slightly over 2021. Higher costs for travel and entertainment expense (up \$5.1 million), insurance expense (up \$1.9 million), depreciation expense on leased assets (up \$958 thousand) and airplane expense (up \$864 thousand) were offset by \$8.2 million in non-recurring litigation settlement costs recorded in 2021. In addition, the previously mentioned fair value adjustments on the Company's deferred compensation plan assets decreased \$6.6 million from the prior year.

In 2021, non-interest expense was \$805.9 million, an increase of \$37.5 million, or 4.9%, over 2020. Salaries and benefits expense increased \$12.3 million, or 2.4%, mainly due to higher incentive compensation and healthcare expense, partly offset by lower salaries expense. Incentive compensation increased due to higher incentives in wealth and commercial, while full-time and part-time salaries expense declined mainly due to lower retail banking salaries expense. Full-time equivalent employees totaled 4,567 at December 31, 2021, reflecting a 4.2% decrease from 2020. Net occupancy expense increased \$1.5 million, or 3.3%, mainly due to lower external rent income. Equipment expense decreased \$750 thousand, or 4.0%, mainly due to lower depreciation and equipment service expense, while supplies and communication expense decreased \$301 thousand, or 1.7%. Data processing and software expense increased \$6.5 million, or 6.8%, primarily due to higher costs for service providers, bank card processing fees and software expense, while marketing expense increased \$2.1 million, or 10.8%. Other non-interest expense increased \$16.2 million, or 28.2%, over 2020 mainly due to \$8.2 million in non-recurring litigation settlement costs mentioned above. In addition, deferred loan origination costs declined \$3.5 million and deposit insurance expense increased \$1.3 million. These increases were partly offset by a reduction in impairment expense of \$3.6 million on the Company's mortgage servicing rights.

Income Taxes

Income tax expense was \$132.4 million in 2022, compared to \$145.7 million in 2021 and \$87.3 million in 2020. The effective tax rate, including the effect of non-controlling interest, was 21.3% in 2022 compared to 21.5% in 2021 and 19.8% in 2020. Additional information about income tax expense is provided in Note 9 to the consolidated financial statements.

Financial Condition

Loan Portfolio Analysis

Classifications of consolidated loans by major category at December 31, 2022 and 2021 are shown in the table below. This portfolio consists of loans which were acquired or originated with the intent of holding to their maturity. Loans held for sale are separately discussed in a following section. A schedule of average balances invested in each loan category below is disclosed within the Average Balance Sheets section of Management's Discussion and Analysis of Financial Condition and Results of Operations below.

<i>(In thousands)</i>	Balance at December 31	
	2022	2021
Commercial:		
Business	\$ 5,661,725	\$ 5,303,535
Real estate — construction and land	1,361,095	1,118,266
Real estate — business	3,406,981	3,058,837
Personal banking:		
Real estate — personal	2,918,078	2,805,401
Consumer	2,059,088	2,032,225
Revolving home equity	297,207	275,945
Consumer credit card	584,000	575,410
Overdrafts	14,957	6,740
Total loans	\$ 16,303,131	\$ 15,176,359

The table below presents contractual maturities of the loan portfolio, based on payment due dates, as well as a breakdown of fixed rate and floating rate loans at December 31, 2022.

<i>(In thousands)</i>	Principal Payments Due					Total
	In One Year or Less	After One Year Through Five Years	After Five Years Through Fifteen Years	After Fifteen Years		
Commercial:						
Business	\$ 2,188,745	\$ 3,097,082	\$ 374,934	\$ 964	\$ 5,661,725	
Real estate — construction and land	450,456	880,531	24,958	5,150	1,361,095	
Real estate — business	716,024	2,182,596	504,254	4,107	3,406,981	
Personal banking:						
Real estate — personal	175,599	554,999	1,063,609	1,123,871	2,918,078	
Consumer	830,809	1,051,373	176,111	795	2,059,088	
Revolving home equity	18,247	92,621	186,339	—	297,207	
Consumer credit card	66,352	198,109	319,539	—	584,000	
Overdrafts	14,957	—	—	—	14,957	
Total loans	\$ 4,461,189	\$ 8,057,311	\$ 2,649,744	\$ 1,134,887	\$ 16,303,131	
Loans with fixed rates	\$ 1,303,933	\$ 3,782,069	\$ 1,521,000	\$ 622,618	\$ 7,229,620	
Loans with floating rates	3,157,256	4,275,242	1,128,744	512,269	9,073,511	
Total loans	\$ 4,461,189	\$ 8,057,311	\$ 2,649,744	\$ 1,134,887	\$ 16,303,131	

The following table shows loan balances at December 31, 2022, segregated between those with fixed interest rates and those with variable rates that fluctuate with an index.

<i>(In thousands)</i>	Fixed Rate Loans	Variable Rate Loans	Total	% Variable Rate Loans
Business	\$ 2,249,024	\$ 3,412,701	\$ 5,661,725	60.3%
Real estate — construction and land	74,713	1,286,382	1,361,095	94.5
Real estate — business	1,471,746	1,935,235	3,406,981	56.8
Real estate — personal	1,950,578	967,500	2,918,078	33.2
Consumer	1,438,912	620,176	2,059,088	30.1
Revolving home equity	1,775	295,432	297,207	99.4
Consumer credit card	27,915	556,085	584,000	95.2
Overdrafts	14,957	—	14,957	—
Total loans	\$ 7,229,620	\$ 9,073,511	\$ 16,303,131	55.7%

Total loans at December 31, 2022 were \$16.3 billion, an increase of \$1.1 billion, or 7.4%, over balances at December 31, 2021. The increase in loans during 2022 occurred in all categories over the previous year. Business loans increased \$358.2 million, or 6.8%, mainly due to a \$374 million increase in commercial and industrial loans. Excluding declines in PPP loan balances, which decreased \$121.1 million during 2022, business loans increased \$479.3 million, or 9.0%. As of December 31, 2022, nearly 100% of PPP loan balances have been forgiven. Lease lending and commercial card lending, included within business loans, also increased during 2022, but the increase was partly offset by a decline in tax-advantaged lending. Construction loans increased \$242.8 million, or 21.7% mainly due to growth in commercial construction lending. Business real estate loans increased \$348.1 million, or 11.4%, due mainly to increases in industrial and office building lending, while owner-occupied, multi-family, and senior living lending declined. Personal real estate loans increased \$112.7 million, or 4.0%. The Company sells certain long-term fixed rate mortgage loans to the secondary market, and loan sales in 2022 totaled \$111.3 million, compared to \$547.1 million in 2021. Consumer loans increased \$26.9 million, or 1.3%, mainly due to growth in private banking lending. Health services financing and fixed rate home equity loans also increased, offset by declines in auto lending, other vehicle and equipment lending (mostly comprised of motorcycle loans), and continued run off of marine and recreational vehicle loan balances. Consumer credit card loans increased \$8.6 million, or 1.5%, and revolving home equity loan balances increased \$21.3 million, or 7.7%, compared to balances at year end 2021.

The Company currently holds approximately 31% of its loan portfolio in the Kansas City market, 25% in the St. Louis market, and 45% in other regional markets. The portfolio is diversified from a business and retail standpoint, with 64% in loans to businesses and 36% in loans to consumers. The Company believes a diversified approach to loan portfolio management, strong underwriting criteria and an aversion toward credit concentrations from an industry, geographic and product perspective, have contributed to low levels of problem loans and credit losses on loans experienced over the last several years.

The Company participates in credits of large, publicly traded companies which are defined by regulation as shared national credits, or SNCs. Regulations define SNCs as loans exceeding \$100 million that are shared by three or more financial institutions. The Company typically participates in these loans when business operations are maintained in the local communities or regional markets and opportunities to provide other banking services are present. At December 31, 2022, the balance of SNC loans totaled approximately \$1.4 billion, with an additional \$2.0 billion in unfunded commitments, compared to a balance of \$1.2 billion, with an additional \$1.9 billion in unfunded commitments, at year end 2021.

Commercial Loans

Business

Total business loans amounted to \$5.7 billion at December 31, 2022 and includes loans used mainly to fund customer accounts receivable, inventories, and capital expenditures. The business loan portfolio includes tax-advantaged loans and leases which carry tax-free interest rates. These loans totaled \$618.1 million at December 31, 2022, a decrease of \$111.8 million, or 15.3%, from December 31, 2021 balances. In addition to tax-advantaged leases, the business loan portfolio also includes other direct financing and sales type leases totaling \$614.7 million at December 31, 2022, an increase of \$75.4 million, or 14.0%, from December 31, 2021. These loans are used by commercial customers to finance capital purchases ranging from computer equipment to office and transportation equipment. Additionally, the Company has outstanding oil and gas energy-related loans totaling \$296.4 million at December 31, 2022, which are further discussed within the Oil and Gas Energy Lending section of the Risk Elements of Loan Portfolio section located within Management's Discussion and Analysis of Financial Condition and

Results of Operations. Also included in the business portfolio are corporate card loans, which totaled \$367.3 million at December 31, 2022 and are made in conjunction with the Company's corporate card business for corporate trade purchases. Corporate card loans are made to corporate, non-profit and government customers nationwide, but have very short-term maturities, which limits credit risk.

Business loans, excluding corporate card loans, are made primarily to customers in the regional trade area of the Company, generally the central Midwest, encompassing the states of Missouri, Kansas, Illinois, and nearby Midwestern markets, including Iowa, Oklahoma, Colorado, Texas, Tennessee, Michigan, Indiana, and Ohio. This portfolio is diversified from an industry standpoint and includes businesses engaged in manufacturing, wholesaling, retailing, agribusiness, insurance, financial services, public utilities, health care, and other service businesses. Emphasis is upon middle-market and community businesses with known local management and financial stability. Consistent with management's strategy and emphasis upon relationship banking, most borrowing customers also maintain deposit accounts and utilize other banking services. Net loan charge-offs in this category totaled \$1.1 million in 2022 compared to net loan recoveries of \$4.8 million in 2021. Non-accrual business loans were \$6.8 million (.1% of business loans) at December 31, 2022 compared to \$7.3 million at December 31, 2021.

Real Estate-Construction and Land

The portfolio of loans in this category amounted to \$1.4 billion at December 31, 2022, an increase of \$242.8 million, or 21.7%, from the prior year and comprised 8.3% of the Company's total loan portfolio. Commercial construction and land development loans totaled \$1.2 billion, or 86.2% of total construction loans at December 31, 2022. These loans increased \$201.6 million from 2021 year end balances, driving the growth in the total construction portfolio. Commercial construction loans are made during the construction phase for small and medium-sized office and medical buildings, manufacturing and warehouse facilities, apartment complexes, shopping centers, hotels and motels, and other commercial properties. Commercial land development loans relate to land owned or developed for use in conjunction with business properties. Residential construction and land development loans at December 31, 2022 totaled \$188.3 million, or 13.8% of total construction loans. A stable construction market has contributed to low loss rates on these loans, with net loan charge-offs of nearly zero in both 2022 and 2021.

Real Estate-Business

Total business real estate loans were \$3.4 billion at December 31, 2022 and comprised 20.9% of the Company's total loan portfolio. This category includes mortgage loans for small and medium-sized office and medical buildings, manufacturing and warehouse facilities, distribution facilities, multi-family housing, farms, shopping centers, hotels and motels, churches, and other commercial properties. The business real estate borrowers and/or properties are generally located in local and regional markets where Commerce does business, and emphasis is placed on owner-occupied lending (33.3% of this portfolio), which presents lower risk levels. Additional information about business real estate loans by borrower is disclosed within the Real Estate - Business Loans section of the Risk Elements of Loan Portfolio section located within Management's Discussion and Analysis of Financial Condition and Results of Operations. At December 31, 2022, balances of non-accrual loans amounted to \$189 thousand, less than .1% of business real estate loans, down from \$214 thousand at year end 2021. The Company experienced net loan recoveries of \$20 thousand in 2022, compared to net loan recoveries of \$64 thousand in 2021.

Personal Banking Loans

Real Estate-Personal

At December 31, 2022, there were \$2.9 billion in outstanding personal real estate loans, which comprised 17.9% of the Company's total loan portfolio. The mortgage loans in this category are mainly for owner-occupied residential properties. The Company originates both adjustable and fixed rate mortgage loans, and at December 31, 2022, 33% of the portfolio was comprised of adjustable rate loans, while 67% was comprised of fixed rate loans. The Company does not purchase any loans from outside parties or brokers.

The Company originates certain mortgage loans with the intent to sell to the secondary market, generally FNMA or FHLMC conforming fixed rate loans. The remaining loans are originated with the intent to hold to maturity. Of the \$699 million of mortgage loans originated in 2022, \$111.3 million were sold to the secondary market. This compares to \$1.3 billion of mortgage loans originated and \$547.1 million of loans sold to the secondary market in 2021. The decrease in loan sales during 2022 compared to 2021 was partly due to lower demand for mortgage loans, as well as the Company's temporary pause on loan sales in late 2022.

The Company has experienced lower credit losses on loans in this category than many others in the industry and believes this is partly because of its conservative underwriting culture and the fact that it does not purchase loans from brokers. Net loan

recoveries in 2022 totaled \$74 thousand, and net loan recoveries were \$98 thousand in 2021. Balances of non-accrual loans in this category were \$1.4 million at December 31, 2022, compared to \$1.6 million at year end 2021.

Consumer

Consumer loans consist of private banking, automobile, motorcycle, marine, tractor/trailer, recreational vehicle (RV), fixed rate home equity, patient health care financing and other types of consumer loans. These loans totaled \$2.1 billion at December 31, 2022. Approximately 39% of the consumer portfolio consists of automobile loans, 32% in private banking loans, 11% in fixed rate home equity loans, and 10% in healthcare financing loans. Total consumer loans increased \$26.9 million at year end 2022 compared to year end 2021. Growth of \$77.6 million in private banking loans was supplemented by increases in patient healthcare financing and fixed rate home equity loans. These increases in consumer loan balances were partially offset by declines of \$56.8 million in automobile loans and \$19.2 million in motorcycle loans. Net charge-offs on total consumer loans were \$3.8 million in 2022, compared to \$2.6 million in 2021, averaging .18% and .13% of consumer loans in 2022 and 2021, respectively.

Revolving Home Equity

Revolving home equity loans, of which more than 99% are adjustable rate loans, totaled \$297.2 million at year end 2022. An additional \$846.4 million was available in unused lines of credit, which can be drawn at the discretion of the borrower. Home equity loans are secured mainly by second mortgages (and less frequently, first mortgages) on residential property of the borrower. The underwriting terms for the home equity line product permit borrowing availability, in the aggregate, generally up to 80% or 90% of the appraised value of the collateral property at the time of origination. Net loan recoveries were \$60 thousand in 2022, compared to net loan charge-offs of nearly zero in 2021.

Consumer Credit Card

Total consumer credit card loans amounted to \$584.0 million at December 31, 2022 and comprised 3.6% of the Company's total loan portfolio. The credit card portfolio is concentrated within regional markets served by the Company. The Company offers a variety of credit card products, including affinity cards, rewards cards, and standard and premium credit cards, and emphasizes its credit card relationship product, Special Connections. Approximately 38% of the households that own a Commerce credit card product also maintain a deposit relationship with the subsidiary bank. Approximately 95% of the outstanding credit card loan balances had a floating interest rate at year end 2022, unchanged from year end 2021. Net charge-offs amounted to \$12.7 million in 2022, a decrease of \$7.4 million from \$20.0 million in 2021.

Loans Held for Sale

At December 31, 2022, loans held for sale were comprised of certain loans extended to students while attending colleges and universities. The student loans, carried at the lower of cost or fair value, totaled \$4.9 million at December 31, 2022. This portfolio is further discussed in Note 2 to the consolidated financial statements.

Allowance for Credit Losses on Loans and Liability for Unfunded Lending Commitments

To determine the amount of the allowance for credit losses on loans and the liability for unfunded lending commitments, the Company has established a process which assesses the risks and losses expected in its portfolios. This process provides an allowance based on estimates of allowances for pools of loans and unfunded lending commitments, as well as a second, smaller component based on certain individually evaluated loans and unfunded lending commitments. The Company's policies and processes for determining the allowance for credit losses on loans and the liability for unfunded lending commitments are discussed in Note 1 to the consolidated financial statements and in the "*Allowance for Credit Losses*" discussion within *Critical Accounting Policies* above.

Loans subject to individual evaluation generally consist of business, construction, business real estate and personal real estate loans on non-accrual status. These non-accrual loans are evaluated individually for impairment based on factors such as payment history, borrower financial condition and collateral. For collateral dependent loans, appraisals of collateral (including exit costs) are normally obtained annually but discounted based on the date last received and market conditions. From these evaluations of expected cash flows and collateral values, specific allowances are determined.

Loans which are not individually evaluated are segregated by loan type and sub-type and are collectively evaluated. These loans consist of commercial loans (business, construction and business real estate) which have been graded pass, special mention, or substandard, and also include all personal banking loans except personal real estate loans on non-accrual status. Collectively-evaluated loans include certain troubled debt restructurings with similar risk characteristics.

The allowance for credit losses on loans and the liability for unfunded lending commitments are estimates that require significant judgment including projections of the macro-economic environment. The Company utilizes a third-party macro-economic forecast that continuously changes due to economic conditions and events. These changes in the forecast cause fluctuations in the allowance for credit losses on loans and the liability for unfunded lending commitments. The Company uses judgment to assess the macro-economic forecast and internal loss data in estimating the allowance for credit losses on loans and the liability for unfunded lending commitments. These estimates are subject to periodic refinement based on changes in the underlying external and internal data.

The Company has internal credit administration and loan review staff that continuously review loan quality and report the results of their reviews and examinations to the Company's senior management and Board of Directors. Such reviews also assist management in establishing the level of the allowance. The Company's subsidiary bank continues to be subject to examination by several regulatory agencies, and examinations are conducted throughout the year, targeting various segments of the loan portfolio for review. Refer to Note 1 to the consolidated financial statements for additional discussion on the allowance and charge-off policies.

At December 31, 2022, the allowance for credit losses on loans was \$150.1 million, compared to \$150.0 million at December 31, 2021. The allowance for credit losses related to commercial loans increased \$5.5 million during 2022, due to increases in the allowance for construction and business loans of \$5.6 million and \$2.4 million, respectively, partly offset by a decrease in the allowance for business real estate loans of \$2.5 million. The increase in the allowance for credit losses on the commercial portfolio is due to an increase in outstanding loan balances, partially offset by a reduction in certain pandemic-related reserves, as those uncertainties and concerns began to resolve. Compared to December 31, 2021, the allowance for credit losses on consumer credit card loans decreased \$10.6 million, due to the changing forecast, as concerns related to COVID-19 lessened. This decrease was partly offset by a \$4.7 million increase in the allowance for personal real estate loans, as prepayment speeds slowed, extending the estimated average life of the loans and increasing the related allowance. The provision for credit losses, which includes the provision for loans and unfunded lending commitments, was \$28.1 million for the year, compared to a benefit of \$66.3 million in 2021. During 2021, the allowance for credit losses built in 2020 to estimate the impact of the pandemic were released as the economic forecast and loss projections improved. See Note 2 to the consolidated financial statements for the various model assumptions utilized in the Company's CECL estimate at December 31, 2022.

The percentage of allowance to loans decreased to .92% at December 31, 2022, compared to .99% at December 30, 2021. The percentage of allowance to commercial portfolio loans decreased to .99% at December 31, 2022, compared to 1.03% at December 30, 2021, and the percentage of allowance to personal banking loans decreased to .80% at December 31, 2022 from .92% at December 31, 2021. The allowance fell as a percentage of loans at December 31, 2022 as the forecast used in the Company's CECL model moved away from the forecast estimating losses related to the trailing impact of the unprecedented pandemic at year end 2021 to a forecast showing a near term mild recession.

Total loans delinquent 90 days or more and still accruing were \$15.8 million at December 31, 2022, an increase of \$4.1 million compared to year end 2021. The increase was mainly driven by growth of \$3.7 million in personal real estate loans. Non-accrual loans at December 31, 2022 were \$8.3 million, a decrease of \$851 thousand from the prior year, mainly due to declines in business and personal real estate non-accrual loans of \$561 thousand and \$264 thousand, respectively. The allowance for credit losses as a percentage of non-accrual loans was 1,807.6% at December 31, 2022, compared to 1,638.6% at December 31, 2021. The increase in the ratio of the allowance to non-accrual loans was driven by the decrease in non-accrual loans outstanding. The 2022 year-end balance of non-accrual loans was comprised of \$6.8 million of business loans, \$1.4 million of personal real estate loans, and \$189 thousand of business real estate loans.

Net loan charge-offs totaled \$19.1 million in 2022, representing a \$496 thousand increase compared to net charge-offs of \$18.6 million in 2021. The increase was largely due to net charge-offs of \$1.1 million on business loans during 2022, compared to net recoveries of \$4.8 million in the prior year, and higher net charge-offs on consumer loans of \$1.2 million in 2022. These increases to net charge-offs were partly offset by lower consumer credit card loan net charge-offs of \$7.4 million. Consumer credit card loan net charge-offs were 2.31% of average consumer credit card loans in 2022, compared to 3.47% in 2021. Consumer credit card loan net charge-offs as a percentage of total net charge-offs decreased to 66.4% in 2022, compared to 107.8% in 2021. Consumer loan net charge-offs were .18% of average consumer loans in 2022, compared to .13% in 2021, and represented 19.9% of total net loan charge-offs in 2022. The ratio of net loan charge-offs to total average loans outstanding was .12% in both 2022 and 2021 and .22% in 2020.

At December 31, 2022, the liability for unfunded lending commitments was \$33.1 million, an increase of \$8.9 million compared to December 31, 2021. The increase in the liability for unfunded lending commitments during 2022 was driven primarily by increases in the balance and the average term of unfunded lending commitments. The Company's unfunded lending commitments primarily relate to construction loans, and the Company's estimate for credit losses in its unfunded lending commitments utilizes the same model and forecast as its estimate for credit losses on loans. See Note 2 for further discussion of the model inputs utilized in the Company's estimate of credit losses.

The Company considers the allowance for credit losses on loans and the liability for unfunded lending commitments adequate to cover losses expected in the loan portfolio, including unfunded commitments, at December 31, 2022.

The schedules which follow summarize the relationship between loan balances and activity in the allowance for credit losses on loans:

<i>(Dollars in thousands)</i>	Years Ended December 31		
	2022	2021	2020
Loans outstanding at end of year^(A)	\$ 16,303,131	\$ 15,176,359	\$ 16,329,641
Average loans outstanding^(A)	\$ 15,561,987	\$ 15,664,388	\$ 15,896,848
Allowance for credit losses:			
Balance at end of prior year	\$ 150,044	\$ 220,834	\$ 160,682
Adoption of ASU 2016-13	—	—	(21,039)
Balance at beginning of year	150,044	220,834	139,643
Provision for credit losses on loans	19,155	(52,223)	116,049
Loans charged off:			
Business	1,474	810	7,862
Real estate — construction and land	—	3	—
Real estate — business	6	155	—
Real estate — personal	159	134	42
Consumer	6,073	5,370	7,769
Revolving home equity	77	188	79
Consumer credit card	19,039	27,461	32,541
Overdrafts	2,414	1,506	1,754
Total loans charged off	29,242	35,627	50,047
Recoveries of loans previously charged off:			
Business	421	5,568	4,197
Real estate — construction and land	—	2	3
Real estate — business	26	219	47
Real estate — personal	233	232	333
Consumer	2,283	2,814	3,325
Revolving home equity	137	185	245
Consumer credit card	6,381	7,453	6,562
Overdrafts	698	587	477
Total recoveries	10,179	17,060	15,189
Net loans charged off	19,063	18,567	34,858
Balance at end of year	\$ 150,136	\$ 150,044	\$ 220,834
Ratio of allowance to loans at end of year	.92%	.99%	1.35%
Ratio of provision to average loans outstanding	.12%	(.33)%	.73%
Non-accrual loans	\$ 8,306	\$ 9,157	\$ 26,540
Ratio of non-accrual loans to total loans outstanding	.05%	.06%	.16%
Ratio of allowance for credit losses on loans to non-accrual loans	1,807.56	1,638.57	832.08

(A) Net of unearned income, before deducting allowance for credit losses on loans, excluding loans held for sale.

	Years Ended December 31		
	2022	2021	2020
Ratio of net charge-offs (recoveries) to average loans outstanding, by loan category:			
Business	.02%	(.08)%	.06%
Real estate — construction and land	—	—	—
Real estate — business	—	—	—
Real estate — personal	—	—	(.01)
Consumer	.18	.13	.23
Revolving home equity	(.02)	—	(.05)
Consumer credit card	2.31	3.47	3.88
Overdrafts	30.40	21.20	38.11
Ratio of total net charge-offs to total average loans outstanding	.12%	.12%	.22%

Average loans outstanding by loan class are listed on the Company's average balance sheet on page 60.

The following schedule provides a breakdown of the allowance for credit losses on loans (ACL) by loan category and the percentage of each loan category to total loans outstanding at year end.

<i>(Dollars in thousands)</i>	2022			2021		
	Credit Loss Allowance Allocation	% of Loans to Total Loans	% of ACL to Loan Category	Credit Loss Allowance Allocation	% of Loans to Total Loans	% of ACL to Loan Category
Business	\$ 46,340	34.8%	.82%	\$ 43,943	34.9%	.83%
RE — construction and land	28,799	8.3	2.12	23,171	7.4	2.07
RE — business	28,154	20.9	.83	30,662	20.2	1.00
RE — personal	10,047	17.9	.34	5,331	18.5	.19
Consumer	10,252	12.6	.50	10,073	13.4	.50
Revolving home equity	1,576	1.8	.53	1,217	1.8	.44
Consumer credit card	24,858	3.6	4.26	35,467	3.8	6.16
Overdrafts	110	.1	.74	180	—	2.67
Total	\$ 150,136	100.0%	.92%	\$ 150,044	100.0%	.99%

Risk Elements of the Loan Portfolio

Management reviews the loan portfolio continuously for evidence of problem loans. During the ordinary course of business, management becomes aware of borrowers that may not be able to meet the contractual requirements of loan agreements. Such loans are placed under close supervision with consideration given to placing the loan on non-accrual status, the need for an additional allowance for credit loss, and (if appropriate) partial or full loan charge-off. Loans are placed on non-accrual status when management does not expect to collect payments consistent with acceptable and agreed upon terms of repayment. After a loan is placed on non-accrual status, any interest previously accrued but not yet collected is reversed against current income. Interest is included in income only as received and only after all previous loan charge-offs have been recovered, so long as management is satisfied there is no impairment of collateral values. The loan is returned to accrual status only when the borrower has brought all past due principal and interest payments current, and, in the opinion of management, the borrower has demonstrated the ability to make future payments of principal and interest as scheduled. Loans that are 90 days past due as to principal and/or interest payments are generally placed on non-accrual, unless they are both well-secured and in the process of collection, or they are comprised of those personal banking loans that are exempt under regulatory rules from being classified as non-accrual. Consumer installment loans and related accrued interest are normally charged down to the fair value of related collateral (or are charged off in full if no collateral) once the loans are more than 120 days delinquent. Credit card loans and the related accrued interest are charged off when the receivable is more than 180 days past due.

The following schedule shows non-performing assets and loans past due 90 days and still accruing interest.

(Dollars in thousands)	December 31				
	2022	2021	2020	2019	2018
Total non-accrual loans	\$ 8,306	\$ 9,157	\$ 26,540	\$ 10,220	\$ 12,536
Real estate acquired in foreclosure	96	115	93	365	1,413
Total non-performing assets	\$ 8,402	\$ 9,272	\$ 26,633	\$ 10,585	\$ 13,949
Non-performing assets as a percentage of total loans	.05 %	.06 %	.16 %	.07 %	.10 %
Non-performing assets as a percentage of total assets	.03 %	.03 %	.08 %	.04 %	.05 %
Loans past due 90 days and still accruing interest	\$ 15,830	\$ 11,726	\$ 22,190	\$ 19,859	\$ 16,658

Non-accrual loans totaled \$8.3 million at year end 2022, a decrease of \$851 thousand from the balance at year end 2021. The decrease from December 31, 2021 occurred mainly in business loans, which decreased \$561 thousand, and personal real estate loans, which decreased \$265 thousand. At December 31, 2022, non-accrual loans were comprised of business (81.3%), personal real estate (16.4%), and business real estate (2.3%) loans. Foreclosed real estate totaled \$96 thousand at December 31, 2022, a decrease of \$19 thousand when compared to December 31, 2021. Total non-performing assets remain low compared to the overall banking industry in 2022, with the non-performing assets to total loans ratio at .05% at December 31, 2022. Total loans past due 90 days or more and still accruing interest were \$15.8 million as of December 31, 2022, an increase of \$4.1 million when compared to December 31, 2021. Balances by class for non-accrual loans and loans past due 90 days and still accruing interest are shown in the "Delinquent and non-accrual loans" section of Note 2 to the consolidated financial statements.

In addition to the non-performing and past due loans mentioned above, the Company also has identified loans for which management has concerns about the ability of the borrowers to meet existing repayment terms. They are classified as substandard under the Company's internal rating system. The loans are generally secured by either real estate or other borrower assets, reducing the potential for loss should they become non-performing. Although these loans are generally identified as potential problem loans, they may never become non-performing. Such loans totaled \$259.7 million at December 31, 2022, compared with \$278.7 million at December 31, 2021, resulting in a decrease of \$19.0 million or 6.8%. The decrease in potential problem loans was largely driven by an \$18.2 million decrease in business real estate loans, partly offset by a \$7.2 million increase in construction loans.

(In thousands)	December 31	
	2022	2021
Potential problem loans:		
Business	\$ 29,455	\$ 37,143
Real estate – construction and land	47,493	40,259
Real estate – business	182,526	200,766
Real estate – personal	250	526
Total potential problem loans	\$ 259,724	\$ 278,694

Loans with Special Risk Characteristics

Management relies primarily on an internal risk rating system, in addition to delinquency status, to assess risk in the loan portfolio, and these statistics are presented in Note 2 to the consolidated financial statements. However, certain types of loans are considered at a higher risk of loss due to their terms, location, or special conditions. Construction and land loans and business real estate loans are subject to higher risk because of the impact that volatile interest rates and a changing economy can have on real estate value, and because of the potential volatility of the real estate industry. Certain home equity loans have contractual features that could increase credit exposure in a market of declining real estate prices, when interest rates are steadily increasing, or when a geographic area experiences an economic downturn. For these home equity loans, higher risks could exist when 1) loan terms require a minimum monthly payment that covers only interest, or 2) loan-to-collateral value (LTV) ratios at origination are above 80%, with no private mortgage insurance. Information presented below for home equity loans is based on LTV ratios which were calculated with valuations at loan origination date. The Company does not obtain updated appraisals or valuations unless the loans become significantly delinquent or are in the process of being foreclosed upon. For credit monitoring purposes, the Company analyzes delinquency information, current FICO scores, and line utilization. This has remained an effective means of evaluating credit trends and identifying problem loans, partly because the Company offers standard, conservative lending products.

Real Estate - Construction and Land Loans

The Company's portfolio of construction and land loans, as shown in the table below, amounted to 8.3% of total loans outstanding at December 31, 2022. The largest component of construction and land loans was commercial construction, which increased \$199.5 million during the year ended December 31, 2022. At December 31, 2022, multi-family residential construction loans totaled approximately \$303.5 million, or 27.0%, of the commercial construction loan portfolio.

<i>(Dollars in thousands)</i>	December 31, 2022	% of Total	% of Total Loans	December 31, 2021	% of Total	% of Total Loans
Commercial construction	\$ 1,122,105	82.4 %	6.9 %	\$ 922,654	82.5%	6.1 %
Residential construction	138,311	10.2	.8	96,618	8.6	.7
Commercial land and land development	50,667	3.7	.3	48,481	4.3	.3
Residential land and land development	50,012	3.7	.3	50,513	4.6	.3
Total real estate – construction and land loans	\$ 1,361,095	100.0 %	8.3 %	\$ 1,118,266	100.0%	7.4 %

Real Estate – Business Loans

Total business real estate loans were \$3.4 billion at December 31, 2022 and comprised 20.9% of the Company's total loan portfolio. These loans include properties such as manufacturing and warehouse buildings, distribution facilities, small office and medical buildings, churches, hotels and motels, shopping centers, and other commercial properties. Approximately 33.3% of these loans were for owner-occupied real estate properties, which present lower risk profiles.

<i>(Dollars in thousands)</i>	December 31, 2022	% of Total	% of Total Loans	December 31, 2021	% of Total	% of Total Loans
Owner-occupied	\$ 1,136,189	33.3%	7.0%	\$ 1,188,469	38.9%	7.8%
Office	497,601	14.6	3.1	380,101	12.4	2.5
Industrial	478,534	14.0	2.9	99,800	3.3	.7
Retail	322,971	9.5	2.0	339,874	11.1	2.2
Multi-family	308,156	9.0	1.9	354,282	11.6	2.3
Hotels	230,972	6.8	1.4	234,673	7.7	1.5
Farm	195,920	5.8	1.2	178,780	5.8	1.2
Senior living	131,217	3.9	.8	174,871	5.7	1.2
Other	105,421	3.1	.6	107,987	3.5	.8
Total real estate - business loans	\$ 3,406,981	100.0%	20.9%	\$ 3,058,837	100.0%	20.2%

Revolving Home Equity Loans

The Company has revolving home equity loans that are generally collateralized by residential real estate. Most of these loans (91.4%) are written with terms requiring interest-only monthly payments. These loans are offered in three main product lines: LTV up to 80%, 80% to 90%, and 90% to 100%. As shown in the following tables, the percentage of loans with LTV ratios greater than 80% has remained a small segment of this portfolio, and delinquencies have been low and stable. The weighted average FICO score for the total portfolio balance at December 31, 2022 was 789. At maturity, the accounts are re-underwritten and if they qualify under the Company's credit, collateral and capacity policies, the borrower is given the option to renew the line of credit or to convert the outstanding balance to an amortizing loan. If criteria are not met, amortization is required, or the borrower may pay off the loan. Over the next three years, approximately 19.3% of the Company's current outstanding balances are expected to mature. Of these balances, 88.1% have a FICO score above 700. The Company does not expect a significant increase in losses as these loans mature, due to their high FICO scores, low LTVs, and low historical loss levels.

<i>(Dollars in thousands)</i>	Principal Outstanding at December 31, 2022	*	New Lines Originated During 2022	*	Unused Portion of Available Lines at December 31, 2022	*	Balances Over 30 Days Past Due	*
Loans with interest-only payments	\$ 271,772	91.4%	\$232,767	78.3%	\$822,413	276.7%	\$1,757	.6 %
Loans with LTV:								
Between 80% and 90%	30,110	10.1	18,229	6.1	49,154	16.5	97	—
Over 90%	2,288	0.8	820	.3	2,469	0.8	16	—
Over 80% LTV	32,398	10.9	19,049	6.4	51,623	17.4	113	—
Total loan portfolio from which above loans were identified	297,207		244,310		846,361			

* Percentage of total principal outstanding of \$297.2 million at December 31, 2022.

<i>(Dollars in thousands)</i>	Principal Outstanding at December 31, 2021	*	New Lines Originated During 2021	*	Unused Portion of Available Lines at December 31, 2021	*	Balances Over 30 Days Past Due	*
Loans with interest-only payments	\$ 255,636	92.6%	\$145,968	52.9%	\$760,706	275.7%	\$1,344	.5 %
Loans with LTV:								
Between 80% and 90%	28,682	10.4	17,887	6.5	47,283	17.1	222	.1
Over 90%	2,262	0.8	—	—	2,666	1.0	—	—
Over 80% LTV	30,944	11.2	17,887	6.5	49,949	18.1	222	.1
Total loan portfolio from which above loans were identified	275,945		154,000		784,262			

* Percentage of total principal outstanding of \$275.9 million at December 31, 2021.

Consumer Loans

The Company's consumer loans totaled \$2.1 billion and comprised 13% of total loans outstanding at December 31, 2022. Within the consumer loan portfolio are several direct and indirect product lines comprised mainly of loans secured by automobiles, motorcycles, marine, and RVs. Auto loans comprised 39% of the consumer loan portfolio at December 31, 2022, and outstanding balances in the auto loan portfolio were \$798.6 million and \$855.4 million at December 31, 2022 and 2021, respectively. The balances over 30 days past due amounted to \$9.9 million at December 31, 2022, compared to \$9.0 million at the end of 2021, and comprised 1.2% of the outstanding balances of these loans at December 31, 2022 compared to 1.1% at December 31, 2021. For the year ended December 31, 2022, \$329.3 million of new auto loans were originated, compared to \$400.8 million during 2021. At December 31, 2022, the automobile loan portfolio had a weighted average FICO score of 755, and net charge-offs on auto loans were .26% of average auto loans.

The Company's consumer loan portfolio also includes fixed rate home equity loans, typically for home repair or remodeling, and these loans comprised 11% of the consumer loan portfolio at December 31, 2022. Losses on these loans have historically been low, and the Company saw net recoveries of \$46 thousand in 2022. Private banking loans comprised 32% of the consumer loan portfolio at December 31, 2022. The Company's private banking loans are generally well-collateralized and at December 31, 2022 were secured primarily by assets held by the Company's trust department. The remaining portion of the Company's consumer loan portfolio is comprised of health services financing, motorcycles, marine and RV loans. Net charge-offs on private banking, health services financing, motorcycle and marine and RV loans totaled \$1.7 million in 2022 and were .16% of the average balances of these loans at December 31, 2022.

Consumer Credit Card Loans

The Company offers low introductory rates on selected consumer credit card products. Out of a portfolio at December 31, 2022 of \$584.0 million in consumer credit card loans outstanding, approximately \$101.4 million, or 17.4%, carried a low promotional rate. Within the next six months, \$37.3 million of these loans are scheduled to convert to the ongoing higher contractual rate. To mitigate some of the risk involved with this credit card promotional feature, the Company performs credit checks and detailed analysis of the customer borrowing profile before approving the loan application. Management believes that the risks in the consumer loan portfolio are reasonable and the anticipated loss ratios are within acceptable parameters.

Oil and Gas Energy Lending

The Company's energy lending portfolio was comprised of lending to the petroleum and natural gas sectors and totaled \$296.4 million at December 31, 2022, an increase of \$35.8 million from year end 2021, as shown in the table below.

<i>(In thousands)</i>	December 31, 2022	December 31, 2021	Unfunded commitments at December 31, 2022
Extraction	\$ 235,933	\$ 184,840	\$ 145,523
Mid-stream shipping and storage	43,432	36,850	93,145
Downstream distribution and refining	7,675	24,915	34,735
Support activities	9,387	14,039	9,058
Total energy lending portfolio	\$ 296,427	\$ 260,644	\$ 282,461

Information about the credit quality of the Company's energy lending portfolio as of December 31, 2022 and December 31, 2021 is provided in the table below.

<i>(Dollars in thousands)</i>	December 31, 2022	% of Energy Lending	December 31, 2021	% of Energy Lending
Pass	\$ 293,371	99.0 %	\$ 256,186	98.3 %
Special mention	1,232	.4	1,999	0.8
Substandard	—	—	—	—
Non-accrual	1,824	.6	2,459	0.9
Total	\$ 296,427	100.0 %	\$ 260,644	100.0 %

Energy lending balances classified as non-accrual represented .6% of total energy lending loan balances at December 31, 2022. There were no balances classified as substandard at December 31, 2022. The Company recorded \$5 thousand of recoveries on energy loans for the year ended December 31, 2022, compared to \$10 thousand of recoveries on energy loans for the year ended December 31, 2021.

Investment Securities Analysis

Investment securities are comprised of securities that are classified as available for sale, equity, trading or other. The largest component, available for sale debt securities, decreased 4.7% during 2022 to \$13.7 billion (excluding unrealized gains/losses in fair value) at year end 2022. During 2022, debt securities of \$2.1 billion were purchased, which included \$1.1 billion in asset-backed securities, \$406.3 million in agency mortgage-backed securities, \$207.9 million in non-agency mortgage-based securities, \$150.1 million in state and municipal securities, and \$152.9 million in U.S. government and federal agency obligations. Total sales, maturities and pay downs of available for sale debt securities were \$2.8 billion during 2022. During 2023, maturities and pay downs of approximately \$2.4 billion are expected to occur. The Company's tax-exempt investment portfolio is primarily comprised of tax-exempt municipal bonds and certain equity securities in its private equity investment portfolio. There were no significant changes to the Company's tax-exempt investment portfolio during 2022. The average tax equivalent yield earned on total investment securities was 2.15% in 2022 and 1.81% in 2021.

At December 31, 2022, the fair value of available for sale securities was \$12.2 billion, which included a net unrealized loss in fair value of \$1.5 billion, compared to a net unrealized gain of \$30.9 million at December 31, 2021. The overall unrealized loss in fair value at December 31, 2022 included net losses of \$43.4 million in U.S. government and federal agency obligations, net losses of \$197.9 million in state and municipal securities, and net losses of \$1.2 billion in mortgage and asset-backed securities. As described in Note 1, the Company adopted ASU 2016-13, Measurement of Credit Losses on Financial Instruments, on January 1, 2020, and the current expected credit loss model (CECL) implemented by the Company requires that lifetime expected credit losses on securities be recorded in current earnings. For the year ended December 31, 2022, the Company did not recognize a credit loss expense on any available for sale debt securities.

Available for sale investment securities at year end for the past two years are shown below:

<i>(In thousands)</i>	December 31	
	2022	2021
Amortized Cost		
U.S. government and federal agency obligations	\$ 1,078,807	\$ 1,035,477
Government-sponsored enterprise obligations	55,729	50,773
State and municipal obligations	1,965,028	2,072,210
Agency mortgage-backed securities	5,087,893	5,698,088
Non-agency mortgage-backed securities	1,423,469	1,383,037
Asset-backed securities	3,588,025	3,546,024
Other debt securities	539,255	633,524
Total available for sale debt securities	\$ 13,738,206	\$ 14,419,133
Fair Value		
U.S. government and federal agency obligations	\$ 1,035,406	\$ 1,080,720
Government-sponsored enterprise obligations	43,108	51,755
State and municipal obligations	1,767,109	2,096,827
Agency mortgage-backed securities	4,308,427	5,683,000
Non-agency mortgage-backed securities	1,211,607	1,366,477
Asset-backed securities	3,397,801	3,539,219
Other debt securities	474,858	632,029
Total available for sale debt securities	\$ 12,238,316	\$ 14,450,027

At December 31, 2022, the available for sale portfolio included \$4.3 billion of agency mortgage-backed securities, which are collateralized bonds issued by agencies including FNMA, GNMA, FHLMC, FHLB, Federal Farm Credit Banks and FDIC. Non-agency mortgage-backed securities totaled \$1.2 billion and included \$328.4 million collateralized by commercial mortgages and \$883.2 million collateralized by residential mortgages at December 31, 2022.

At December 31, 2022, U.S. government obligations included TIPS of \$373.8 million, at fair value. Other debt securities include corporate bonds, notes and commercial paper.

The types of securities held in the available for sale security portfolio at year end 2022 are presented in the table below. Additional detail by maturity category is provided in Note 3 to the consolidated financial statements.

	December 31, 2022		
	Percent of Total Debt Securities	Weighted Average Yield	Estimated Average Maturity*
Available for sale debt securities:			
U.S. government and federal agency obligations	8.5%	1.23%	2.2 years
Government-sponsored enterprise obligations	0.4	2.38	13.3
State and municipal obligations	14.3	2.00	6.3
Agency mortgage-backed securities	35.2	2.07	7.0
Non-agency mortgage-backed securities	9.9	2.30	5.5
Asset-backed securities	27.8	2.07	2.0
Other debt securities	3.9	1.88	5.6

*Based on call provisions and estimated prepayment speeds.

Equity securities include common and preferred stock with readily determinable fair values that totaled \$6.2 million at December 31, 2022, compared to \$7.2 million at December 31, 2021.

Other securities totaled \$225.0 million at December 31, 2022 and \$194.0 million at December 31, 2021. These include Federal Reserve Bank stock and Federal Home Loan Bank (Des Moines) stock held by the bank subsidiary in accordance with debt and regulatory requirements. These are restricted securities and are carried at cost. The Company's equity method investments are carried at cost, adjusted to reflect the Company's portion of income, loss, or dividends of the investee. Also included in other securities are private equity investments which are held by a subsidiary qualified as a Small Business Investment Company. These investments are carried at estimated fair value, but are not readily marketable. While the nature of these investments carries a higher degree of risk than the normal lending portfolio, this risk is mitigated by the overall size of the investments and oversight provided by management, and management believes the potential for long-term gains in these investments outweighs the potential risks.

Other securities at year end for the past two years are shown below:

(In thousands)	December 31	
	2022	2021
Federal Reserve Bank stock	\$ 34,795	\$ 34,379
Federal Home Loan Bank stock	10,678	10,428
Equity method investments	1,434	1,834
Private equity investments in debt securities	66,899	63,416
Private equity investments in equity securities	111,228	83,990
Total other securities	\$ 225,034	\$ 194,047

In addition to its holdings in the investment securities portfolio, the Company invests in securities purchased under agreements to resell, which totaled \$825.0 million at December 31, 2022 and \$1.6 billion at December 31, 2021. These investments mature in 2023 through 2025 and have fixed rates or variable rates that fluctuate with published indices. The counterparties to these agreements are other financial institutions from whom the Company has accepted collateral of \$869.6 million in marketable investment securities at December 31, 2022. The average rate earned on these agreements during 2022 was 1.5%, compared to 2.9% in 2021.

The Company also holds offsetting repurchase and resale agreements totaling \$200.0 million at December 31, 2022 and \$400.0 million at December 31, 2021, which are further discussed in Note 20 to the consolidated financial statements. These agreements involve the exchange of collateral under simultaneous repurchase and resale agreements with the same financial institution counterparty. These repurchase and resale agreements have been offset against each other in the balance sheet, as permitted under current accounting guidance. The agreements mature in 2023 and earned an average of 29 basis points during 2022, compared to 30 basis points in 2021.

Deposits and Borrowings

Deposits, including both individual and corporate customers, are the primary funding source for the Bank and are acquired from a broad base of local markets. Total period-end deposits were \$26.2 billion at December 31, 2022, compared to \$29.8 billion last year, reflecting an decrease of \$3.6 billion, or 12.2%.

Average deposits increased \$316.6 million, or 1.1%, in 2022 compared to 2021, resulting from increases in interest checking and money market account balances, and savings account balances of \$1.1 billion and \$133.5 million, respectively. Partially offsetting these increases in deposit balances were declines in certificates of deposit balances, which decreased \$646.1 million in 2022. Additionally, average demand deposits decreased \$275.7 million, primarily driven by lower balances in business demand deposits.

The following table shows year end deposit balances by type, as a percentage of total deposits.

	December 31	
	2022	2021
Non-interest bearing	38.4%	39.4%
Savings, interest checking and money market	57.8	55.7
Certificates of deposit of less than \$100,000	1.5	1.5
Certificates of deposit of \$100,000 and over	2.3	3.4
Total deposits	100.0%	100.0%

Core deposits, which include non-interest bearing, interest checking, savings, and money market deposits, supported 81% and 79% of average earning assets in 2022 and 2021, respectively. Average balances by major deposit category for the last six years are disclosed in the Average Balance Sheets section of Management's Discussion and Analysis of Financial Condition and Results of Operations below. A maturity schedule of all certificates of deposits outstanding at December 31, 2022 is included in Note 7 on Deposits in the consolidated financial statements.

Total uninsured deposits were calculated using the same methodology that the Company uses to determine uninsured deposits for regulatory reporting and amounted to \$11.3 billion and \$14.6 billion at December 31, 2022 and December 31, 2021. The following table shows a detailed breakdown of the maturities of uninsured certificates of deposit at December 31, 2022. The Company estimated the uninsured deposits in the following table by aggregating all deposit balances by customer and assuming federal deposit insurance would first apply to demand deposits, followed by savings deposits, and lastly to time deposits (beginning with the earliest maturity deposits).

<i>(In thousands)</i>	Uninsured Certificates of Deposit at December 31, 2022	
Due in 3 months or less	\$	188,297
Due in over 3 through 6 months		68,357
Due in over 6 through 12 months		140,672
Due in over 12 months		124,849
Total	\$	522,175

The Company's primary sources of overnight borrowings are federal funds purchased and securities sold under agreements to repurchase (repurchase agreements). Balances in these accounts can fluctuate significantly on a day-to-day basis and generally have one day maturities. Total balances of federal funds purchased and repurchase agreements outstanding at December 31, 2022 were \$2.8 billion, comprised of federal funds purchased of \$159.9 million and repurchase agreements of \$2.7 billion. These balances increased \$116.5 million from the federal funds purchased and decreased \$297.7 million from the repurchase agreements outstanding at December 31, 2021. On an average basis, these borrowings increased \$104.4 million, or 4.5%, during 2022, due to an increase of \$44.8 million in repurchase agreements and \$59.6 million in federal funds purchased. The average rate was 2.21% paid on federal funds purchased and 1.02% paid on repurchase agreements during 2022, compared to the average rate paid on both federal funds purchased and repurchase agreements of .07% during 2021.

In addition to the funding sources above, the Company may borrow from the FHLB on a short-term basis (borrowings with an original maturity of less than one year) and long-term basis. During 2022, the Company had average short-term borrowings of \$45.1 million. All of the short-term borrowings were repaid by the Company before December 31, 2022, and the average

rate paid on the FHLB borrowings during 2022 was 4.02%. The Company did not have any short-term FHLB borrowings during 2021. The Company did not borrow any long-term funds from the FHLB during 2022 or 2021.

Liquidity and Capital Resources

Liquidity Management

Liquidity is managed within the Company in order to satisfy cash flow requirements of deposit and borrowing customers while at the same time meeting its own cash flow needs. The Company has taken numerous steps to address liquidity risk and has developed a variety of liquidity sources which it believes will provide the necessary funds for future growth. The Company manages its liquidity position through a variety of sources including:

- A portfolio of liquid assets including marketable investment securities and overnight investments,
- A large customer deposit base and limited exposure to large, volatile certificates of deposit,
- Lower long-term borrowings that might place demands on Company cash flow,
- Relatively low loan to deposit ratio promoting strong liquidity,
- Excellent debt ratings from both Standard & Poor’s and Moody’s national rating services, and
- Available borrowing capacity from outside sources.

The Company’s most liquid assets include available for sale debt securities, federal funds sold, balances at the Federal Reserve Bank, and securities purchased under agreements to resell. At December 31, 2022 and 2021, such assets were as follows:

<i>(In thousands)</i>	2022	2021
Available for sale debt securities	\$ 12,238,316	\$ 14,450,027
Federal funds sold	49,505	2,800
Securities purchased under agreements to resell	825,000	1,625,000
Balances at the Federal Reserve Bank	389,140	3,971,217
Total	\$ 13,501,961	\$ 20,049,044

There were \$49.5 million federal funds sold at December 31, 2022, which are funds lent to the Company’s correspondent bank customers with overnight maturities. Resale agreements, maturing through 2025, totaled \$825.0 million at December 31, 2022. Under these agreements, the Company lends funds to upstream financial institutions and holds marketable securities, safe-kept by a third-party custodian, as collateral. This collateral totaled \$869.6 million in fair value at December 31, 2022. Interest earning balances at the Federal Reserve Bank, which have overnight maturities and are used for general liquidity purposes, totaled \$389.1 million at December 31, 2022. The fair value of the available for sale debt portfolio was \$12.2 billion at December 31, 2022 and included an unrealized net loss of \$1.5 billion. The total net unrealized loss included net loss of \$1.2 billion on mortgage-backed and asset-backed securities, \$197.9 million on state and municipal obligations, and \$43.4 million on U.S. government and federal agency obligations.

Approximately \$2.4 billion of the available for sale debt portfolio is expected to mature or pay down during 2023, and these funds offer substantial resources to meet either new loan demand or help offset potential reductions in the Company’s deposit funding base. The Company pledges portions of its investment securities portfolio to secure public fund deposits, securities sold under agreements to repurchase, trust funds, letters of credit issued by the FHLB, and borrowing capacity at the Federal Reserve Bank. At December 31, 2022 and 2021, total investment securities pledged for these purposes were as follows:

<i>(In thousands)</i>	2022	2021
Investment securities pledged for the purpose of securing:		
Federal Reserve Bank borrowings	\$ 11,469	\$ 17,465
FHLB borrowings and letters of credit	1,817	3,218
Repurchase agreements *	2,950,240	3,475,589
Other deposits	1,772,974	2,897,576
Total pledged securities	4,736,500	6,393,848
Unpledged and available for pledging	6,545,695	6,913,721
Ineligible for pledging	956,121	1,142,458
Total available for sale debt securities, at fair value	\$ 12,238,316	\$ 14,450,027

* Includes securities pledged for collateral swaps, as discussed in Note 20 to the consolidated financial statements

The average loans to deposits ratio is a measure of a bank's liquidity, and the Company's average loans to deposits ratio was 55.4% for the year ended December 31, 2022. Core customer deposits, defined as non-interest bearing, interest checking, savings, and money market deposit accounts, totaled \$25.2 billion and represented 96.2% of the Company's total deposits at December 31, 2022. These core deposits are normally less volatile, often with customer relationships tied to other products offered by the Company promoting long lasting relationships and stable funding sources. Core deposits decreased \$3.2 billion at year end 2022 compared to year end 2021, primarily due to decreases in commercial and wealth management deposits of \$2.0 billion and \$820 million, respectively. While the Company considers core consumer and wealth management deposits less volatile, corporate deposits could decline if interest rates increase significantly, encouraging corporate customers to increase investing activities, or if the economy declines and companies experience lower cash inflows, reducing deposit balances. If these corporate deposits decline, the Company's funding needs can be met by liquidity supplied by investment security maturities and pay downs expected to total \$2.4 billion over the next year, as noted above. In addition, as shown in the table of collateral available for future advances below, the Company has borrowing capacity of \$2.1 billion through advances from the FHLB and the Federal Reserve.

<i>(In thousands)</i>	2022	2021
Core deposit base:		
Non-interest bearing	\$ 10,066,356	\$ 11,772,374
Interest checking	1,854,336	3,227,822
Savings and money market	13,272,645	13,370,263
Total	\$ 25,193,337	\$ 28,370,459

Certificates of deposit of \$100,000 or greater totaled \$607 million at December 31, 2022. These deposits are normally considered more volatile and higher costing, and comprised 2.3% of total deposits at December 31, 2022.

Other important components of liquidity are the level of borrowings from third party sources and the availability of future credit. The Company's outside borrowings are mainly comprised of federal funds purchased and repurchase agreements, as follows:

<i>(In thousands)</i>	2022	2021
Borrowings:		
Federal funds purchased	\$ 159,860	\$ 43,385
Securities sold under agreements to repurchase	2,681,874	2,979,582
Other debt	9,672	12,560
Total	\$ 2,851,406	\$ 3,035,527

Federal funds purchased, which totaled \$159.9 million at December 31, 2022, are unsecured overnight borrowings obtained mainly from upstream correspondent banks with which the Company maintains approved lines of credit. Retail repurchase agreements are offered to customers wishing to earn interest in highly liquid balances and are used by the Company as a funding source considered to be stable, but short-term in nature. Repurchase agreements are collateralized by securities in the Company's investment portfolio. Total repurchase agreements at December 31, 2022 were comprised of non-insured customer funds totaling \$2.7 billion, and securities pledged for these retail agreements totaled \$2.7 billion.

The Company pledges certain assets, including loans and investment securities to both the Federal Reserve Bank and the FHLB as security to establish lines of credit and borrow from these entities. Based on the amount and type of collateral pledged, the FHLB establishes a collateral value from which the Company may draw advances against the collateral. Additionally, this collateral is used to enable the FHLB to issue letters of credit in favor of public fund depositors of the Company. The Federal Reserve Bank also establishes a collateral value of assets pledged and permits borrowings from the discount window. The following table reflects the collateral value of assets pledged, borrowings, and letters of credit outstanding, in addition to the estimated future funding capacity available to the Company at December 31, 2022.

<i>(In thousands)</i>	December 31, 2022		
	FHLB	Federal Reserve	Total
Total collateral value established by FHLB and FRB	\$ 1,855,080	\$ 953,083	\$ 2,808,163
Letters of credit issued	(678,215)	—	(678,215)
Available for future advances	\$ 1,176,865	\$ 953,083	\$ 2,129,948

The Company receives outside ratings from both Standard & Poor's and Moody's on both the consolidated company and its subsidiary bank, Commerce Bank. These ratings are as follows:

	Standard & Poor's	Moody's
Commerce Bancshares, Inc.		
Issuer rating	A-	
Rating outlook	Stable	
Commerce Bank		
Issuer rating	A	A2
Baseline credit assessment		a1
Short-term rating	A-1	P-1
Rating outlook	Stable	Stable

The Company considers these ratings to be indications of a sound capital base and strong liquidity and believes that these ratings would help ensure the ready marketability of its commercial paper, should the need arise. No commercial paper has been outstanding during the past ten years. The Company has no subordinated or hybrid debt instruments which would affect future borrowing capacity. Because of its lack of significant long-term debt, the Company believes that, through its Capital Markets Group or in other public debt markets, it could generate additional liquidity from sources such as jumbo certificates of deposit, privately-placed corporate notes or other forms of debt.

The cash flows from the operating, investing and financing activities of the Company resulted in a net decrease in cash, cash equivalents and restricted cash of \$3.4 billion in 2022, as reported in the consolidated statements of cash flows. Operating activities, consisting mainly of net income adjusted for certain non-cash items, provided cash flow of \$559.4 million and has historically been a stable source of funds. Investing activities provided cash of \$242.3 million. Sales and maturities proceeds (net of purchases) of investment securities provided cash of \$650.4 million, repayments of securities purchased under agreements to resell (net of securities purchased under agreements to resell) provided cash of \$800.0 million, and a net increase in the loan portfolio used cash of \$1.1 billion. Investing activities are somewhat unique to financial institutions in that, while large sums of cash flow are normally used to fund growth in investment securities, loans, or other bank assets, they are normally dependent on the financing activities described below.

During 2022, financing activities used cash of \$4.2 billion. This decrease in cash was largely driven by a decline in deposits, which used cash of \$3.7 billion. Federal funds purchases and short-term securities sold under agreements to repurchase used cash in the amount of \$181.2 million. The Company paid cash dividends of \$127.5 million on common stock, and treasury stock purchases used cash of \$186.6 million during 2022. Future short-term liquidity needs for daily operations are not expected to vary significantly, and the Company believes it maintains adequate liquidity to meet these cash flows.

Cash outflows resulting from the Company's transactions in its common and preferred stock were as follows:

<i>(In millions)</i>	2022	2021	2020
Purchases of treasury stock	\$ 186.6	\$ 129.4	\$ 54.2
Common cash dividends paid	127.5	122.7	120.8
Preferred stock redemption*	—	—	150.0
Preferred cash dividends paid	—	—	6.8
Cash used	\$ 314.1	\$ 252.1	\$ 331.8

*The period ended December 31, 2020 includes \$5.2 million of excess redemption costs over the book value of the preferred stock. This excess payment was considered a dividend.

The Parent faces unique liquidity constraints due to legal limitations on its ability to borrow funds from its bank subsidiary. The Parent obtains funding to meet its obligations from two main sources: dividends received from bank and non-bank subsidiaries (within regulatory limitations) and management fees charged to subsidiaries as reimbursement for services provided by the Parent, as presented below:

<i>(In millions)</i>	2022	2021	2020
Dividends received from subsidiaries	\$ 300.0	\$ 340.0	\$ 210.0
Management fees	38.6	36.3	33.5
Total	\$ 338.6	\$ 376.3	\$ 243.5

These sources of funds are used mainly to pay cash dividends on outstanding stock, pay general operating expenses, and purchase treasury stock. At December 31, 2022, the Parent's investment securities totaled \$16.3 million at fair value, consisting mainly of corporate bonds and preferred stock. To support its various funding commitments, the Parent maintains a \$20.0 million line of credit with its subsidiary bank. There were no borrowings outstanding under the line during 2022 or 2021.

Company senior management is responsible for measuring and monitoring the liquidity profile of the organization with oversight by the Company's Asset/Liability Committee. This is done through a series of controls, including a written Contingency Funding Policy and risk monitoring procedures, which include daily, weekly and monthly reporting. In addition, the Company prepares forecasts to project changes in the balance sheet affecting liquidity and to allow the Company to better plan for forecasted changes.

Material Cash Requirements, Contractual Obligations, Commitments, and Off-Balance Sheet Arrangements

The Company's material cash requirements include commitments for contractual obligations (both short-term and long-term), commitments to extend credit, and off-balance sheet arrangements. The Company's material cash requirements for the next 12 months are primarily to fund loan growth. Additionally, the Company will utilize cash to fund deposit maturities and withdrawals that may occur in the next 12 months. Other contractual obligations, purchase commitments, lease obligations, and unfunded commitments may require cash payments by the Company within the next 12 months, and these, along with longer-term obligations, are discussed below.

A table summarizing contractual cash obligations of the Company at December 31, 2022, and the expected timing of these payments follows:

<i>(In thousands)</i>	Payments Due by Period					Total
	In One Year or Less	After One Year Through Three Years	After Three Years Through Five Years	After Five Years		
Operating lease obligations	\$ 6,430	\$ 8,248	\$ 5,241	\$ 14,370	\$ 34,289	
Purchase obligations	234,955	413,217	125,675	128,957	902,804	
Certificates of Deposit*	726,984	232,118	34,919	82	994,103	
Total	\$ 968,369	\$ 653,583	\$ 165,835	\$ 143,409	\$ 1,931,196	

*Includes principal payments only.

In the normal course of business, various commitments and contingent liabilities arise that are not required to be recorded on the balance sheet. The most significant of these are loan commitments totaling \$14.3 billion (including approximately \$5.2 billion in unused, approved credit card lines) and the contractual amount of standby letters of credit totaling \$555.9 million at

December 31, 2022. As many commitments expire unused or only partially used, these totals do not necessarily reflect future cash requirements. Management does not anticipate any material losses arising from commitments or contingent liabilities and believes there are no material commitments to extend credit that represent risks of an unusual nature.

The Company funds a defined benefit pension plan for a portion of its employees. Under the funding policy for the plan, contributions are made as necessary to provide for current service and for any unfunded accrued actuarial liabilities over a reasonable period. No contributions to the defined benefit plan were made in 2022, 2021 or 2020, and the Company is not required nor does it expect to make a contribution in 2023.

The Company has investments in low-income housing partnerships generally within the areas it serves. These partnerships supply funds for the construction and operation of apartment complexes that provide affordable housing to that segment of the population with lower family income. If these developments successfully attract a specified percentage of residents falling in that lower income range, federal (and sometimes state) income tax credits are made available to the partners. The tax credits are normally recognized over ten years, and they play an important part in the anticipated yield from these investments. In order to continue receiving the tax credits each year over the life of the partnership, the low-income residency targets must be maintained. Under the terms of the partnership agreements, the Company has a commitment to fund a specified amount that will be due in installments over the life of the agreements, which ranges from 3 to 18 years. At December 31, 2022, the investments totaled \$59.9 million and are recorded as other assets in the Company's consolidated balance sheet. Unfunded commitments, which are recorded as liabilities, amounted to \$38.8 million at December 31, 2022.

During the third quarter of 2020, the Company signed a \$106.7 million agreement with U.S. Capital Development to develop a 280,000 square foot commercial office building in a two building complex in Clayton, Missouri. As of December 31, 2022, the Company has made payments totaling \$94.0 million. While the Company intends to occupy a portion of the office building for executive offices, a 15 year lease has been signed by an anchor tenant to lease approximately 50% of the office building.

The Company regularly purchases various state tax credits arising from third-party property redevelopment. These credits are either resold to third parties for a profit or retained for use by the Company. During 2022, purchases and sales of tax credits amounted to \$112.7 million and \$126.9 million, respectively. Income from the sales of tax credits were \$5.4 million, \$4.5 million and \$4.2 million in 2022, 2021 and 2020, respectively. At December 31, 2022, the Company had outstanding purchase commitments totaling \$121.8 million that it expects to fund in 2023. These commitments, along with the commitments for the next five years, are included in the table above.

The Company's sound equity base, along with its long-term low debt level, common and preferred stock availability, and excellent debt ratings, provide several alternatives for future financing. Future acquisitions may utilize partial funding through one or more of these options. Through the various sources of liquidity described above, the Company maintains a liquidity position that it believes will adequately satisfy its financial obligations. The Company is not aware of any trends, events, or commitments that are reasonably likely to increase or decrease its liquidity in a material way.

Capital Management

Under Basel III capital guidelines, at December 31, 2022 and 2021, the Company met all capital adequacy requirements and had regulatory capital ratios in excess of the levels established for well-capitalized institutions, as shown in the following table.

<i>(Dollars in thousands)</i>	2022	2021	Minimum Ratios under Capital Adequacy Guidelines	Minimum Ratios for Well- Capitalized Banks*
Risk-adjusted assets	\$ 24,178,423	\$ 22,483,748		
Tier I common risk-based capital	3,417,223	3,225,044		
Tier I risk-based capital	3,417,223	3,225,044		
Total risk-based capital	3,600,920	3,399,880		
Tier I common risk-based capital ratio	14.13%	14.34%	7.00%	6.50%
Tier I risk-based capital ratio	14.13	14.34	8.50	8.00
Total risk-based capital ratio	14.89	15.12	10.50	10.00
Tier I leverage ratio	10.34	9.13	4.00	5.00
Tangible common equity to tangible assets	7.32	9.01		
Dividend payout ratio	26.10	23.12		

* Under Prompt Corrective Action requirements

The Company is subject to a 2.5% capital conservation buffer, which is an amount above the minimum ratios under capital adequacy guidelines, and is required under Basel III. The capital conservation buffer is intended to absorb losses during periods of economic stress. Failure to maintain the buffer will result in constraints on dividends, share repurchases, and executive compensation.

In the first quarter of 2020, the interim final rule of the Federal Reserve Bank and other U.S. banking agencies became effective, providing banks that adopted CECL (ASU 2016-13) during the 2020 calendar year the option to delay recognizing the estimated impact on regulatory capital until after a two year deferral period, followed by a three year transition period. In connection with the adoption of CECL on January 1, 2020, the Company has elected to utilize this option. As a result, the two year deferral period for the Company extends through December 31, 2021. Beginning on January 1, 2022, the Company was required to phase in 25% of the previously deferred estimated capital impact of CECL, with an additional 25% to be phased in at the beginning of each subsequent year until fully phased in by the first quarter of 2025.

The Company maintains a treasury stock buyback program under authorizations by its Board of Directors and periodically purchases stock in the open market. During 2021, the Company purchased 1.8 million shares, and during 2022 the Company purchased 2.7 million shares. At December 31, 2022, 3.1 million shares remained available for purchase under the current Board authorization.

The Company's common stock dividend policy reflects its earnings outlook, desired payout ratios, the need to maintain adequate capital levels and alternative investment options. Per share cash dividends paid by the Company increased 6.1% in 2022 compared with 2021, and the Company increased its first quarter 2023 cash dividend 7.1%, making 2023 the Company's 55th consecutive year of regular cash dividend increases. The Company also distributed its 29th consecutive annual 5% stock dividend in December 2022.

On September 1, 2020, the Company redeemed all 6,000 outstanding shares of its 6.00% Series B Non-Cumulative Perpetual Preferred Stock and the corresponding depository shares representing fractional interests in the Series B Preferred Stock at a redemption price of \$25 per depository share (equivalent to \$1,000 per share of preferred stock). Regular dividends on the outstanding shares of the Series B Preferred Stock were paid separately on September 1, 2020 to holders of record as of the close of business on August 14, 2020, in the customary manner. On and after September 1, 2020, all dividends on the shares of Series B Preferred Stock ceased to accrue.

Interest Rate Sensitivity

The Company's Asset/Liability Management Committee (ALCO) measures and manages the Company's interest rate risk on a monthly basis to identify trends and establish strategies to maintain stability in net interest income throughout various rate environments. Analytical modeling techniques provide management insight into the Company's exposure to changing rates. These techniques include net interest income simulations and market value analysis. Management has set guidelines specifying acceptable limits within which net interest income and market value may change under various rate change scenarios.

The Company's main interest rate measurement tool, income simulation, projects net interest income under various rate change scenarios in order to quantify the magnitude and timing of potential rate-related changes. Income simulations are able to capture option risks within the balance sheet where expected cash flows may be altered under various rate environments. Modeled rate movements include "shocks, ramps and twists." Shocks are intended to capture interest rate risk under extreme conditions by immediately shifting rates up and down, while ramps measure the impact of gradual changes and twists measure yield curve risk. The size of the balance sheet is assumed to remain constant so that results are not influenced by growth predictions.

The Company also employs a sophisticated simulation technique known as a stochastic income simulation. This technique allows management to see a range of results from hundreds of income simulations. The stochastic simulation creates a vector of potential rate paths around the market's best guess (forward rates) concerning the future path of interest rates and allows rates to randomly follow paths throughout the vector. This allows for the modeling of non-biased rate forecasts around the market consensus. Results give management insight into a likely range of rate-related risk as well as worst and best-case rate scenarios.

Additionally, the Company uses market value analyses to help identify longer-term risks that may reside on the balance sheet. This is considered a secondary risk measurement tool by management. The Company measures the market value of equity as the net present value of all asset and liability cash flows discounted along the current swap curve plus appropriate market risk spreads. It is the change in the market value of equity under different rate environments, or effective duration, that gives insight into the magnitude of risk to future earnings due to rate changes. Market value analyses also help management understand the price sensitivity of non-marketable bank products under different rate environments.

The tables below show the effects of gradual shifts in interest rates over a twelve month period on the Company's net interest income versus the Company's net interest income in a flat rate scenario. Simulation A presents three rising rate scenarios and three falling rate scenarios and in each scenario, rates are assumed to change evenly over 12 months. In these scenarios, the current balance sheet is held constant.

The sensitivity of deposit balances to changes in rates is particularly difficult to estimate in low rate environments. Since the future effects of changes in rates on deposit balances cannot be known with certainty, the Company conservatively models alternate scenarios with greater deposit attrition as rates rise. Simulation B illustrates results from these higher attrition scenarios to provide added perspective on potential effects of higher rates.

The Company utilizes these simulations for monitoring interest rate risk. While the future effects of rising and falling rates on deposit balances cannot be known, the Company maintains a practice of running multiple rate scenarios to better understand interest rate risk and its effect on the Company's performance.

Simulation A	December 31, 2022			September 30, 2022		
	\$ Change in Net Interest Income	% Change in Net Interest Income	Assumed Deposit Attrition	\$ Change in Net Interest Income	% Change in Net Interest Income	Assumed Deposit Attrition
<i>(Dollars in millions)</i>						
300 basis points rising	\$ (0.5)	(.05)%	\$ —	\$ 3.3	.32 %	\$ —
200 basis points rising	2.0	.19	—	7.7	.75	—
100 basis points rising	4.1	.38	—	9.9	.97	—
100 basis points falling	(24.0)	(2.2)	—	(28.5)	(2.80)	—
200 basis points falling	(52.6)	(4.82)	—	(62.5)	(6.14)	—
300 basis points falling	(84.9)	(7.78)	—	(101.1)	(9.94)	—

Under Simulation A, in the three rising rate scenarios and three falling rate scenarios, interest rate risk is less asset sensitive than the previous quarter. This is mainly due to an increase in the Federal funds rate, which puts upward pressure on deposit

rates in the rising rate scenarios and deposit rates have more room to fall in falling rate scenarios. Deposits are held constant for this simulation in both the current and previous quarters.

Simulation B	December 31, 2022			September 30, 2022		
	\$ Change in Net Interest Income	% Change in Net Interest Income	Assumed Deposit Attrition*	\$ Change in Net Interest Income	% Change in Net Interest Income	Assumed Deposit Attrition
<i>(Dollars in millions)</i>						
300 basis points rising	\$ (17.9)	(1.71)%	\$ (216.7)	\$ (49.4)	(5.06)%	\$ (848.9)
200 basis points rising	(11.4)	(1.09)	(180.4)	(34.5)	(3.54)	(716.2)
100 basis points rising	(5.0)	(.48)	(136.6)	(14.0)	(1.43)	(405.7)
100 basis points falling	3.6	.34	539.3	(6.0)	(.62)	403.2
200 basis points falling	(15.2)	(1.45)	761.0	(26.5)	(2.72)	849.4
300 basis points falling	(45.6)	(4.36)	792.0	(58.7)	(6.02)	1,446.4

* Compared to the flat rate scenario

In Simulation B, the assumed levels of deposit attrition were modeled to capture the results of a shrinking balance sheet due to the potential loss of surge deposits. Under this Simulation, in the three rising rate scenarios and three falling rate scenarios, interest rate risk is less liability sensitive than the previous quarter, which primarily resulted from a decrease in surge deposits and changes in surge deposit run-off. In the three falling rate scenarios, interest rate risk was also impacted by higher non-maturity deposit rates, which increased during the current quarter and now have more room to fall.

Derivative Financial Instruments

The Company maintains an overall interest rate risk management strategy that permits the use of derivative instruments to modify exposure to interest rate risk. Such instruments include interest rate swaps, interest rate floors, interest rate caps, credit risk participation agreements, mortgage loan commitments, forward sale contracts, and forward to-be-announced (TBA) contracts. The Company's interest rate risk management strategy includes the ability to modify the re-pricing characteristics of certain assets and liabilities so that changes in interest rates do not adversely affect the net interest margin and cash flows.

In addition to using derivatives to manage interest rate risk, the Company enters into foreign exchange derivative instruments as an accommodation to customers and offsets the related foreign exchange risk by entering into offsetting third-party forward contracts with approved, reputable counterparties. This trading activity is managed within a policy of specific controls and limits.

In all of these contracts, the Company is exposed to credit risk in the event of nonperformance by counterparties, who may be bank customers or other financial institutions. The Company controls the credit risk of its financial contracts through credit approvals, limits and monitoring procedures. Because the Company generally only enters into transactions with high quality counterparties, there have been no losses associated with counterparty nonperformance on derivative financial instruments.

The following table summarizes the notional amounts and estimated fair values of the Company's derivative instruments at December 31, 2022 and 2021. Notional amount, along with the other terms of the derivative, is used to determine the amounts to be exchanged between the counterparties. Because the notional amount does not represent amounts exchanged by the parties, it is not a measure of loss exposure related to the use of derivatives nor of exposure to liquidity risk. All of these derivative instruments utilized by the Company are further discussed in Note 19 on Derivative Instruments.

<i>(In thousands)</i>	2022			2021		
	Notional Amount	Positive Fair Value	Negative Fair Value	Notional Amount	Positive Fair Value	Negative Fair Value
Interest rate swaps	\$ 1,981,821	\$ 23,894	\$ (51,742)	\$ 2,229,419	\$ 40,752	\$ (11,606)
Interest rate floors	1,000,000	33,371	—	—	—	—
Interest rate caps	152,784	2,705	(2,705)	152,058	147	(147)
Credit risk participation agreements	579,925	34	(119)	485,633	84	(277)
Foreign exchange contracts	27,991	488	(418)	5,119	77	(45)
Mortgage loan commitments	—	—	—	21,787	764	—
Mortgage loan forward sale contracts	—	—	—	1,165	5	(1)
Forward TBA contracts	—	—	—	21,000	13	(25)
Total at December 31	\$ 3,742,521	\$ 60,492	\$ (54,984)	\$ 2,916,181	\$ 41,842	\$ (12,101)

Operating Segments

The Company segregates financial information for use in assessing its performance and allocating resources among three operating segments. The results are determined based on the Company's management accounting process, which assigns balance sheet and income statement items to each responsible segment. These segments are defined by customer base and product type. The management process measures the performance of the operating segments based on the management structure of the Company and is not necessarily comparable with similar information for any other financial institution. Each segment is managed by executives who, in conjunction with the Chief Executive Officer, make strategic business decisions regarding that segment. The three reportable operating segments are Consumer, Commercial, and Wealth. Additional information is presented in Note 13 on Segments in the consolidated financial statements.

The Company uses a funds transfer pricing method to value funds used (e.g., loans, fixed assets, cash, etc.) and funds provided (deposits, borrowings, and equity) by the business segments and their components. This process assigns a specific value to each new source or use of funds with a maturity, based on current swap rates, thus determining an interest spread at the time of the transaction. Non-maturity assets and liabilities are valued using weighted average pools. The funds transfer pricing process attempts to remove interest rate risk from valuation, allowing management to compare profitability under various rate environments. The Company also assigns loan charge-offs and recoveries (labeled in the table below as "provision for credit losses") directly to each operating segment instead of allocating an estimated credit loss provision. The operating segments also include a number of allocations of income and expense from various support and overhead centers within the Company.

The table below is a summary of segment pre-tax income results for the past three years.

<i>(Dollars in thousands)</i>	Consumer	Commercial	Wealth	Segment Totals	Other/ Elimination	Consolidated Totals
Year ended December 31, 2022:						
Net interest income	\$ 339,080	\$ 452,686	\$ 74,416	\$ 866,182	\$ 76,003	\$ 942,185
Provision for credit losses	(17,872)	(1,196)	(8)	(19,076)	(8,995)	(28,071)
Non-interest income	116,030	224,890	213,388	554,308	(7,773)	546,535
Investment securities gains, net	—	—	—	—	20,506	20,506
Non-interest expense	(300,566)	(365,276)	(144,914)	(810,756)	(38,021)	(848,777)
Income before income taxes	\$ 136,672	\$ 311,104	\$ 142,882	\$ 590,658	\$ 41,720	\$ 632,378
Year ended December 31, 2021:						
Net interest income	\$ 319,439	\$ 453,692	\$ 71,522	\$ 844,653	\$ (9,229)	\$ 835,424
Provision for loan losses	(23,249)	4,845	(52)	(18,456)	84,782	66,326
Non-interest income	147,273	211,048	213,617	571,938	(11,545)	560,393
Investment securities gains, net	—	—	—	—	30,059	30,059
Non-interest expense	(293,504)	(329,313)	(136,356)	(759,173)	(46,728)	(805,901)
Income before income taxes	\$ 149,959	\$ 340,272	\$ 148,731	\$ 638,962	\$ 47,339	\$ 686,301
2022 vs 2021						
Decrease in income before income taxes:						
Amount	\$ (13,287)	\$ (29,168)	\$ (5,849)	\$ (48,304)	\$ (5,619)	\$ (53,923)
Percent	(8.9%)	(8.6%)	(3.9%)	(7.6%)	(11.9%)	(7.9%)
Year ended December 31, 2020:						
Net interest income	\$ 321,031	\$ 414,724	\$ 57,925	\$ 793,680	\$ 36,167	\$ 829,847
Provision for loan losses	(31,220)	(3,724)	12	(34,932)	(102,258)	(137,190)
Non-interest income	148,586	194,505	188,942	532,033	(26,166)	505,867
Investment securities gains, net	—	—	—	—	11,032	11,032
Non-interest expense	(297,790)	(316,004)	(124,964)	(738,758)	(29,620)	(768,378)
Income before income taxes	\$ 140,607	\$ 289,501	\$ 121,915	\$ 552,023	\$ (110,845)	\$ 441,178
2021 vs 2020						
Increase in income before income taxes:						
Amount	\$ 9,352	\$ 50,771	\$ 26,816	\$ 86,939	\$ 158,184	\$ 245,123
Percent	6.7%	17.5%	22.0%	15.7%	142.7%	55.6%

Consumer

The Consumer segment includes consumer deposits, consumer finance, and consumer debit and credit cards. During 2022, income before income taxes for the Consumer segment decreased \$13.3 million, or 8.9%, compared to 2021. This decrease was due to a decline in non-interest income of \$31.2 million, or 21.2%, and higher non-interest expense of \$7.1 million, or 2.4%. These decreases to income were partly offset by growth in net interest income of \$19.6 million, or 6.1%, and a decrease in the provision for credit losses of \$5.4 million, or 23.1%. Net interest income increased due to a \$19.0 million increase in net allocated funding credits assigned to the Consumer segment's loan and deposit portfolios. Non-interest income decreased mainly due to declines of \$24.7 million in mortgage banking revenue and \$4.0 million in overdraft and return item fees. Non-interest expense increased over the prior year mainly due to higher occupancy expense, insurance expense and allocated service and support costs (mainly bank card fraud operations and information technology), partly offset by lower allocated service costs for branch employees and mortgage operations. The provision for credit losses totaled \$17.9 million, a \$5.4 million decrease from the prior year, which resulted mainly from lower credit card loan net charge-offs, slightly offset by higher consumer loan net charge-offs. Total average loans in this segment decreased \$95.5 million, or 5.0%, in 2022 compared to 2021 mainly due to declines in consumer credit card and auto loans. Average deposits increased \$559.8 million, or 4.4%, over the prior year, resulting from growth in personal demand, savings and interest checking and money market deposit account balances.

During 2021, income before income taxes for the Consumer segment increased \$9.3 million, or 6.7%, compared to 2020. This increase was due to a decrease in non-interest expense of \$4.3 million, or 1.4%, and a decrease in the provision for credit losses of \$8.0 million. These increases to income were partly offset by a \$1.6 million, or .5%, decrease in net interest income and a \$1.3 million, or .9%, decrease to non-interest income. Net interest income decreased due to a \$21.9 million decline in loan interest income, partly offset by a \$9.1 million increase in net allocated funding credits assigned to the Consumer segment's loan and deposit portfolios, and lower deposit interest expense of \$11.2 million. Non-interest income decreased mainly due to a decline in mortgage banking revenue, partly offset by growth in net credit and debit card fees (mainly higher interchange fees, partly offset by higher credit card rewards expense) and check sales and wire fees. Non-interest expense decreased from 2020 mainly due to lower salaries and benefits expense, occupancy expense, allocated servicing costs for mortgage operations and a reduction in impairment expense on mortgage servicing rights. These decreases were partly offset by higher marketing expense and higher allocated costs for information technology. The provision for credit losses totaled \$23.2 million, an \$8.0 million decrease from 2020, which resulted mainly from lower net charge-offs on consumer credit card and consumer loans. Total average loans in this segment decreased \$178.3 million, or 8.5%, in 2021 compared to 2020 mainly due to declines in consumer credit card, auto and fixed and revolving home equity loans. Average deposits increased \$1.6 billion, or 13.8%, over 2020, resulting from growth in personal demand, savings and interest checking and money market deposit account balances.

Commercial

The Commercial segment provides lending (including the Small Business Banking product line within the branch network), leasing, international services, and business, government deposit, and related commercial cash management services, as well as merchant and commercial bank card products. The segment includes the Capital Markets Group, which sells fixed-income securities to correspondent banks, corporations, public institutions, municipalities, and individuals and also provides securities safekeeping and bond accounting services. Pre-tax income for 2022 decreased \$29.2 million, or 8.6%, compared to 2021, mainly due to increases in non-interest expense and the provision for credit losses, partly offset by an increase in non-interest income. Net interest income decreased \$1.0 million, or .2%, due to a \$21.4 million decrease in net allocated funding credits assigned to the Commercial segment's loan and deposit portfolios, coupled with higher interest expense on customer repurchase agreements and deposits of \$22.6 million and 18.5 million, respectively. The decreases were partly offset by a \$61.2 million increase in loan interest income. The provision for credit losses increased \$6.0 million due to net charge-offs recorded on business loans in 2022 compared to net recoveries recorded in the prior year. Non-interest income increased \$13.8 million, or 6.6%, over 2021 due to higher net bank card fees (mainly corporate card), deposit account fees (mainly corporate cash management fees), and higher cash sweep commissions. These increases were partly offset by lower capital market fees. Non-interest expense increased \$36.0 million, or 10.9%, during 2022, mainly due to higher salaries and benefits expense, data processing and software expense, travel and entertainment expense, and allocated service and support costs (mainly bank operations expense, branch employee expense, and commercial banking expense). Average segment loans decreased \$216.9 million, or 2.1%, compared to 2021, mainly due to a decline in business loans, partly offset by increases in business real estate and construction loans. Average deposits decreased \$49.4 million, or .4%, mainly due to declines in business demand and certificate of deposit account balances, offset by an increase in interest checking and money market deposit account balances.

Pre-tax income for 2021 increased \$50.8 million, or 17.5%, compared to 2020, mainly due to increases in net interest income and non-interest income and a decline in the provision for credit losses, partly offset by an increase in non-interest expense. Net interest income increased \$39.0 million, or 9.4%, due to higher net allocated funding credits of \$56.9 million and lower interest expense of \$12.9 million on deposits and customer repurchase agreements, partly offset by a decrease of \$30.9 million in loan interest income. The provision for credit losses decreased \$8.6 million due to recoveries recorded on business loans in 2021 compared to net charge-offs recorded 2020. Non-interest income increased \$16.5 million, or 8.5%, over 2020 due to higher net bank card fees (mainly corporate card and merchant fees), deposit account fees (mainly corporate cash management fees), and higher interest rate swap fees. These increases were partly offset by lower cash sweep commissions. Non-interest expense increased \$13.3 million, or 4.2%, during 2021, mainly due to higher salaries and benefits expense (mainly incentive compensation), data processing and software expense, allocated support costs for information technology and commercial banking, and lower deferred origination costs. These increases were partly offset by lower allocated service costs (mainly lockbox). Average segment loans decreased \$327.8 million, or 3.1%, compared to 2020, with the decline occurring in business loans (mainly PPP loans), partly offset by an increase in construction loans. Average deposits increased \$2.1 billion, or 20.7%, mainly due to growth in business demand deposits.

Wealth

The Wealth segment provides traditional trust and estate planning, advisory and discretionary investment management services, brokerage services, and includes Private Banking accounts. At December 31, 2022, the Trust group managed investments with a market value of \$37.3 billion and administered an additional \$23.0 billion in non-managed assets. It also provides investment management services to The Commerce Funds, a series of mutual funds with \$2.5 billion in total assets at

December 31, 2022. In 2022, pre-tax income for the Wealth segment was \$142.9 million, compared to \$148.7 million in 2021, a decrease of \$5.8 million, or 3.9%. Net interest income increased \$2.9 million, or 4.0%, mainly due to a \$16.4 million increase in loan interest income, partly offset by a \$12.5 million decrease in net allocated funding credits assigned to the Wealth segment's loan and deposit portfolios and a \$1.0 million increase in deposit interest expense. Non-interest income decreased \$229 thousand, or .1%, from the prior year due to higher cash sweep commissions and brokerage fees, partly offset by lower mortgage banking revenue and trust fees. Non-interest expense increased \$8.6 million, or 6.3%, resulting from higher salaries and benefits expense, travel and entertainment expense, and marketing expense. The provision for credit losses decreased \$44 thousand, mainly due to net recoveries on revolving home equity loans. Average assets increased \$253.3 million, or 16.0%, during 2022 mainly due to higher personal real estate and consumer loan balances. Average deposits decreased \$161.0 million, or 5.4%, due to a decline in interest checking and money market deposit account balances.

In 2021, pre-tax income for the Wealth segment was \$148.7 million, compared to \$121.9 million in 2020, an increase of \$26.8 million, or 22.0%. Net interest income increased \$13.6 million, or 23.5%, due to an \$11.0 million increase in net allocated funding credits and lower deposit interest expense of \$4.0 million, slightly offset by a decline in loan interest income of \$1.3 million. Non-interest income increased \$24.7 million, or 13.1%, over 2020 largely due to higher private client and institutional trust fees and brokerage fees, partly offset by lower cash sweep commissions. Non-interest expense increased \$11.4 million, or 9.1%, resulting from higher salaries expense (mainly incentive compensation) and higher allocated support costs for information technology. The provision for credit losses increased \$64 thousand, mainly due to higher net charge-offs on revolving home equity loans. Average assets increased \$178.3 million, or 12.7%, during 2021 mainly due to higher personal real estate and consumer loan balances. Average deposits increased \$694.7 million, or 30.6%, due to growth in business demand and interest checking and money market account deposit balances.

The segment activity, as shown above, includes both direct and allocated items. Amounts in the "Other/Elimination" column include activity not related to the segments, such as certain administrative functions, the investment securities portfolio, and the effect of certain expense allocations to the segments. In accordance with the Company's transfer pricing procedures, the difference between the total provision and total net charge-offs/recoveries is not allocated to a business segment and is included in this category. In 2022, the pre-tax net income in this category was \$41.7 million, compared to \$47.3 million in 2021. This decrease was mainly due to an increase in the provision for credit losses of \$93.8 million and an \$8.7 million increase in non-interest expense, partly offset by increases of \$85.2 million in net interest income and \$3.8 million in non-interest income. Unallocated securities gains were \$20.5 million in 2022, compared to securities gains of \$30.1 million in 2021. The increase in the unallocated provision for credit losses of \$93.8 million was primarily driven by an increase in the allowance for credit losses on loans and the liability for unfunded lending commitments, which are not allocated to segments for management reporting purposes. Net charge-off are allocated to segments when incurred for management reporting purposes. For the year ended December 31, 2022, the Company's provision for credit losses on unfunded lending commitments, which is not allocated to the segments for management reporting, was \$8.9 million, compared to a benefit of \$14.1 million in 2021. Additionally, the provision for credit losses on loans was \$92 thousand in excess of net charge-offs in 2022, while the provision was \$70.8 million lower than net charge-offs in 2021.

Impact of Recently Issued Accounting Standards

Reference Rate Reform The FASB issued ASU 2020-04, "Reference Rate Reform (Topic 848) - Facilitation of the Effects of Reference Rate Reform on Financial Reporting", in March 2020, and has been followed by additional clarifying guidance related to derivatives that are modified as a result of reference rate reform. The new guidance provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if they reference LIBOR or another reference rate expected to be discontinued because of reference rate reform. Further, the guidance applies to derivative instruments that use an interest rate for margining, discounting, or contract price alignment that is modified as a result of reference rate reform. The expedients and exceptions provided by the new guidance do not apply to contract modifications made and hedging relationships entered into or evaluated for effectiveness after December 31, 2022, except for certain hedging relationships existing as of December 31, 2022. In December 2022, the FASB issued ASU 2022-06 which extended the sunset date under Topic 848 to December 31, 2024. The change is to align the temporary accounting relief guidance with the expected cessation date of LIBOR, which was postponed by administrators in 2021 to June 2023, a year after the current sunset date of ASU 2020-04.

In order to assess the impact of transition and ensure a successful transition process, the Company established a LIBOR Transition Program led by the LIBOR Transition Steering Committee (the Committee), which is an internal, cross-functional team with representatives from all relevant business lines, support functions and legal counsel. A LIBOR impact and risk assessment has been performed, and the Committee has developed and prioritized action items. All LIBOR-based loans must be converted to an alternative index by June 30, 2023, as LIBOR will no longer be published after June 30, 2023. All of the Company's financial contracts that reference LIBOR have been identified, and LIBOR fallback language has been included in key loan provisions of new and renewed loans in preparation of the transition from LIBOR. The Company ceased originating new loans with LIBOR as a reference rate at the end of 2021 and is actively working with customers to modify existing loans that reference LIBOR to a new reference rate. The Company plans to finish transitioning the impacted loans by spring of 2023.

Credit Losses The FASB issued ASU 2022-02, "Financial Instruments—Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures", in March 2022. This ASU eliminates the troubled debt restructuring recognition and measurement guidance and, instead, requires that an entity evaluate (consistent with the accounting for other loan modifications) whether the modification represents a new loan or a continuation of an existing loan. The amendments also enhance existing disclosure requirements and introduce new requirements related to certain modifications of receivables made to borrowers experiencing financial difficulty. The amendments require that an entity disclose current period gross write-offs by year of origination for financing receivables and net investment in leases within the scope of Subtopic 326-20. The guidance is effective January 1, 2023. Aside from additional disclosure requirements, the Company expects no material impact to its consolidated financial statements from adoption of this ASU.

Corporate Governance

The Company has adopted a number of corporate governance measures. These include corporate governance guidelines, a code of ethics that applies to its senior financial officers and the charters for its audit and risk committee, its committee on compensation and human resources, and its committee on governance/directors. This information is available on the Company's investor relations website at investor.commercebank.com/overview/corporate-governance.

AVERAGE BALANCE SHEETS — AVERAGE RATES AND YIELDS

(Dollars in thousands)	Years Ended December 31								
	2022			2021			2020		
	Average Balance	Interest Income/ Expense	Average Rates Earned/Paid	Average Balance	Interest Income/ Expense	Average Rates Earned/Paid	Average Balance	Interest Income/ Expense	Average Rates Earned/Paid
ASSETS									
Loans: ^(A)									
Business ^(B)	\$ 5,376,584	\$ 198,238	3.69%	\$ 5,838,682	\$ 186,968	3.20%	\$ 6,387,410	\$ 196,249	3.07%
Real estate – construction and land	1,229,977	61,893	5.03	1,144,741	40,702	3.56	956,999	38,619	4.04
Real estate – business	3,205,061	133,909	4.18	3,005,943	104,329	3.47	2,959,068	110,080	3.72
Real estate – personal	2,841,626	94,878	3.34	2,797,635	92,267	3.30	2,619,211	94,835	3.62
Consumer	2,075,781	84,044	4.05	2,009,577	76,361	3.80	1,967,133	86,096	4.38
Revolving home equity	280,242	12,625	4.51	286,064	9,823	3.43	334,866	12,405	3.70
Consumer credit card	547,071	64,832	11.85	577,411	64,274	11.13	668,810	78,704	11.77
Overdrafts	5,645	—	—	4,335	—	—	3,351	—	—
Total loans	15,561,987	650,419	4.18	15,664,388	574,724	3.67	15,896,848	616,988	3.88
Loans held for sale	7,754	637	8.22	21,524	880	4.09	18,685	860	4.60
Investment securities:									
U.S. government & federal agency obligations	1,097,935	41,095	3.74	796,043	32,888	4.13	780,903	17,369	2.22
Government-sponsored enterprise obligations	54,768	1,293	2.36	50,789	1,180	2.32	105,069	3,346	3.18
State & municipal obligations ^(B)	2,061,620	47,121	2.29	2,015,635	47,721	2.37	1,562,415	42,260	2.70
Mortgage-backed securities	6,979,862	135,920	1.95	6,985,897	95,175	1.36	5,733,398	109,834	1.92
Asset-backed securities	3,888,405	58,716	1.51	2,824,993	32,705	1.16	1,467,496	29,759	2.03
Other debt securities	606,661	11,811	1.95	603,720	12,556	2.08	444,489	10,846	2.44
Trading debt securities ^(B)	41,205	1,129	2.74	36,534	452	1.24	30,321	659	2.17
Equity securities ^(B)	9,492	2,578	27.16	6,809	2,223	32.65	4,206	2,030	48.26
Other securities ^(B)	203,953	21,103	10.35	171,322	18,924	11.05	133,391	8,732	6.55
Total investment securities	14,943,901	320,766	2.15	13,491,742	243,824	1.81	10,261,688	224,835	2.19
Federal funds sold	11,701	412	3.52	677	4	.59	278	3	1.08
Securities purchased under agreements to resell	1,495,956	22,647	1.51	1,275,837	37,377	2.93	849,998	40,647	4.78
Interest earning deposits with banks	1,362,863	15,098	1.11	2,420,533	3,202	.13	1,115,551	2,273	.20
Total interest earning assets	33,384,162	1,009,979	3.03	32,874,701	860,011	2.62	28,143,048	885,606	3.15
Allowance for credit losses on loans	(141,341)			(188,758)			(196,942)		
Unrealized gain (loss) on debt securities	(922,259)			198,722			292,898		
Cash and due from banks	323,296			339,431			343,516		
Premises and equipment - net	409,235			408,537			399,228		
Other assets	552,224			531,102			634,949		
Total assets	\$ 33,605,317			\$ 34,163,735			\$ 29,616,697		
LIABILITIES AND EQUITY									
Interest bearing deposits:									
Savings	\$ 1,583,983	740	.05	\$ 1,450,495	1,129	.08	\$ 1,123,413	1,053	.09
Interest checking and money market	14,475,089	24,359	.17	13,370,226	6,380	.05	11,539,717	16,798	.15
Certificates of deposit of less than \$100,000	406,580	1,469	.36	478,371	1,158	.24	585,695	4,897	.84
Certificates of deposit of \$100,000 and over	670,472	3,898	.58	1,244,757	2,577	.21	1,358,389	12,948	.95
Total interest bearing deposits	17,136,124	30,466	.18	16,543,849	11,244	.07	14,607,214	35,696	.24
Borrowings:									
Federal funds purchased	83,255	1,836	2.21	23,623	17	.07	126,203	794	.63
Securities sold under agreements to repurchase	2,356,024	24,022	1.02	2,311,214	1,629	.07	1,840,276	5,297	.29
Other borrowings ^(C)	46,459	1,840	3.96	808	5	.62	126,585	1,029	.81
Total borrowings	2,485,738	27,698	1.11	2,335,645	1,651	.07	2,093,064	7,120	.34
Total interest bearing liabilities	19,621,862	58,164	.30%	18,879,494	12,895	.07%	16,700,278	42,816	.26%
Non-interest bearing deposits	10,964,573			11,240,267			8,890,263		
Other liabilities	198,002			591,459			715,033		
Equity	2,820,880			3,452,515			3,311,123		
Total liabilities and equity	\$ 33,605,317			\$ 34,163,735			\$ 29,616,697		
Net interest margin (FTE)		\$ 951,815			\$ 847,116			\$ 842,790	
Net yield on interest earning assets			2.85%			2.58%			2.99%
Percentage increase (decrease) in net interest margin (FTE) compared to the prior year			12.36%			.51%			.88%

(A) Loans on non-accrual status are included in the computation of average balances. Included in interest income above are loan fees and late charges, net of amortization of deferred loan origination fees and costs, which are immaterial. Credit card income from merchant discounts and net interchange fees are not included in loan income.

Years Ended December 31

2019			2018			2017			Average Balance Five Year Compound Growth Rate
Average Balance	Interest Income/Expense	Average Rates Earned/Paid	Average Balance	Interest Income/Expense	Average Rates Earned/Paid	Average Balance	Interest Income/Expense	Average Rates Earned/Paid	
\$ 5,214,158	\$ 202,308	3.88%	\$ 4,963,029	\$ 184,837	3.72%	\$ 4,832,045	\$ 154,681	3.20%	2.16%
909,367	49,702	5.47	967,320	49,440	5.11	881,879	37,315	4.23	6.88
2,859,008	127,635	4.46	2,737,820	117,516	4.29	2,694,620	102,009	3.79	3.53
2,178,716	85,604	3.93	2,093,802	80,365	3.84	2,019,674	75,267	3.73	7.07
1,930,883	92,414	4.79	2,010,826	89,074	4.43	2,036,393	81,065	3.98	.38
358,474	18,204	5.08	379,715	17,513	4.61	398,611	15,516	3.89	(6.80)
764,828	93,754	12.26	768,789	92,269	12.00	743,885	88,329	11.87	(5.96)
9,203	—	—	4,778	—	—	4,592	—	—	4.22
14,224,637	669,621	4.71	13,926,079	631,014	4.53	13,611,699	554,182	4.07	2.71
18,577	1,209	6.51	19,493	1,298	6.66	17,452	1,000	5.73	(14.98)
851,124	20,968	2.46	921,759	21,720	2.36	914,961	19,697	2.15	3.71
191,406	4,557	2.38	308,520	6,098	1.98	452,422	7,321	1.62	(34.45)
1,220,958	38,362	3.14	1,410,700	42,867	3.04	1,720,723	62,073	3.61	3.68
4,594,576	123,806	2.69	4,203,625	111,686	2.66	3,784,602	89,623	2.37	13.02
1,372,574	37,478	2.73	1,455,690	34,223	2.35	2,083,611	36,757	1.76	13.29
333,105	9,017	2.71	340,458	8,912	2.62	330,365	8,410	2.55	12.93
29,450	886	3.01	24,731	759	3.07	21,929	583	2.66	13.45
4,547	1,792	39.41	26,459	11,816	44.66	60,772	2,283	3.76	(31.02)
134,255	8,466	6.31	114,438	12,412	10.85	98,564	10,507	10.66	15.65
8,731,995	245,332	2.81	8,806,380	250,493	2.84	9,467,949	237,254	2.51	9.56
2,034	55	2.70	27,026	519	1.92	18,518	230	1.24	(8.77)
741,089	15,898	2.15	696,438	15,881	2.28	688,147	15,440	2.24	16.80
316,299	6,698	2.12	319,948	6,233	1.95	207,269	2,223	1.07	45.74
24,034,631	938,813	3.91	23,795,364	905,438	3.81	24,011,034	810,329	3.37	6.81
(160,212)			(158,791)			(156,572)			(2.03)
74,605			(113,068)			45,760			N.M.
370,709			360,732			361,414			(2.20)
380,350			343,636			345,639			3.44
513,442			438,362			424,333			5.41
\$ 25,213,525			\$ 24,666,235			\$ 25,031,608			6.07
\$ 918,896	1,021	.11	\$ 867,150	973	.11	\$ 819,558	981	.12	14.09
10,607,224	38,691	.36	10,817,169	26,830	.25	10,517,741	16,328	.16	6.60
610,807	6,368	1.04	603,137	3,215	.53	676,272	2,645	.39	(9.68)
1,396,760	26,945	1.93	1,114,825	14,658	1.31	1,404,960	10,859	.77	(13.75)
13,533,687	73,025	.54	13,402,281	45,676	.34	13,418,531	30,813	.23	5.01
247,126	5,332	2.16	82,179	1,582	1.93	164,156	1,600	.97	(12.70)
1,574,972	24,083	1.53	1,431,965	18,073	1.26	1,298,231	8,229	.63	12.66
43,919	952	2.17	1,747	45	2.58	87,696	3,086	3.52	(11.93)
1,866,017	30,367	1.63	1,515,891	19,700	1.30	1,550,083	12,915	.83	9.91
15,399,704	103,392	.67%	14,918,172	65,376	.44%	14,968,614	43,728	.29%	5.56
6,376,204			6,728,971			7,176,255			8.85
360,587			247,520			250,510			(4.60)
3,077,030			2,771,572			2,636,229			1.36
\$ 25,213,525			\$ 24,666,235			\$ 25,031,608			6.07%
\$ 835,421			\$ 840,062			\$ 766,601			
		3.48%			3.53%			3.19%	
		(.55%)			9.58%			7.75%	

(B) Interest income and yields are presented on a fully taxable-equivalent basis using a federal income tax rate of 21% in 2022, 2021, 2020, 2019 and 2018 and 35% in 2017. Loan interest income includes tax free loan income (categorized as business loan income) which includes tax equivalent adjustments of \$4,126,000 in 2022, \$4,176,000 in 2021, \$4,916,000 in 2020, \$6,282,000 in 2019, \$5,931,000 in 2018, and \$10,357,000 in 2017. Investment securities interest income includes tax equivalent adjustments of \$6,874,000 in 2022, \$7,546,000 in 2021, \$8,042,000 in 2020, \$7,845,000 in 2019, \$10,306,000 in 2018, and \$22,565,000 in 2017. These adjustments relate to state and municipal obligations, trading securities, equity securities, and other securities.

(C) Interest expense of \$1,370,000, \$29,000 and \$14,000, which was capitalized on construction projects in 2022, 2021, and 2020, respectively, is not deducted from the interest expense shown above.

QUARTERLY AVERAGE BALANCE SHEETS — AVERAGE RATES AND YIELDS

(Dollars in millions)	Year ended December 31, 2022							
	Fourth Quarter		Third Quarter		Second Quarter		First Quarter	
	Average Balance	Average Rates Earned/Paid	Average Balance	Average Rates Earned/Paid	Average Balance	Average Rates Earned/Paid	Average Balance	Average Rates Earned/Paid
ASSETS								
Loans:								
Business ^(A)	\$ 5,478	4.68%	\$ 5,318	3.94%	\$ 5,384	3.16%	\$ 5,324	2.93%
Real estate – construction and land	1,269	6.80	1,289	5.27	1,225	4.09	1,135	3.76
Real estate – business	3,301	5.15	3,258	4.40	3,164	3.70	3,095	3.38
Real estate – personal	2,887	3.45	2,844	3.36	2,826	3.27	2,809	3.28
Consumer	2,090	4.77	2,102	4.17	2,071	3.62	2,040	3.59
Revolving home equity	294	5.89	281	4.82	272	3.69	274	3.48
Consumer credit card	559	12.64	550	12.05	538	11.32	541	11.35
Overdrafts	7	—	4	—	6	—	5	—
Total loans	15,885	5.03	15,646	4.37	15,486	3.72	15,223	3.54
Loans held for sale	7	10.09	7	8.80	8	8.14	9	6.48
Investment securities:								
U.S. government & federal agency obligations	1,056	2.01	1,113	4.51	1,119	4.93	1,104	3.42
Government-sponsored enterprise obligations	56	2.36	56	2.36	56	2.39	52	2.33
State & municipal obligations ^(A)	1,991	2.29	2,053	2.27	2,126	2.30	2,078	2.29
Mortgage-backed securities	6,606	1.88	6,848	1.93	7,158	1.99	7,317	1.98
Asset-backed securities	3,714	1.96	3,871	1.62	4,038	1.35	3,934	1.13
Other debt securities	561	1.89	587	1.93	643	1.97	636	2.00
Trading debt securities ^(A)	44	3.81	36	2.74	44	2.46	41	1.84
Equity securities ^(A)	10	28.44	9	27.11	9	26.90	9	26.00
Other securities ^(A)	219	6.67	209	7.09	195	22.38	192	5.91
Total investment securities	14,257	2.07	14,782	2.18	15,388	2.36	15,363	1.97
Federal funds sold	28	4.27	13	2.77	4	1.79	1	.39
Securities purchased under agreements to resell	1,174	2.36	1,379	1.72	1,704	1.03	1,734	1.24
Interest earning deposits with banks	640	3.69	980	2.25	1,249	.78	2,608	.18
Total interest earning assets	31,991	3.59	32,807	3.21	33,839	2.86	34,938	2.49
Allowance for credit losses on loans	(143)		(138)		(135)		(150)	
Unrealized loss on debt securities	(1,582)		(1,065)		(851)		(174)	
Cash and due from banks	327		311		315		340	
Premises and equipment – net	419		409		402		407	
Other assets	593		538		522		557	
Total assets	\$ 31,605		\$ 32,862		\$ 34,092		\$ 35,918	
LIABILITIES AND EQUITY								
Interest bearing deposits:								
Savings	\$ 1,567	.06	\$ 1,596	.04	\$ 1,610	.04	\$ 1,563	.05
Interest checking and money market	13,694	.38	14,424	.20	14,846	.06	14,950	.04
Certificates of deposit under \$100,000	388	.73	397	.41	412	.20	430	.13
Certificates of deposit \$100,000 & over	597	1.42	578	.60	649	.29	862	.20
Total interest bearing deposits	16,246	.40	16,995	.21	17,517	.07	17,805	.05
Borrowings:								
Federal funds purchased	144	3.56	52	2.41	113	.79	23	.12
Securities sold under agreements to repurchase	2,260	2.29	2,200	1.37	2,258	.48	2,713	.10
Other borrowings	179	4.02	2	1.78	2	2.37	1	.53
Total borrowings	2,583	2.48	2,254	1.39	2,373	.50	2,737	.10
Total interest bearing liabilities	18,829	.69%	19,249	.34%	19,890	.12%	20,542	.06%
Non-interest bearing deposits	10,361		10,758		11,210		11,545	
Other liabilities	29		124		140		505	
Equity	2,386		2,731		2,852		3,326	
Total liabilities and equity	\$ 31,605		\$ 32,862		\$ 34,092		\$ 35,918	
Net interest margin (FTE)	\$ 257		\$ 249		\$ 235		\$ 211	
Net yield on interest earning assets		3.18%		3.01%		2.79%		2.45%

(A) Stated on a fully taxable-equivalent basis using a federal income tax rate of 21%.

	Year ended December 31, 2021							
	Fourth Quarter		Third Quarter		Second Quarter		First Quarter	
	Average Balance	Average Rates Earned/Paid	Average Balance	Average Rates Earned/Paid	Average Balance	Average Rates Earned/Paid	Average Balance	Average Rates Earned/Paid
<i>(Dollars in millions)</i>								
ASSETS								
Loans:								
Business ^(A)	\$ 5,193	3.16%	\$ 5,437	3.43%	\$ 6,212	3.15%	\$ 6,533	3.09%
Real estate – construction and land	1,228	3.61	1,169	3.51	1,088	3.56	1,092	3.54
Real estate – business	3,003	3.41	2,983	3.46	3,015	3.49	3,023	3.52
Real estate – personal	2,785	3.21	2,776	3.27	2,804	3.31	2,826	3.40
Consumer	2,044	3.65	2,041	3.71	2,005	3.84	1,947	4.02
Revolving home equity	276	3.47	282	3.46	287	3.43	299	3.38
Consumer credit card	559	11.06	566	11.29	576	11.22	609	10.97
Overdrafts	5	—	5	—	4	—	4	—
Total loans	15,093	3.62	15,259	3.74	15,991	3.65	16,333	3.66
Loans held for sale	11	5.10	16	4.63	23	4.20	36	3.44
Investment securities:								
U.S. government & federal agency obligations	1,009	3.11	728	5.74	720	5.52	725	2.54
Government-sponsored enterprise obligations	51	2.30	51	2.30	51	2.33	51	2.36
State & municipal obligations ^(A)	2,096	2.26	2,040	2.35	1,967	2.41	1,959	2.46
Mortgage-backed securities	7,141	1.40	7,115	1.53	6,685	1.11	6,999	1.39
Asset-backed securities	3,515	1.03	3,028	1.08	2,654	1.25	2,086	1.39
Other debt securities	630	2.07	609	2.04	606	2.06	570	2.15
Trading debt securities ^(A)	46	1.54	32	1.01	35	1.19	32	1.08
Equity securities ^(A)	9	27.64	9	23.92	5	43.10	4	49.56
Other securities ^(A)	190	18.39	183	7.46	157	11.90	154	5.26
Total investment securities	14,687	1.82	13,795	1.89	12,880	1.78	12,580	1.72
Federal funds sold	1	.70	1	.50	1	.60	—	—
Securities purchased under agreements to resell	1,670	1.62	1,633	2.19	937	4.46	850	5.31
Interest earning deposits with banks	2,857	.15	2,603	.15	2,725	.11	1,480	.10
Total interest earning assets	34,319	2.47	33,307	2.62	32,557	2.64	31,279	2.76
Allowance for credit losses on loans	(162)		(172)		(201)		(221)	
Unrealized gain on debt securities	86		230		197		284	
Cash and due from banks	345		329		329		355	
Premises and equipment – net	420		409		404		401	
Other assets	522		523		526		552	
Total assets	\$ 35,530		\$ 34,626		\$ 33,812		\$ 32,650	
LIABILITIES AND EQUITY								
Interest bearing deposits:								
Savings	\$ 1,507	.08	\$ 1,485	.08	\$ 1,474	.08	\$ 1,333	.08
Interest checking and money market	13,875	.04	13,343	.05	13,284	.05	12,971	.06
Certificates of deposit under \$100,000	442	.14	464	.18	491	.27	517	.37
Certificates of deposit \$100,000 & over	1,105	.14	1,290	.14	1,355	.20	1,230	.35
Total interest bearing deposits	16,929	.05	16,582	.06	16,604	.07	16,051	.09
Borrowings:								
Federal funds purchased	21	.11	14	.10	23	.05	37	.05
Securities sold under agreements to repurchase	2,620	.08	2,347	.08	2,143	.06	2,129	.06
Other borrowings	1	—	—	1.14	1	.82	1	.98
Total borrowings	2,642	.08	2,361	.08	2,167	.06	2,167	.06
Total interest bearing liabilities	19,571	.06%	18,943	.06%	18,771	.07%	18,218	.09%
Non-interest bearing deposits	11,919		11,475		11,109		10,439	
Other liabilities	562		668		527		608	
Equity	3,478		3,540		3,405		3,385	
Total liabilities and equity	\$ 35,530		\$ 34,626		\$ 33,812		\$ 32,650	
Net interest margin (FTE)	\$ 210		\$ 217		\$ 211		\$ 209	
Net yield on interest earning assets		2.43%		2.58%		2.60%		2.71%

(A) Stated on a fully taxable-equivalent basis using a federal income tax rate of 21%.

SUMMARY OF QUARTERLY STATEMENTS OF INCOME

Year ended December 31, 2022 (In thousands, except per share data)	For the Quarter Ended			
	12/31/2022	9/30/2022	6/30/2022	3/31/2022
Interest income	\$ 286,377	\$ 262,666	\$ 238,154	\$ 211,782
Interest expense	(31,736)	(16,293)	(5,769)	(2,996)
Net interest income	254,641	246,373	232,385	208,786
Non-interest income	136,825	138,514	139,427	131,769
Investment securities gains, net	8,904	3,410	1,029	7,163
Salaries and employee benefits	(138,458)	(137,393)	(142,243)	(135,953)
Other expense	(78,282)	(75,491)	(71,262)	(69,695)
Provision for credit losses	(15,477)	(15,290)	(7,162)	9,858
Income before income taxes	168,153	160,123	152,174	151,928
Income taxes	(34,499)	(33,936)	(32,021)	(31,902)
Non-controlling interest	(2,026)	(3,364)	(4,359)	(1,872)
Net income attributable to Commerce Bancshares, Inc.	\$ 131,628	\$ 122,823	\$ 115,794	\$ 118,154
Net income per common share — basic*	\$ 1.05	\$.97	\$.92	\$.92
Net income per common share — diluted*	\$ 1.04	\$.97	\$.92	\$.92
Weighted average shares — basic*	124,311	124,840	125,987	126,341
Weighted average shares — diluted*	124,589	125,117	125,916	126,647
Year ended December 31, 2021 (In thousands, except per share data)	For the Quarter Ended			
	12/31/2021	9/30/2021	6/30/2021	3/31/2021
Interest income	\$ 210,479	\$ 216,981	\$ 211,133	\$ 209,697
Interest expense	(2,822)	(2,944)	(3,151)	(3,949)
Net interest income	207,657	214,037	207,982	205,748
Non-interest income	147,699	137,506	139,143	136,045
Investment securities gains (losses), net	(9,706)	13,108	16,804	9,853
Salaries and employee benefits	(132,640)	(132,824)	(130,751)	(129,033)
Other expense	(70,942)	(78,796)	(67,375)	(63,540)
Provision for credit losses	7,054	7,385	45,655	6,232
Income before income taxes	149,122	160,416	211,458	165,305
Income taxes	(33,764)	(34,662)	(45,209)	(32,076)
Non-controlling interest	(452)	(3,193)	(3,923)	(2,257)
Net income attributable to Commerce Bancshares, Inc.	\$ 114,906	\$ 122,561	\$ 162,326	\$ 130,972
Net income per common share — basic*	\$.90	\$.95	\$ 1.26	\$ 1.01
Net income per common share — diluted*	\$.90	\$.95	\$ 1.25	\$ 1.01
Weighted average shares — basic*	127,012	127,709	128,070	128,176
Weighted average shares — diluted*	127,283	127,975	128,387	128,522
Year ended December 31, 2020 (In thousands, except per share data)	For the Quarter Ended			
	12/31/2020	9/30/2020	6/30/2020	3/31/2020
Interest income	\$ 214,726	\$ 223,114	\$ 213,323	\$ 221,485
Interest expense	(4,963)	(7,152)	(10,266)	(20,420)
Net interest income	209,763	215,962	203,057	201,065
Non-interest income	135,117	129,572	117,515	123,663
Investment securities gains (losses), net	12,307	16,155	(4,129)	(13,301)
Salaries and employee benefits	(129,983)	(127,308)	(126,759)	(128,937)
Other expense	(66,327)	(63,550)	(60,753)	(64,761)
Provision for credit losses	4,403	(3,101)	(80,539)	(57,953)
Income before income taxes	165,280	167,730	48,392	59,776
Income taxes	(33,084)	(34,375)	(9,661)	(10,173)
Non-controlling interest	(2,307)	(907)	1,132	2,254
Net income attributable to Commerce Bancshares, Inc.	\$ 129,889	\$ 132,448	\$ 39,863	\$ 51,857
Net income per common share — basic*	\$ 1.00	\$.97	\$.29	\$.38
Net income per common share — diluted*	\$ 1.00	\$.97	\$.29	\$.38
Weighted average shares — basic*	128,185	128,173	128,157	128,633
Weighted average shares — diluted*	128,450	128,380	128,377	128,932

* Restated for the 5% stock dividend distributed in 2022.

Item 7a. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information required by this item is disclosed within the Interest Rate Sensitivity section of Management's Discussion and Analysis of Financial Condition and Results of Operations.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Commerce Bancshares, Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Commerce Bancshares, Inc. and subsidiaries (the Company) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, 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 December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2022, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 22, 2023 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the 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 Matter

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: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of a critical audit matter 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.

Assessment for credit losses related to loans collectively evaluated for impairment

As discussed in Notes 1 and 2 to the consolidated financial statements, the allowance for credit losses related to loans evaluated on a collective basis (the December 31, 2022 collective ACL) was \$148.0 million of a total allowance for credit losses of \$150.1 million as of December 31, 2022. The allowance for credit losses on loans and leases is measured on a collective (pool) basis whereas loans are aggregated into pools based on similar risk characteristics. The Company estimates the collective ACL utilizing average historical loss rates, calculated using historical net charge-offs and outstanding loan balances during a lookback period for each pool. In certain pools, if the Company's own historical loss rate is not reflective of the loss expectations, the historical loss rate is augmented by industry and peer data. The calculated average net charge-off rate is then adjusted for current conditions and reasonable and supportable forecasts (forecast adjusted loss rate). These adjustments increase or decrease the average historical loss rate to reflect expectations of future losses given a single path economic forecast of key macroeconomic variables. The adjustments are based on results from various regression models projecting the impact of the macroeconomic variables to loss rates. The forecast is used for a reasonable and supportable period before reverting back to historical averages using a straight-line method. The forecast adjusted loss rate is applied to the amortized cost of loans over the remaining contractual lives, adjusted for expected prepayments. The allowance is further adjusted for certain qualitative factors not included in historical loss rates or the macroeconomic forecast, which include changes in portfolio composition and characteristics, underwriting practices, watchlist trends, or significant unique events or conditions.

We identified the assessment of the December 31, 2022 collective ACL as a critical audit matter. A high degree of audit effort, including specialized skills and knowledge, and subjective and complex auditor judgment was involved in the assessment due to significant measurement uncertainty. Specifically, this assessment encompassed the evaluation of the conceptual soundness of the average historical loss model used to estimate the collective ACL, including the following key factors and assumptions (1) historical losses, (2) the reasonable and supportable forecast period, and (3) the development and evaluation of qualitative adjustments. In addition, auditor judgment was required to evaluate the sufficiency of audit evidence obtained.

The following are the primary procedures we performed to address the critical audit matter. We evaluated the design and tested the operating effectiveness of certain internal controls related to the Company's measurement of the collective ACL estimates, including controls over the (1) development and approval of the collective ACL methodology, (2) validation of the collective ACL methodology and model, (3) identification and determination of the key factors and assumptions used to estimate the collective ACL, (4) development of qualitative adjustments, and (5) analysis of the collective ACL results, trends, and ratios. We evaluated the Company's process to develop the collective ACL estimates by testing certain sources of data, factors, and assumptions, and considered the relevance and reliability of such data, factors, and assumptions. We evaluated whether the historical losses in the Company's portfolio are representative of the credit characteristics of the current portfolio. We involved credit risk professionals with specialized skills and knowledge, who assisted in:

- evaluating the Company's collective ACL methodology for compliance with U.S. generally accepted accounting principles,
- evaluating the collective ACL methodology and model for conceptual soundness by inspecting the methodology and model documentation to determine whether the methodology and model are suitable for intended use
- testing the historical losses period and the reasonable and supportable forecast period by comparing them to the Company's business environment and relevant industry practices
- evaluating the methodology used to develop the qualitative factors and the effect of those factors on the collective ACL compared with changes in the nature and volume of the entity's financial assets and identified limitations of the underlying quantitative model.

We assessed the sufficiency of the audit evidence obtained related to the Company's December 31, 2022 collective ACL by evaluating the cumulative results of the audit procedures, qualitative aspects of the Company's accounting practices and potential bias in the accounting estimates.

KPMG LLP

We have served as the Company's auditor since 1971.

Kansas City, Missouri
February 22, 2023

Commerce Bancshares, Inc. and Subsidiaries

CONSOLIDATED BALANCE SHEETS

	December 31	
	2022	2021
	<i>(In thousands)</i>	
ASSETS		
Loans	\$ 16,303,131	\$ 15,176,359
Allowance for credit losses on loans	(150,136)	(150,044)
Net loans	16,152,995	15,026,315
Loans held for sale (including \$— and \$5,570,000 of residential mortgage loans carried at fair value at December 31, 2022 and 2021, respectively)	4,964	8,615
Investment securities:		
Available for sale debt, at fair value (amortized cost of \$13,738,206,000 and \$14,419,133,000 at December 31, 2022 and 2021, respectively, and allowance for credit losses of \$— at both December 31, 2022 and 2021)	12,238,316	14,450,027
Trading debt	43,523	46,235
Equity	12,304	9,202
Other	225,034	194,047
Total investment securities	12,519,177	14,699,511
Federal funds sold	49,505	2,800
Securities purchased under agreements to resell	825,000	1,625,000
Interest earning deposits with banks	389,140	3,971,217
Cash and due from banks	452,496	305,539
Premises and equipment – net	418,909	388,738
Goodwill	138,921	138,921
Other intangible assets – net	15,234	15,570
Other assets	909,590	506,862
Total assets	\$ 31,875,931	\$ 36,689,088
LIABILITIES AND STOCKHOLDERS' EQUITY		
Deposits:		
Non-interest bearing	\$ 10,066,356	\$ 11,772,374
Savings, interest checking and money market	15,126,981	16,598,085
Certificates of deposit of less than \$100,000	387,336	435,960
Certificates of deposit of \$100,000 and over	606,767	1,006,654
Total deposits	26,187,440	29,813,073
Federal funds purchased and securities sold under agreements to repurchase	2,841,734	3,022,967
Other borrowings	9,672	12,560
Other liabilities	355,508	392,164
Total liabilities	29,394,354	33,240,764
Commerce Bancshares, Inc. stockholders' equity:		
Common stock, \$5 par value		
Authorized 140,000,000; issued 125,863,879 shares at December 31, 2022 and 122,160,705 shares at December 31, 2021	629,319	610,804
Capital surplus	2,932,959	2,689,894
Retained earnings	31,620	92,493
Treasury stock of 605,142 shares at December 31, 2022 and 476,392 shares at December 31, 2021, at cost	(41,743)	(32,973)
Accumulated other comprehensive income (loss)	(1,086,864)	77,080
Total Commerce Bancshares, Inc. stockholders' equity	2,465,291	3,437,298
Non-controlling interest	16,286	11,026
Total equity	2,481,577	3,448,324
Total liabilities and equity	\$ 31,875,931	\$ 36,689,088

See accompanying notes to consolidated financial statements.

Commerce Bancshares, Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF INCOME

<i>(In thousands, except per share data)</i>	For the Years Ended December 31		
	2022	2021	2020
INTEREST INCOME			
Interest and fees on loans	\$ 646,293	\$ 570,549	\$ 612,072
Interest on loans held for sale	637	880	860
Interest on investment securities	313,892	236,278	216,793
Interest on federal funds sold	412	4	3
Interest on securities purchased under agreements to resell	22,647	37,377	40,647
Interest on deposits with banks	15,098	3,202	2,273
Total interest income	998,979	848,290	872,648
INTEREST EXPENSE			
Interest on deposits:			
Savings, interest checking and money market	25,099	7,509	17,851
Certificates of deposit of less than \$100,000	1,469	1,158	4,897
Certificates of deposit of \$100,000 and over	3,898	2,577	12,948
Interest on federal funds purchased and securities sold under agreements to repurchase	25,858	1,646	6,091
Interest on other borrowings	470	(24)	1,014
Total interest expense	56,794	12,866	42,801
Net interest income	942,185	835,424	829,847
Provision for credit losses	28,071	(66,326)	137,190
Net interest income after credit losses	914,114	901,750	692,657
NON-INTEREST INCOME			
Trust fees	184,719	188,227	160,637
Bank card transaction fees	176,144	167,891	151,797
Deposit account charges and other fees	94,381	97,217	93,227
Consumer brokerage services	19,117	18,362	15,095
Capital market fees	14,231	15,943	14,582
Loan fees and sales	13,141	29,720	26,684
Other	44,802	43,033	43,845
Total non-interest income	546,535	560,393	505,867
INVESTMENT SECURITIES GAINS, NET	20,506	30,059	11,032
NON-INTEREST EXPENSE			
Salaries and employee benefits	554,047	525,248	512,987
Data processing and software	110,692	101,792	95,325
Net occupancy	49,117	48,185	46,645
Equipment	19,359	18,089	18,839
Supplies and communication	18,101	17,118	17,419
Marketing	23,827	21,856	19,734
Other	73,634	73,613	57,429
Total non-interest expense	848,777	805,901	768,378
Income before income taxes	632,378	686,301	441,178
Less income taxes	132,358	145,711	87,293
Net income	500,020	540,590	353,885
Less non-controlling interest expense (income)	11,621	9,825	(172)
Net income attributable to Commerce Bancshares, Inc.	488,399	530,765	354,057
Less preferred stock dividends	—	—	11,966
Net income available to common shareholders	\$ 488,399	\$ 530,765	\$ 342,091
Net income per common share - basic	\$ 3.86	\$ 4.12	\$ 2.64
Net income per common share - diluted	\$ 3.85	\$ 4.11	\$ 2.64

See accompanying notes to consolidated financial statements.

Commerce Bancshares, Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Net income	\$ 500,020	\$ 540,590	\$ 353,885
Other comprehensive income (loss):			
Net unrealized gains (losses) on other securities	(1,148,089)	(240,627)	161,728
Change in pension loss	3,482	4,450	(3,178)
Unrealized gains (losses) on cash flow hedge derivatives	(19,337)	(18,120)	62,383
Other comprehensive income (loss)	(1,163,944)	(254,297)	220,933
Comprehensive income (loss)	(663,924)	286,293	574,818
Less non-controlling interest (income) loss	11,621	9,825	(172)
Comprehensive income (loss) attributable to Commerce Bancshares, Inc.	\$ (675,545)	\$ 276,468	\$ 574,990

See accompanying notes to consolidated financial statements.

Commerce Bancshares, Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

Commerce Bancshares, Inc. Shareholders								
<i>(In thousands, except per share data)</i>	Preferred Stock	Common Stock	Capital Surplus	Retained Earnings	Treasury Stock	Accumulated Other Comprehensive Income (Loss)	Non-Controlling Interest	Total
Balance at December 31, 2019	\$ 144,784	\$ 563,978	\$ 2,151,464	\$ 201,562	\$ (37,548)	\$ 110,444	\$ 3,788	\$ 3,138,472
Adoption of ASU 2016-13				3,766				3,766
Balance at December 31, 2019, adjusted	144,784	563,978	2,151,464	205,328	(37,548)	110,444	3,788	3,142,238
Net income				354,057			(172)	353,885
Other comprehensive income						220,933		220,933
Distributions to non-controlling interest							(691)	(691)
Redemption of preferred stock	(144,784)			(5,216)				(150,000)
Purchases of treasury stock					(54,163)			(54,163)
Cash dividends paid on common stock (\$0.933 per share)				(120,818)				(120,818)
Cash dividends paid on preferred stock (\$1.125 per depositary share)				(6,750)				(6,750)
Stock-based compensation			14,915					14,915
Issuance under stock purchase and equity compensation plans			(24,271)		25,580			1,309
5% stock dividend, net		25,374	294,180	(353,601)	33,161			(886)
Balance at December 31, 2020	—	589,352	2,436,288	73,000	(32,970)	331,377	2,925	3,399,972
Net income				530,765			9,825	540,590
Other comprehensive loss						(254,297)		(254,297)
Distributions to non-controlling interest							(1,065)	(1,065)
Purchases of treasury stock					(129,361)			(129,361)
Sale of non-controlling interest of subsidiary			659				(659)	—
Cash dividends paid on common stock (\$0.952 per share)				(122,693)				(122,693)
Stock-based compensation			15,415					15,415
Issuance under stock purchase and equity compensation plans			(21,799)		22,710			911
5% stock dividend, net		21,452	259,331	(388,579)	106,648			(1,148)
Balance at December 31, 2021	—	610,804	2,689,894	92,493	(32,973)	77,080	11,026	3,448,324
Net income				488,399			11,621	500,020
Other comprehensive loss						(1,163,944)		(1,163,944)
Distributions to non-controlling interest							(6,361)	(6,361)
Purchases of treasury stock					(186,622)			(186,622)
Cash dividends paid on common stock (\$1.010 per share)				(127,466)				(127,466)
Stock-based compensation			16,995					16,995
Issuance under stock purchase and equity compensation plans			(19,563)		21,468			1,905
5% stock dividend, net		18,515	245,633	(421,806)	156,384			(1,274)
Balance at December 31, 2022	\$ —	\$ 629,319	\$ 2,932,959	\$ 31,620	\$ (41,743)	\$ (1,086,864)	\$ 16,286	\$ 2,481,577

See accompanying notes to consolidated financial statements.

Commerce Bancshares, Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
OPERATING ACTIVITIES			
Net income	\$ 500,020	\$ 540,590	\$ 353,885
Adjustments to reconcile net income to net cash provided by operating activities:			
Provision for credit losses	28,071	(66,326)	137,190
Provision for depreciation and amortization	46,856	44,866	43,769
Amortization of investment security premiums, net	18,805	66,934	59,863
Deferred income tax (benefit) expense	21,716	25,613	(19,540)
Investment securities gains, net (A)	(20,506)	(30,059)	(11,032)
Net gains on sales of loans held for sale	(2,660)	(22,641)	(16,406)
Proceeds from sales of loans held for sale	123,656	576,864	297,267
Originations of loans held for sale	(118,850)	(524,597)	(313,329)
Net (increase) decrease in trading securities, excluding unsettled transactions	4,152	(29,885)	(770)
Purchase of interest rate floors	(35,799)	—	—
Stock-based compensation	16,995	15,415	14,915
(Increase) decrease in interest receivable	(28,439)	19,788	(13,399)
Increase (decrease) in interest payable	3,054	(3,179)	(9,444)
Increase (decrease) in income taxes payable	(12,936)	(5,175)	12,345
Proceeds from terminated interest rate floors	—	—	156,740
Other changes, net	15,250	(10,486)	(68,062)
Net cash provided by operating activities	559,385	597,722	623,992
INVESTING ACTIVITIES			
Distributions received from equity-method investment	400	13,540	—
Proceeds from sales of investment securities (A)	106,971	80,811	602,477
Proceeds from maturities/pay downs of investment securities (A)	2,691,260	3,459,106	2,673,510
Purchases of investment securities (A)	(2,147,862)	(5,947,891)	(6,991,460)
Net (increase) decrease in loans	(1,146,292)	1,134,533	(1,643,775)
Securities purchased under agreements to resell	(200,000)	(900,000)	—
Repayments of securities purchased under agreements to resell	1,000,000	125,000	—
Purchases of premises and equipment	(65,191)	(56,716)	(33,134)
Sales of premises and equipment	2,985	8,859	1,878
Net cash provided by (used in) investing activities	242,271	(2,082,758)	(5,390,504)
FINANCING ACTIVITIES			
Net increase (decrease) in non-interest bearing, savings, interest checking and money market deposits	(3,254,081)	3,291,466	6,316,100
Net decrease in certificates of deposit	(448,511)	(402,077)	(163,321)
Net increase (decrease) in federal funds purchased and short-term securities sold under agreements to repurchase	(181,233)	924,584	247,611
Net increase (decrease) in other borrowings	(2,888)	11,758	(1,616)
Preferred stock redemption	—	—	(150,000)
Purchases of treasury stock	(186,622)	(129,361)	(54,163)
Issuance of stock under equity compensation plans	(8)	(15)	(11)
Cash dividends paid on common stock	(127,466)	(122,693)	(120,818)
Cash dividends paid on preferred stock	—	—	(6,750)
Net cash provided by (used in) financing activities	(4,200,809)	3,573,662	6,067,032
Increase (decrease) in cash, cash equivalents and restricted cash	(3,399,153)	2,088,626	1,300,520
Cash, cash equivalents and restricted cash at beginning of year	4,296,954	2,208,328	907,808
Cash, cash equivalents and restricted cash at end of year	\$ 897,801	\$ 4,296,954	\$ 2,208,328
Income tax payments, net	\$ 116,995	\$ 119,665	\$ 90,066
Interest paid on deposits and borrowings	53,740	16,045	52,245
Loans transferred to foreclosed real estate	457	182	93

(A) Available for sale debt securities, equity securities, and other securities.
See accompanying notes to consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Summary of Significant Accounting Policies

Nature of Operations

Commerce Bancshares, Inc. and its subsidiaries (the Company) conducts its principal activities from approximately 275 branch and ATM locations throughout Missouri, Kansas, Illinois, Oklahoma and Colorado. Principal activities include retail and commercial banking, investment management, securities brokerage, mortgage banking, trust, and private banking services. The Company also maintains offices in Dallas, Houston, Cincinnati, Nashville, Des Moines, Indianapolis, and Grand Rapids that support customers in its commercial and/or wealth segments and operates a commercial payments business with sales representatives covering the continental U.S.

Basis of Presentation, Use of Estimates, and Subsequent Events

The consolidated financial statements include the accounts of the Company and its majority-owned subsidiaries. All material inter-company transactions have been eliminated through consolidation. Certain prior year amounts have been reclassified to conform to the current year presentation. Such reclassifications had no effect on net income or total assets.

The Company follows accounting principles generally accepted in the United States of America (GAAP) and reporting practices applicable to the banking industry. The preparation of financial statements under GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and notes. These estimates are based on information available to management at the time the estimates are made. While the consolidated financial statements reflect management's best estimates and judgments, actual results could differ from those estimates.

Management has evaluated subsequent events for potential recognition or disclosure through the date these consolidated financial statements were issued.

The Company, in the normal course of business, engages in a variety of activities that involve variable interest entities (VIEs). A VIE is a legal entity that lacks equity investors or whose equity investors do not have a controlling financial interest in the entity through their equity investments. However, an enterprise is deemed to have a controlling financial interest and is the primary beneficiary of a VIE if it has both the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and an obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE. An enterprise that is the primary beneficiary must consolidate the VIE. The Company's interests in VIEs are evaluated to determine if the Company is the primary beneficiary both at inception and when there is a change in circumstances that requires a reconsideration.

The Company is considered to be the primary beneficiary in a rabbi trust related to a deferred compensation plan offered to certain employees. The assets and liabilities of this trust, which are included in the accompanying consolidated balance sheets, are not significant. The Company also has variable interests in certain entities in which it is not the primary beneficiary. These entities are not consolidated. These interests include certain investments in entities accounted for using the equity method of accounting, as well as affordable housing limited partnership interests, holdings in its investment portfolio of various asset and mortgage-backed bonds that are issued by securitization trusts, and managed discretionary trust assets that are not included in the accompanying consolidated balance sheets.

Adoption of ASU 2016-13

The Company adopted ASU 2016-13 Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments, and its related amendments (collectively known as "CECL") on January 1, 2020. The Company adopted CECL using the modified retrospective method for all financial assets measured at amortized cost and for unfunded lending commitments. Results for reporting periods beginning on or after January 1, 2020 are presented under CECL, while prior period amounts continue to be reported in accordance with previously applicable GAAP. The Company recorded a net increase to retained earnings of \$3.8 million as of January 1, 2020 for the cumulative effect of adopting CECL. The transition adjustment included a decrease to the allowance for credit losses of \$29.7 million related to the commercial loan portfolio, an increase to the allowance for credit losses of \$8.7 million related to the personal banking loan portfolio, an increase to the liability for unfunded commitments of \$16.1 million, and a tax impact of \$1.2 million.

Cash, Cash Equivalents and Restricted Cash

In the accompanying consolidated statements of cash flows, cash and cash equivalents include “Cash and due from banks”, “Federal funds sold and short-term securities purchased under agreements to resell”, and “Interest earning deposits with banks” as segregated in the accompanying consolidated balance sheets. Restricted cash is comprised of cash collateral on deposit with another financial institution to secure interest rate swap transactions. Restricted cash is included in other assets in the consolidated balance sheets and totaled \$6.7 million and \$17.4 million at December 31, 2022 and 2021, respectively.

During 2020, the Federal Reserve System, which historically required the Bank to maintain cash balances at the Federal Reserve Bank, reduced the reserve requirement ratios to zero percent effective March 26, 2020. Other interest earning cash balances held at the Federal Reserve Bank totaled \$389.1 million at December 31, 2022.

Loans and Related Earnings

The Company's portfolio of held-for-investment loans includes a net investment in direct financing and sales type leases to commercial and industrial and tax-exempt entities, and collectively, the Company's portfolio of loans and leases is referred to as its "loan portfolio" or "loans". Loans that management has the intent and ability to hold for the foreseeable future or until maturity or pay-off are reported at amortized cost, excluding accrued interest receivable. Amortized cost is the outstanding principal balance, net of any deferred fees and costs on originated loans. Origination fee income received on loans and amounts representing the estimated direct costs of origination are deferred and amortized to interest income over the life of the loan using the interest method.

Interest on loans is accrued based upon the principal amount outstanding. The Company has elected the practical expedient to exclude all accrued interest receivable from all required disclosures of amortized cost. Additionally, an election was made not to measure an allowance for credit losses for accrued interest receivables. The Company has also made the election that all interest accrued but ultimately not received is reversed against interest income.

Loan and commitment fees, net of costs, are deferred and recognized in interest income over the term of the loan or commitment as an adjustment of yield. Annual fees charged on credit card loans are capitalized to principal and amortized over 12 months to loan fees and sales. Other credit card fees, such as cash advance fees and late payment fees, are recognized in income as an adjustment of yield when charged to the cardholder's account.

Past Due Loans

Management reports loans as past due on the day following the contractual repayment date if payment was not received by end of the business day. Loans, or portions of loans, are charged off to the extent deemed uncollectible. Loan charge-offs reduce the allowance for credit losses on loans, and recoveries of loans previously charged off are added back to the allowance. Business, business real estate, construction and land real estate, and personal real estate loans are generally charged down to estimated collectible balances when they are placed on non-accrual status. Consumer loans and related accrued interest are normally charged down to the fair value of related collateral (or are charged off in full if not collateralized) once the loans are more than 120 to 180 days delinquent, depending on the type of loan. Revolving home equity loans are charged down to the fair value of the related collateral once the loans are more than 180 days past due. Credit card loans are charged off against the allowance for credit losses when the receivable is more than 180 days past due.

Non-Accrual Loans

Loans are placed on non-accrual status when management does not expect to collect payments consistent with acceptable and agreed upon terms of repayment. Business, construction real estate, business real estate, and personal real estate loans that are contractually 90 days past due as to principal and/or interest payments are generally placed on non-accrual status, unless they are both well-secured and in the process of collection. Consumer, revolving home equity and credit card loans are exempt under regulatory rules from being classified as non-accrual. When a loan is placed on non-accrual status, any interest previously accrued but not collected is reversed against current interest income, and the loan is charged off to the extent uncollectible. Principal and interest payments received on non-accrual loans are generally applied to principal. Interest is included in income only after all previous loan charge-offs have been recovered and is recorded only as received. The loan is returned to accrual status only when the borrower has brought all past due principal and interest payments current, and, in the opinion of management, the borrower has demonstrated the ability to make future payments of principal and interest as scheduled. A six month history of sustained payment performance is generally required before reinstatement of accrual status.

Troubled Debt Restructurings

A loan is accounted for as a troubled debt restructuring if the Company, for economic or legal reasons related to the borrower's financial difficulties, grants a concession to the borrower that it would not otherwise consider. A troubled debt restructuring typically involves (1) modification of terms such as a reduction of the stated interest rate, loan principal, or accrued interest, (2) a loan renewal at a stated interest rate lower than the current market rate for a new loan with similar risk, or (3) debt that was not reaffirmed in bankruptcy. Business, business real estate, construction and land real estate and personal real estate troubled debt restructurings with impairment charges are placed on non-accrual status. The Company measures the impairment loss of a troubled debt restructuring at the time of modification based on the present value of expected future cash flows. Subsequent to modification, troubled debt restructurings are subject to the Company's allowance for credit loss model, which is discussed below and in Note 2, Loans and Allowance for Credit Losses. Troubled debt restructurings that are performing under their contractual terms continue to accrue interest, which is recognized in current earnings.

Section 4013 of the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"), which was signed into law on March 27, 2020, provided financial institutions an option to suspend the requirement to categorize certain loan modifications related to the global Coronavirus Disease 2019 (COVID-19) pandemic as troubled debt restructurings. The 2021 Consolidated Appropriations Act signed on December 27, 2020 extends this temporary suspension through January 1, 2022. The Company elected such option from March 27, 2020 through December 31, 2021. Refer to Note 2 for additional information.

Loans Held For Sale

Loans held for sale include student loans and certain fixed rate residential mortgage loans. These loans are typically classified as held for sale upon origination based upon management's intent to sell the production of these loans. The student loans are carried at the lower of aggregate cost or fair value, and their fair value is determined based on sale contract prices. The mortgage loans are carried at fair value under the elected fair value option. Their fair value is based on secondary market prices for loans with similar characteristics, including an adjustment for embedded servicing value. Changes in fair value and gains and losses on sales are included in loan fees and sales. Deferred fees and costs related to these loans are not amortized but are recognized as part of the cost basis of the loan at the time it is sold. Interest income related to loans held for sale is accrued based on the principal amount outstanding and the loan's contractual interest rate.

Occasionally, other types of loans may be classified as held for sale in order to manage credit concentration. These loans are carried at the lower of cost or fair value with gains and losses on sales recognized in loan fees and sales.

Allowance for Credit Losses on Loans

The allowance for credit losses on loans is a valuation amount that is deducted from the amortized cost basis of loans not held at fair value to present the net amount expected to be collected over the contractual term of the loans. The allowance for credit losses on loans is measured using relevant information about past events, including historical credit loss experience on loans with similar risk characteristics, current conditions, and reasonable and supportable forecasts that affect the collectability of the remaining cash flows over the contractual term of the loans. An allowance will be created upon origination or acquisition of a loan and is updated at subsequent reporting dates. The methodology is applied consistently for each reporting period and reflects management's current expectations of credit losses. Changes to the allowance for credit losses on loans resulting from periodic evaluations are recorded through increases or decreases to the credit loss expense for loans, which is recorded in provision for credit losses on the consolidated statements of income. Loans that are deemed to be uncollectible are charged off against the related allowance for credit losses on loans.

The allowance for credit losses on loans is measured on a collective (pool) basis. Loans are aggregated into pools based on similar risk characteristics including borrower type, collateral type and expected credit loss patterns. The allowance for credit losses on a troubled debt restructuring which continues to accrue interest is also measured on a collective basis. Loans that do not share similar risk characteristics, primarily large loans on non-accrual status, are evaluated on an individual basis. The allowance related to these large non-accrual loans is measured using the fair value of the collateral (less selling cost, if applicable) as most of these loans are collateral dependent and the borrower is facing financial difficulty.

As noted above, the allowance for credit losses on loans does not include an allowance for accrued interest.

Liability for Unfunded Lending Commitments

The Company's unfunded lending commitments are primarily unfunded loan commitments and letters of credit. Expected credit losses for these unfunded lending commitments are calculated over the contractual period during which the Company is exposed to the credit risk. The methodology used to measure credit losses for unfunded lending commitments is the same as the methodology used for loans, however, the estimate of credit risk for unfunded lending commitments takes into

consideration the likelihood that funding will occur. The liability for unfunded lending commitments excludes any exposures that are unconditionally cancellable by the Company. The loss estimate is recorded within other liabilities on the consolidated balance sheet. Changes to the liability for unfunded lending commitments are recorded through increases or decreases to the provision for credit losses on the consolidated statements of income.

Direct Financing and Sales Type Leases

The net investment in direct financing and sales type leases is included in loans on the Company's consolidated balance sheets and consists of the present values of the sum of the future minimum lease payments and estimated residual value of the leased asset. Revenue consists of interest earned on the net investment and is recognized over the lease term as a constant percentage return thereon.

Investments in Debt and Equity Securities

The majority of the Company's investment portfolio is comprised of debt securities that are classified as available for sale. From time to time, the Company sells securities and utilizes the proceeds to reduce borrowings, fund loan growth, or modify its interest rate profile. Securities classified as available for sale are carried at fair value. Changes in fair value are reported in other comprehensive income (loss), a component of stockholders' equity. Securities are periodically evaluated for credit losses in accordance with the guidance provided in Accounting Standards Codification (ASC) 326. Further discussion of this evaluation is provided in "*Allowance for Credit Losses on Available for Sale Debt Securities*" below. Gains and losses realized upon sales of securities are calculated using the specific identification method and are included in investment securities gains (losses), net, in the consolidated statements of income. Purchase premiums and discounts are amortized to interest income using a level yield method over the estimated lives of the securities. For certain callable debt securities purchased at a premium, the amortization is recorded to the earliest call date. For mortgage and asset-backed securities, prepayment experience is evaluated quarterly to determine if a change in a bond's estimated remaining life is necessary. A corresponding adjustment is then made in the related amortization of premium or discount accretion.

Accrued interest receivable on available for sale debt securities is reported in other assets on the consolidated balance sheet. The Company has elected the practical expedient to exclude the accrued interest from all required disclosures of amortized cost of debt securities. Additionally, an election was made not to measure an allowance for credit losses for accrued interest receivables. Interest accrued but not received is reversed against interest income.

Equity securities include common and preferred stock and are carried at fair value. Certain equity securities do not have readily determinable fair values. The Company has elected under ASU 2016-01 to measure these equity securities without a readily determinable fair value at cost minus impairment, if any, plus or minus changes resulting from observable price changes for the identical or similar investment of the same issuer. The Company has not recorded any impairment or other adjustments to the carrying amount of these equity securities without readily determinable fair values.

Other securities include the Company's investments in Federal Reserve Bank stock and Federal Home Loan Bank stock, equity method investments, and private equity investments. Federal Reserve Bank stock and Federal Home Loan Bank stock are held for debt and regulatory purposes, are carried at cost and are periodically evaluated for impairment. The Company's equity method investments are carried at cost, adjusted to reflect the Company's portion of income, loss, or dividends of the investee. The Company's private equity investments in portfolio concerns, consisting of both debt and equity instruments, are held by the Company's private equity subsidiary, which is a small business investment company licensed by the Small Business Administration. The Company's private equity investments are carried at fair value in accordance with investment company accounting guidance (ASC 946-10-15), with changes in fair value reported in current income. In the absence of readily ascertainable market values, fair value is estimated using internally developed methods. Changes in fair value which are recognized in current income and gains and losses from sales are included in investment securities gains (losses), net, in the consolidated statements of income.

Trading account securities, which are debt securities bought and held principally for the purpose of resale in the near term, are carried at fair value. Gains and losses, both realized and unrealized, are recorded in non-interest income.

Purchases and sales of securities are recognized on a trade date basis. A receivable or payable is recognized for transaction pending settlements.

Allowance for Credit Losses on Available for Sale Debt Securities

For available for sale debt securities in an unrealized loss position, the entire loss in fair value is required to be recognized in current earnings if the Company intends to sell the securities or believes it more likely than not that it will be required to sell the

security before the anticipated recovery. If neither condition is met, and the Company does not expect to recover the amortized cost basis, the Company determines whether the decline in fair value resulted from credit losses or other factors. If the assessment indicates that a credit loss exists, the present value of cash flows expected to be collected is compared to the amortized cost basis of the security. If the present value of cash flows expected to be collected is less than the amortized cost basis, a credit loss has occurred, and an allowance for credit losses is recorded. The allowance for credit losses is limited by the amount that the fair value is less than the amortized cost basis. Any impairment not recorded through the provision for credit losses is recognized in other comprehensive income.

Changes in the allowance for credit losses are recorded as a provision for (or reversal of) credit losses on the consolidated statements of income. Losses are charged against the allowance for credit losses on securities when management believes the uncollectibility of an available for sale security is confirmed or when either of the conditions regarding intent or requirement to sell is met.

Accrued interest receivable on available for sale debt securities is excluded from the estimate of credit losses.

Securities Purchased under Agreements to Resell and Securities Sold under Agreements to Repurchase

Securities purchased under agreements to resell and securities sold under agreements to repurchase are treated as collateralized financing transactions, not as purchases and sales of the underlying securities. The agreements are recorded at the amount of cash advanced or received.

The Company periodically enters into securities purchased under agreements to resell with large financial institutions. Securities pledged by the counterparties to secure these agreements are delivered to a third party custodian.

Securities sold under agreements to repurchase are a source of funding to the Company and are offered to cash management customers as an automated, collateralized investment account. From time to time, securities sold may also be used by the Bank to obtain additional borrowed funds at favorable rates. These borrowings are secured by a portion of the Company's investment security portfolio and delivered either to the dealer custody account at the Federal Reserve Bank or to the applicable counterparty.

The fair value of collateral either received from or provided to a counterparty is monitored daily, and additional collateral is obtained, returned, or provided by the Company in order to maintain full collateralization for these transactions.

As permitted by current accounting guidance, the Company offsets certain securities purchased under agreements to resell against securities sold under agreements to repurchase in its balance sheet presentation. These agreements are further discussed in Note 20, Resale and Repurchase Agreements.

Premises and Equipment

Land is stated at cost, and buildings and equipment are stated at cost, including capitalized interest when appropriate, less accumulated depreciation. Depreciation is computed using a straight-line method, utilizing estimated useful lives; generally 30 to 40 years for buildings, 10 years for building improvements, and 3 to 10 years for equipment. Leasehold improvements are amortized over the shorter of 10 years or the remaining lease term. Maintenance and repairs are charged to non-interest expense as incurred.

Also included in premises and equipment is construction in process, which represents facilities construction projects underway that have not yet been placed into service, as well as the Company's right-of-use leased assets, which are mainly comprised of operating leases for branches, office space, ATM locations, and certain equipment.

Foreclosed Assets

Foreclosed assets consist of property that has been repossessed and is comprised of commercial and residential real estate and other non-real estate property, including auto and recreational and marine vehicles. The assets are initially recorded at fair value less estimated selling costs, establishing a new cost basis. Initial valuation adjustments are charged to the allowance for credit losses. Fair values are estimated primarily based on appraisals, third-party price opinions, or internally developed pricing models. After initial recognition, fair value estimates are updated periodically. Declines in fair value below cost are recognized through valuation allowances which may be reversed when supported by future increases in fair value. These valuation adjustments, in addition to gains and losses realized on sales and net operating expenses, are recorded in other non-interest expense. Foreclosed assets are included in other assets on the consolidated balance sheets.

Goodwill and Intangible Assets

Goodwill and intangible assets that have indefinite useful lives, such as property easement intangible assets, are not amortized but are assessed for impairment on an annual basis or more frequently in certain circumstances. When testing for goodwill impairment, the Company may initially perform a qualitative assessment. Based on the results of this qualitative assessment, if the Company concludes it is more likely than not that a reporting unit's fair value is less than its carrying amount, a quantitative analysis is performed. Quantitative valuation methodologies include a combination of formulas using current market multiples, based on recent sales of financial institutions within the Company's geographic marketplace. If the fair value of a reporting unit is less than the carrying amount, an impairment has occurred and is measured as the amount by which the carrying amount exceeds the reporting unit's fair value. The Company has not recorded impairment resulting from goodwill impairment tests. However, adverse changes in the economic environment, operations of the reporting unit, or other factors could result in a decline in fair value.

Intangible assets that have finite useful lives, such as core deposit intangibles and mortgage servicing rights, are amortized over their estimated useful lives. Core deposit intangibles are generally amortized over periods of 8 to 14 years, representing their estimated lives, using accelerated methods. Mortgage servicing rights are amortized in proportion to and over the period of estimated net servicing income, considering appropriate prepayment assumptions. Core deposit intangibles are reviewed for impairment whenever events or changes in circumstances indicate their carrying amount may not be recoverable. Impairment is indicated if the sum of the undiscounted estimated future net cash flows is less than the carrying value of the intangible asset. Mortgage servicing rights, while initially recorded at fair value, are subsequently amortized and carried at the lower of the initial capitalized amount (net of accumulated amortization), or estimated fair value. The Company evaluates its mortgage servicing rights for impairment on a quarterly basis, using estimated prepayment speeds of the underlying mortgage loans serviced and stratifications based on the risk characteristics of the underlying loans. A valuation allowance has been established, through a charge to earnings, to the extent the amortized cost exceeds the estimated fair value. However, the Company has not recorded other-than-temporary impairment losses on its intangible assets.

Income Taxes

Amounts provided for income tax expense are based on income reported for financial statement purposes and do not necessarily represent amounts currently payable under tax laws. Deferred income taxes are provided for temporary differences between the financial reporting bases and income tax bases of the Company's assets and liabilities, net operating losses, and tax credit carryforwards. Deferred tax assets and liabilities are measured using the enacted tax rates that are expected to apply to taxable income when such assets and liabilities are anticipated to be settled or realized. The effect on deferred tax assets and liabilities of a change in tax rates is recognized as tax expense or benefit in the period that includes the enactment date of the change. In determining the amount of deferred tax assets to recognize in the financial statements, the Company evaluates the likelihood of realizing such benefits in future periods. A valuation allowance is established if it is more likely than not that all or some portion of the deferred tax asset will not be realized. The Company recognizes interest and penalties related to income taxes within income tax expense in the consolidated statements of income.

The Company and its eligible subsidiaries file a consolidated federal income tax return. State and local income tax returns are filed on a combined, consolidated or separate return basis based upon each jurisdiction's laws and regulations.

Additional information about current and deferred income taxes is provided in Note 9, Income Taxes.

Non-Interest Income

Non-interest income is mainly comprised of revenue from contracts with customers. For that revenue (excluding certain revenue associated with financial instruments, derivative and hedging instruments, guarantees, lease contracts, transferring and servicing of financial assets, and other specific revenue transactions), the Company applies the following five-step approach when recognizing revenue: (i) identify the contract with the customer, (ii) identify the performance obligations, (iii) determine the transaction price, (iv) allocate the transaction price to the performance obligations, and (v) recognize revenue when (or as) the performance obligation is satisfied. The Company's contracts with customers are generally short term in nature, with a duration of one year or less, and most contracts are cancellable by either the Company or its customer without penalty. Performance obligations for customer contracts are generally satisfied at a single point in time, typically when the transaction is complete and the customer has received the goods or service, or over time. For performance obligations satisfied over time, the Company recognizes the value of the goods or services transferred to the customer when the performance obligations have been transferred and received by the customer. Payments for satisfied performance obligations are typically due when or as the goods or services are completed, or shortly thereafter, which usually occurs within a single financial reporting period.

In situations where payment is made before the performance obligation is satisfied, the fees are deferred until the performance obligations pertaining to those goods or services are completed. In cases where payment has not been received despite satisfaction of its performance obligations, the Company accrues an estimate of the amount due in the period that the performance obligations have been satisfied. For contracts with variable components, the Company only recognizes revenue to the extent that it is probable that the cumulative amount recognized will not be subject to a significant reversal in future periods. Generally, the Company's contracts do not include terms that require significant judgment to determine whether a variable component is included within the transaction price. The Company generally acts in a principal capacity, on its own behalf, in most of its contracts with customers. For these transactions, revenue and the related costs to provide the goods or services are presented on a gross basis in the financial statements. In some cases, the Company acts in an agent capacity, deriving revenue through assisting third parties in transactions with the Company's customers. In such transactions, revenue and the related costs to provide services is presented on a net basis in the financial statements. These transactions primarily relate to fees earned from bank card and related network and rewards costs and the sales of annuities and certain limited insurance products.

Derivatives

Most of the Company's derivative contracts are accounted for as free-standing instruments. These instruments are carried at fair value, and changes in fair value are recognized in current earnings. They include interest rate swaps and caps, which are offered to customers to assist in managing their risks of adverse changes in interest rates. Each contract between the Company and a customer is offset by a contract between the Company and an institutional counterparty, thus minimizing the Company's exposure to rate changes. The Company also enters into certain contracts, known as credit risk participation agreements, to buy or sell credit protection on specific interest rate swaps. It also purchases and sells forward foreign exchange contracts, either in connection with customer transactions, or for its own trading purposes. Additionally, the Company originates and sells certain personal real estate mortgages. Derivative instruments under this program include mortgage loan commitments, forward loan sale contracts, and forward contracts to sell certain to-be-announced (TBA) securities.

The Company's interest rate risk management policy permits the use of hedge accounting for derivatives, and the Company has entered into interest rate floor contracts as protection from the potential for declining interest rates in the commercial loan portfolio. These floors were designated and qualified as cash flow hedges. In a cash flow hedge, the changes in fair value are recorded in accumulated other comprehensive income and recognized in the income statement when the hedged cash flows affect earnings. Both at hedge inception and on an ongoing basis, the Company assesses whether the interest rate floors used in the hedging relationships are highly effective in offsetting changes in the cash flows of the hedged items. From time to time, the Company has monetized its interest rate floors that had previously been designated and qualified as cash flow hedges. In such case, the monetized cash flow hedge is derecognized and the amounts recorded in accumulated other comprehensive income (AOCI) remain in AOCI until the underlying forecasted transaction impacts earnings, unless the forecasted transaction becomes probable of not occurring.

The Company has master netting arrangements with various counterparties but does not offset derivative assets and liabilities under these arrangements in its consolidated balance sheets. However, interest rate swaps that are executed under central clearing requirements are presented net of variation margin as mandated by the statutory terms of the Company's contract with its clearing counterparty.

Additional information about derivatives held by the Company and valuation methods employed is provided in Note 17, Fair Value Measurements and Note 19, Derivative Instruments.

Pension Plan

The Company's pension plan is described in Note 10, Employee Benefit Plans. In accordance with ASU 2017-07, the Company has reported the service cost component of net periodic pension cost in salaries and employee benefits in the accompanying consolidated statements of income, while the other components are reported in other non-interest expense. The funded status of the plan is recognized as an other asset or other liability in the consolidated balance sheets, and changes in that funded status are recognized in the year in which the changes occur through other comprehensive income. Plan assets and benefit obligations are measured as of the fiscal year end of the plan. The measurement of the projected benefit obligation and pension expense involve actuarial valuation methods and the use of various actuarial and economic assumptions. The Company monitors the assumptions and updates them periodically. Due to the long-term nature of the pension plan obligation, actual results may differ significantly from estimations. Such differences are adjusted over time as the assumptions are replaced by facts and values are recalculated.

Stock-Based Compensation

The Company's stock-based compensation plan is described in Note 11, Stock-Based Compensation and Directors Stock Purchase Plan. In accordance with the requirements of ASC 718-10-30-3 and 35-2, the Company measures the cost of stock-based compensation based on the grant-date fair value of the award, recognizing the cost over the requisite service period, which is generally the vesting period. The fair value of stock appreciation rights is estimated using the Black-Scholes option-pricing model while the fair value of a nonvested stock award is the common stock (CBSH) market price. The expense recognized for stock-based compensation is included in salaries and benefits in the accompanying consolidated statements of income. The Company recognizes forfeitures as a reduction to expense only when they have occurred.

Treasury Stock

Purchases of the Company's common stock are recorded at cost. Upon re-issuance for acquisitions, exercises of stock-based awards or other corporate purposes, treasury stock is reduced based upon the average cost basis of shares held.

Income per Share

Basic income per share is computed using the weighted average number of common shares outstanding during each year. Diluted income per share includes the effect of all dilutive potential common shares (primarily stock appreciation rights) outstanding during each year. The Company applies the two-class method of computing income per share. The two-class method is an earnings allocation formula that determines income per share for common stock and for participating securities, according to dividends declared and participation rights in undistributed earnings. The Company's nonvested stock awards are considered to be a class of participating security. All per share data has been restated to reflect the 5% stock dividend distributed in December 2022.

2. Loans and Allowance for Credit Losses

Major classifications within the Company's held for investment loan portfolio at December 31, 2022 and 2021 are as follows:

<i>(In thousands)</i>	2022	2021
Commercial:		
Business	\$ 5,661,725	\$ 5,303,535
Real estate — construction and land	1,361,095	1,118,266
Real estate — business	3,406,981	3,058,837
Personal Banking:		
Real estate — personal	2,918,078	2,805,401
Consumer	2,059,088	2,032,225
Revolving home equity	297,207	275,945
Consumer credit card	584,000	575,410
Overdrafts	14,957	6,740
Total loans ⁽¹⁾	\$ 16,303,131	\$ 15,176,359

(1) Accrued interest receivable totaled \$55.5 million and \$25.9 million at December 31, 2022 and 2021, respectively, and was included within other assets on the consolidated balance sheet. For the year ended December 31, 2022, the Company wrote-off accrued interest by reversing interest income of \$145 thousand and \$3.2 million in the Commercial and Personal Banking portfolios, respectively.

Loans to directors and executive officers of the Parent and the Bank, and to their affiliates, are summarized as follows:

<i>(In thousands)</i>	
Balance at January 1, 2022	\$ 36,141
Additions	16,999
Amounts collected	(15,372)
Amounts written off	—
Balance, December 31, 2022	\$ 37,768

Management believes all loans to directors and executive officers have been made in the ordinary course of business with normal credit terms, including interest rate and collateral considerations, and do not represent more than a normal risk of collection. The activity in the table above includes draws and repayments on several lines of credit with business entities. There were no outstanding loans at December 31, 2022 to principal holders (over 10% ownership) of the Company's common stock.

The Company's lending activity is generally centered in Missouri, Kansas, Illinois and other nearby states including Oklahoma, Colorado, Iowa, Ohio, and Texas. The Company maintains a diversified portfolio with limited industry concentrations of credit risk. Loans and loan commitments are extended under the Company's normal credit standards, controls, and monitoring procedures. Most loan commitments are short or intermediate term in nature. Commercial loan maturities generally range from one to seven years. Collateral is commonly required and would include such assets as marketable securities, cash equivalent assets, accounts receivable, inventory, equipment, other forms of personal property, and real estate. At December 31, 2022, unfunded loan commitments totaled \$14.3 billion (which included \$5.2 billion in unused approved lines of credit related to credit card loan agreements) which could be drawn by customers subject to certain review and terms of agreement. At December 31, 2022, loans totaling \$3.0 billion were pledged at the FHLB as collateral for borrowings and letters of credit obtained to secure public deposits. Additional loans of \$1.3 billion were pledged at the Federal Reserve Bank as collateral for discount window borrowings.

The Company has a net investment in direct financing and sales type leases to commercial and industrial and tax-exempt entities of \$779.9 million and \$725.6 million at December 31, 2022 and 2021, respectively, which is included in business loans on the Company's consolidated balance sheets. This investment includes deferred income of \$73.2 million and \$55.0 million at December 31, 2022 and 2021, respectively.

Allowance for credit losses

The allowance for credit losses is measured using an average historical loss model which incorporates relevant information about past events (including historical credit loss experience on loans with similar risk characteristics), current conditions, and reasonable and supportable forecasts that affect the collectability of the remaining cash flows over the contractual term of the loans. The allowance for credit losses is measured on a collective (pool) basis. Loans are aggregated into pools based on similar risk characteristics including borrower type, collateral type and expected credit loss patterns. Loans that do not share similar risk characteristics, primarily large loans on non-accrual status, are evaluated on an individual basis.

For loans evaluated for credit losses on a collective basis, average historical loss rates are calculated for each pool using the Company's historical net charge-offs (combined charge-offs and recoveries by observable historical reporting period) and outstanding loan balances during a lookback period. Lookback periods can be different based on the individual pool and represent management's credit expectations for the pool of loans over the remaining contractual life. In certain loan pools, if the Company's own historical loss rate is not reflective of the loss expectations, the historical loss rate is augmented by industry and peer data. The calculated average net charge-off rate is then adjusted for current conditions and reasonable and supportable forecasts. These adjustments increase or decrease the average historical loss rate to reflect expectations of future losses given a single path economic forecast of key macroeconomic variables including GDP, disposable income, unemployment rate, various interest rates, consumer price index (CPI) inflation rate, housing price index (HPI), commercial real estate price index (CREPI) and market volatility. The adjustments are based on results from various regression models projecting the impact of the macroeconomic variables to loss rates. The forecast is used for a reasonable and supportable period before reverting back to historical averages using a straight-line method. The forecast adjusted loss rate is applied to the amortized cost of loans over the remaining contractual lives, adjusted for expected prepayments. The contractual term excludes expected extensions (except for contractual extensions at the option of the customer), renewals and modifications unless there is a reasonable expectation that a troubled debt restructuring will be executed. Credit cards and certain similar consumer lines of credit do not have stated maturities and therefore, for these loan classes, remaining contractual lives are determined by estimating future cash flows expected to be received from customers until payments have been fully allocated to outstanding balances. Additionally, the allowance for credit losses considers other qualitative factors not included in historical loss rates or macroeconomic forecast such as changes in portfolio composition, underwriting practices, or significant unique events or conditions.

Key assumptions in the Company’s allowance for credit loss model include the economic forecast, the reasonable and supportable period, forecasted macro-economic variables, prepayment assumptions and qualitative factors applied for portfolio composition changes, underwriting practices, or significant unique events or conditions. The assumptions utilized in estimating the Company’s allowance for credit losses at December 31, 2022 and 2021 are discussed below.

Key Assumption	December 31, 2022	December 31, 2021
Overall economic forecast	<ul style="list-style-type: none"> Continued high inflation and higher cost of borrowing create a mild recession in 2023 with stalled job growth and possible job losses Assumes interest rates hikes will taper 	<ul style="list-style-type: none"> Continued recovery from the Global Coronavirus Recession (GCR) Assumes improving health conditions Assumes gradual easing of supply constraints Continued uncertainty regarding the health crisis Uncertainty regarding rising inflation
Reasonable and supportable period and related reversion period	<ul style="list-style-type: none"> Reasonable and supportable period of one year Reversion to historical average loss rates within two quarters using a straight-line method 	<ul style="list-style-type: none"> Reasonable and supportable period of one year Reversion to historical average loss rates within two quarters using a straight-line method
Forecasted macro-economic variables	<ul style="list-style-type: none"> Unemployment rate ranging from 3.8% to 4.7% during the reasonable and supportable forecast period Real GDP growth ranging from (.9)% to 1.3% Prime rate from 7.6% to 7.7% BBB corporate yield from 5.1% to 5.8% 	<ul style="list-style-type: none"> Unemployment rate ranging from 4.1% to 3.7% during the reasonable and supportable forecast period Real GDP growth ranges from 5.0% to 3.4% Prime rate of 3.25% through the second quarter of 2022, increasing to 3.5% by the end of 2022
Prepayment assumptions	<p>Commercial loans</p> <ul style="list-style-type: none"> 5% for most loan pools <p>Personal banking loans</p> <ul style="list-style-type: none"> Ranging from 8.3% to 24.8% for most loan pools 67.9% for consumer credit cards 	<p>Commercial loans</p> <ul style="list-style-type: none"> 5% for most loan pools <p>Personal banking loans</p> <ul style="list-style-type: none"> Ranging from 28.0% to 16.5% for most loan pools 64.1% for consumer credit cards
Qualitative factors	<p>Added qualitative factors related to:</p> <ul style="list-style-type: none"> Certain portfolios sensitive to pandemic economic uncertainties Changes in the composition of the loan portfolios Uncertainty related to unusually high rate of inflation and supply chain issues Loans downgraded to special mention, substandard, or non-accrual status 	<p>Added net reserves using qualitative processes related to:</p> <ul style="list-style-type: none"> Loans originated in our expansion markets, loans that are designated as shared national credits, and certain portfolios sensitive to pandemic economic uncertainties Changes in the composition of the loan portfolios Loans downgraded to special mention, substandard, or non-accrual status

The liability for unfunded lending commitments utilizes the same model as the allowance for credit losses on loans, however, the liability for unfunded lending commitments incorporates an assumption for the portion of unfunded commitments that are expected to be funded.

Sensitivity in the Allowance for Credit Loss model

The allowance for credit losses is an estimate that requires significant judgment including projections of the macro-economic environment. The forecasted macro-economic environment continuously changes which can cause fluctuations in estimated expected credit losses.

The current forecast continues to reflect a mild recession in 2023 due to high inflation, higher interest rates, and a weaker job market. The impacts of the stressed geopolitical environment, trends in health conditions, and market responses to the usually high inflation could significantly modify economic projections used in the estimation of the allowance for credit losses and liability for unfunded lending commitments.

A summary of the activity in the allowance for credit losses on loans and the liability for unfunded lending commitments during the years ended December 31, 2022 and 2021 follows:

<i>(In thousands)</i>	For the Year Ended December 31		
	Commercial	Personal Banking	Total
ALLOWANCE FOR CREDIT LOSSES ON LOANS			
Balance December 31, 2021	\$ 97,776	\$ 52,268	\$ 150,044
Provision for credit losses on loans	6,550	12,605	19,155
Deductions:			
Loans charged off	1,480	27,762	29,242
Less recoveries on loans	447	9,732	10,179
Net loan charge-offs	1,033	18,030	19,063
Balance December 31, 2022	\$ 103,293	\$ 46,843	\$ 150,136
LIABILITY FOR UNFUNDED LENDING COMMITMENTS			
Balance December 31, 2021	\$ 23,271	\$ 933	\$ 24,204
Provision for credit losses on unfunded lending commitments	8,472	444	8,916
Balance December 31, 2022	\$ 31,743	\$ 1,377	\$ 33,120
ALLOWANCE FOR CREDIT LOSSES ON LOANS AND LIABILITY FOR UNFUNDED LENDING COMMITMENTS	\$ 135,036	\$ 48,220	\$ 183,256
ALLOWANCE FOR CREDIT LOSSES ON LOANS			
Balance at December 31, 2020	121,549	99,285	220,834
Provision for credit losses on loans	(28,594)	(23,629)	(52,223)
Deductions:			
Loans charged off	968	34,659	35,627
Less recoveries on loans	5,789	11,271	17,060
Net loan charge-offs (recoveries)	(4,821)	23,388	18,567
Balance December 31, 2021	\$ 97,776	\$ 52,268	\$ 150,044
LIABILITY FOR UNFUNDED LENDING COMMITMENTS			
Balance at December 31, 2020	37,259	1,048	38,307
Provision for credit losses on unfunded lending commitments	(13,988)	(115)	(14,103)
Balance December 31, 2021	\$ 23,271	\$ 933	\$ 24,204
ALLOWANCE FOR CREDIT LOSSES ON LOANS AND UNFUNDED LENDING COMMITMENTS	\$ 121,047	\$ 53,201	\$ 174,248

Delinquent and non-accrual loans

The Company considers loans past due on the day following the contractual repayment date, if the contractual repayment was not received by the Company as of the end of the business day. The following table provides aging information on the Company's past due and accruing loans, in addition to the balances of loans on non-accrual status, at December 31, 2022 and 2021.

<i>(In thousands)</i>	Current or Less Than 30 Days Past Due	30 – 89 Days Past Due	90 Days Past Due and Still Accruing	Non-accrual	Total
December 31, 2022					
Commercial:					
Business	\$ 5,652,710	\$ 1,759	\$ 505	\$ 6,751	\$ 5,661,725
Real estate – construction and land	1,361,095	—	—	—	1,361,095
Real estate – business	3,406,207	585	—	189	3,406,981
Personal Banking:					
Real estate – personal	2,895,742	14,289	6,681	1,366	2,918,078
Consumer	2,031,827	25,089	2,172	—	2,059,088
Revolving home equity	295,303	1,201	703	—	297,207
Consumer credit card	572,213	6,238	5,549	—	584,000
Overdrafts	14,090	647	220	—	14,957
Total	\$ 16,229,187	\$ 49,808	\$ 15,830	\$ 8,306	\$ 16,303,131
December 31, 2021					
Commercial:					
Business	\$ 5,292,125	\$ 3,621	\$ 477	\$ 7,312	\$ 5,303,535
Real estate – construction and land	1,117,434	832	—	—	1,118,266
Real estate – business	3,058,566	57	—	214	3,058,837
Personal Banking:					
Real estate – personal	2,796,662	4,125	2,983	1,631	2,805,401
Consumer	2,005,556	24,458	2,211	—	2,032,225
Revolving home equity	274,372	772	801	—	275,945
Consumer credit card	565,335	4,821	5,254	—	575,410
Overdrafts	6,425	315	—	—	6,740
Total	\$ 15,116,475	\$ 39,001	\$ 11,726	\$ 9,157	\$ 15,176,359

At December 31, 2022 and 2021, the Company had \$3.8 million and \$5.3 million, respectively, of non-accrual business loans that had no allowance for credit loss. The Company did not record any interest income on non-accrual loans during the years ended December 31, 2022 and 2021.

Credit quality indicators

The following table provides information about the credit quality of the Commercial loan portfolio. The Company utilizes an internal risk rating system comprised of a series of grades to categorize loans according to perceived risk associated with the expectation of debt repayment based on borrower specific information, including but not limited to, current financial information, historical payment experience, industry information, collateral levels and collateral types. The “pass” category consists of a range of loan grades that reflect increasing, though still acceptable, risk. A loan is assigned the risk rating at origination and then monitored throughout the contractual term for possible risk rating changes. Movement of risk through the various grade levels in the “pass” category is monitored for early identification of credit deterioration. The “special mention” rating is applied to loans where the borrower exhibits negative financial trends due to borrower specific or systemic conditions that, if left uncorrected, threaten its capacity to meet its debt obligations. The borrower is believed to have sufficient financial flexibility to react to and resolve its negative financial situation. It is a transitional grade that is closely monitored for improvement or deterioration. The “substandard” rating is applied to loans where the borrower exhibits well-defined weaknesses that jeopardize its continued performance and are of a severity that the distinct possibility of default exists. Loans are placed on “non-accrual” when management does not expect to collect payments consistent with acceptable and agreed upon terms of repayment.

All loans are analyzed for risk rating updates annually. For larger loans, rating assessments may be more frequent if relevant information is obtained earlier through debt covenant monitoring or overall relationship management. Smaller loans are monitored as identified by the loan officer based on the risk profile of the individual borrower or if the loan becomes past due related to credit issues. Loans rated Special Mention, Substandard or Non-accrual are subject to quarterly review and monitoring processes. In addition to the regular monitoring performed by the lending personnel and credit committees, loans are subject to review by a credit review department which verifies the appropriateness of the risk ratings for the loans chosen as part of its risk-based review plan.

The risk category of loans in the Commercial portfolio as of December 31, 2022 and 2021 are as follows:

<i>(In thousands)</i>	Term Loans Amortized Cost Basis by Origination Year						Revolving Loans Amortized Cost Basis	Total
	2022	2021	2020	2019	2018	Prior		
December 31, 2022								
Business								
Risk Rating:								
Pass	\$ 1,456,476	\$ 782,409	\$ 464,201	\$ 360,844	\$ 180,375	\$ 219,053	\$ 2,146,380	\$ 5,609,738
Special mention	3,113	2,548	7,757	1,063	67	—	1,319	15,867
Substandard	5,752	10,004	685	37	810	10,342	1,739	29,369
Non-accrual	195	1,987	—	1	792	3,776	—	6,751
Total Business:	\$ 1,465,536	\$ 796,948	\$ 472,643	\$ 361,945	\$ 182,044	\$ 233,171	\$ 2,149,438	\$ 5,661,725
Real estate-construction								
Risk Rating:								
Pass	\$ 538,022	\$ 596,465	\$ 129,632	\$ 27,331	\$ 1,305	\$ 2,029	\$ 18,559	\$ 1,313,343
Special mention	352	—	—	—	—	—	—	352
Substandard	—	19,494	—	—	14,766	13,140	—	47,400
Total Real estate-construction:	\$ 538,374	\$ 615,959	\$ 129,632	\$ 27,331	\$ 16,071	\$ 15,169	\$ 18,559	\$ 1,361,095
Real estate- business								
Risk Rating:								
Pass	\$ 1,085,379	\$ 616,516	\$ 555,648	\$ 424,641	\$ 163,628	\$ 271,579	\$ 90,799	\$ 3,208,190
Special mention	4,608	—	618	9,737	976	279	—	16,218
Substandard	2,795	30,944	61,141	10,490	30,782	46,232	—	182,384
Non-accrual	14	45	—	—	124	6	—	189
Total Real-estate business:	\$ 1,092,796	\$ 647,505	\$ 617,407	\$ 444,868	\$ 195,510	\$ 318,096	\$ 90,799	\$ 3,406,981
Commercial loans								
Risk Rating:								
Pass	\$ 3,079,877	\$ 1,995,390	\$ 1,149,481	\$ 812,816	\$ 345,308	\$ 492,661	\$ 2,255,738	\$ 10,131,271
Special mention	8,073	2,548	8,375	10,800	1,043	279	1,319	32,437
Substandard	8,547	60,442	61,826	10,527	46,358	69,714	1,739	259,153
Non-accrual	209	2,032	—	1	916	3,782	—	6,940
Total Commercial loans:	\$ 3,096,706	\$ 2,060,412	\$ 1,219,682	\$ 834,144	\$ 393,625	\$ 566,436	\$ 2,258,796	\$ 10,429,801

<i>(In thousands)</i>	Term Loans Amortized Cost Basis by Origination Year						Revolving Loans Amortized Cost Basis	Total
	2021	2020	2019	2018	2017	Prior		
December 31, 2021								
Business								
Risk Rating:								
Pass	\$ 1,473,869	\$ 704,157	\$ 554,759	\$ 248,739	\$ 159,238	\$ 270,454	\$ 1,795,073	\$ 5,206,289
Special mention	1,785	126	17,576	12,050	1,490	3,232	16,545	52,804
Substandard	836	1,191	8,855	4,936	1	10,775	10,536	37,130
Non-accrual	430	—	1	1,549	—	5,332	—	7,312
Total Business:	\$ 1,476,920	\$ 705,474	\$ 581,191	\$ 267,274	\$ 160,729	\$ 289,793	\$ 1,822,154	\$ 5,303,535
Real estate-construction								
Risk Rating:								
Pass	\$ 598,734	\$ 346,507	\$ 66,985	\$ 2,110	\$ 2,655	\$ 2,252	\$ 13,230	\$ 1,032,473
Special mention	44,649	—	—	985	—	—	—	45,634
Substandard	485	11,620	—	14,896	13,158	—	—	40,159
Total Real estate-construction:	\$ 643,868	\$ 358,127	\$ 66,985	\$ 17,991	\$ 15,813	\$ 2,252	\$ 13,230	\$ 1,118,266
Real estate- business								
Risk Rating:								
Pass	\$ 775,561	\$ 712,173	\$ 551,697	\$ 230,138	\$ 170,888	\$ 254,489	\$ 76,641	\$ 2,771,587
Special mention	4,011	30,322	10,500	37,576	2,068	2,103	1	86,581
Substandard	17,079	62,939	12,930	2,326	58,934	45,265	982	200,455
Non-accrual	—	—	—	189	—	25	—	214
Total Real-estate business:	\$ 796,651	\$ 805,434	\$ 575,127	\$ 270,229	\$ 231,890	\$ 301,882	\$ 77,624	\$ 3,058,837
Commercial loans								
Risk Rating:								
Pass	\$ 2,848,164	\$ 1,762,837	\$ 1,173,441	\$ 480,987	\$ 332,781	\$ 527,195	\$ 1,884,944	\$ 9,010,349
Special mention	50,445	30,448	28,076	50,611	3,558	5,335	16,546	185,019
Substandard	18,400	75,750	21,785	22,158	72,093	56,040	11,518	277,744
Non-accrual	430	—	1	1,738	—	5,357	—	7,526
Total Commercial loans:	\$ 2,917,439	\$ 1,869,035	\$ 1,223,303	\$ 555,494	\$ 408,432	\$ 593,927	\$ 1,913,008	\$ 9,480,638

The credit quality of Personal Banking loans is monitored primarily on the basis of aging/delinquency, and this information is provided as of December 31, 2022 and 2021 below:

<i>(In thousands)</i>	Term Loans Amortized Cost Basis by Origination Year						Revolving Loans Amortized Cost Basis	Total
	2022	2021	2020	2019	2018	Prior		
December 31, 2022								
Real estate-personal								
Current to 90 days past due	\$ 535,283	\$ 589,658	\$ 783,651	\$ 290,580	\$ 132,305	\$ 568,380	\$ 10,174	\$ 2,910,031
Over 90 days past due	514	967	1,338	81	1,388	2,393	—	6,681
Non-accrual	—	—	52	169	102	1,043	—	1,366
Total Real estate-personal:	\$ 535,797	\$ 590,625	\$ 785,041	\$ 290,830	\$ 133,795	\$ 571,816	\$ 10,174	\$ 2,918,078
Consumer								
Current to 90 days past due	\$ 536,429	\$ 378,118	\$ 205,849	\$ 106,733	\$ 36,096	\$ 62,255	\$ 731,436	\$ 2,056,916
Over 90 days past due	326	251	203	58	267	228	839	2,172
Total Consumer:	\$ 536,755	\$ 378,369	\$ 206,052	\$ 106,791	\$ 36,363	\$ 62,483	\$ 732,275	\$ 2,059,088
Revolving home equity								
Current to 90 days past due	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 296,504	\$ 296,504
Over 90 days past due	—	—	—	—	—	—	703	703
Total Revolving home equity:	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 297,207	\$ 297,207
Consumer credit card								
Current to 90 days past due	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 578,451	\$ 578,451
Over 90 days past due	—	—	—	—	—	—	5,549	5,549
Total Consumer credit card:	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 584,000	\$ 584,000
Overdrafts								
Current to 90 days past due	\$ 14,737	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 14,737
Over 90 days past due	220	—	—	—	—	—	—	220
Total Overdrafts:	\$ 14,957	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 14,957
Personal banking loans								
Current to 90 days past due	\$ 1,086,449	\$ 967,776	\$ 989,500	\$ 397,313	\$ 168,401	\$ 630,635	\$ 1,616,565	\$ 5,856,639
Over 90 days past due	1,060	1,218	1,541	139	1,655	2,621	7,091	15,325
Non-accrual	—	—	52	169	102	1,043	—	1,366
Total Personal banking loans:	\$ 1,087,509	\$ 968,994	\$ 991,093	\$ 397,621	\$ 170,158	\$ 634,299	\$ 1,623,656	\$ 5,873,330

Term Loans Amortized Cost Basis by Origination Year

<i>(In thousands)</i>	2021	2020	2019	2018	2017	Prior	Revolving Loans Amortized Cost Basis	Total
December 31, 2021								
Real estate-personal								
Current to 90 days past due	\$ 690,058	\$ 888,631	\$ 354,292	\$ 157,485	\$ 149,391	\$ 551,460	\$ 9,470	\$ 2,800,787
Over 90 days past due	133	1,150	298	124	97	1,181	—	2,983
Non-accrual	115	—	251	109	—	1,156	—	1,631
Total Real estate-personal:	\$ 690,306	\$ 889,781	\$ 354,841	\$ 157,718	\$ 149,488	\$ 553,797	\$ 9,470	\$ 2,805,401
Consumer								
Current to 90 days past due	\$ 571,455	\$ 348,774	\$ 192,076	\$ 79,887	\$ 47,401	\$ 78,088	\$ 712,333	\$ 2,030,014
Over 90 days past due	283	335	257	250	74	351	661	2,211
Total Consumer:	\$ 571,738	\$ 349,109	\$ 192,333	\$ 80,137	\$ 47,475	\$ 78,439	\$ 712,994	\$ 2,032,225
Revolving home equity								
Current to 90 days past due	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 275,144	\$ 275,144
Over 90 days past due	—	—	—	—	—	—	801	801
Total Revolving home equity:	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 275,945	\$ 275,945
Consumer credit card								
Current to 90 days past due	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 570,156	\$ 570,156
Over 90 days past due	—	—	—	—	—	—	5,254	5,254
Total Consumer credit card:	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 575,410	\$ 575,410
Overdrafts								
Current to 90 days past due	\$ 6,740	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 6,740
Total Overdrafts:	\$ 6,740	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —	\$ 6,740
Personal banking loans								
Current to 90 days past due	\$ 1,268,253	\$ 1,237,405	\$ 546,368	\$ 237,372	\$ 196,792	\$ 629,548	\$ 1,567,103	\$ 5,682,841
Over 90 days past due	416	1,485	555	374	171	1,532	6,716	11,249
Non-accrual	115	—	251	109	—	1,156	—	1,631
Total Personal banking loans:	\$ 1,268,784	\$ 1,238,890	\$ 547,174	\$ 237,855	\$ 196,963	\$ 632,236	\$ 1,573,819	\$ 5,695,721

Collateral-dependent loans

The Company's collateral-dependent loans are comprised of large loans on non-accrual status. The Company requires that collateral-dependent loans are either over-collateralized or carry collateral equal to the amortized cost of the loan. The following table presents the amortized cost basis of collateral-dependent loans as of December 31, 2022 and 2021.

<i>(In thousands)</i>	December 31, 2022			December 31, 2021		
	Business Assets	Oil & Gas Assets	Total	Business Assets	Oil & Gas Assets	Total
Commercial:						
Business	\$ 2,778	\$ 1,824	\$ 4,602	\$ 1,604	\$ 2,459	\$ 4,063
Total	\$ 2,778	\$ 1,824	\$ 4,602	\$ 1,604	\$ 2,459	\$ 4,063

Other Personal Banking loan information

As noted above, the credit quality of Personal Banking loans is monitored primarily on the basis of aging/delinquency, and this information is provided in the table in the above section on "Credit quality indicators." In addition, FICO scores are obtained and updated on a quarterly basis for most of the loans in the Personal Banking portfolio. This is a published credit score designed to measure the risk of default by taking into account various factors from a borrower's financial history and is considered supplementary information utilized by the Company, as management does not consider this information in evaluating the allowance for credit losses on loans. The Bank normally obtains a FICO score at the loan's origination and renewal dates, and updates are obtained on a quarterly basis. Excluded from the table below are certain personal real estate loans for which FICO scores are not obtained because the loans generally pertain to commercial customer activities and are often underwritten with other collateral considerations. These loans totaled \$179.2 million at December 31, 2022 and \$185.6 million at December 31, 2021. The table also excludes consumer loans related to the Company's patient healthcare loan program, which totaled \$197.5 million at December 31, 2022 and \$186.6 million at December 31, 2021. As the healthcare loans are guaranteed by the hospital, customer FICO scores are not obtained for these loans. The personal real estate loans and

consumer loans excluded below totaled less than 7% of the Personal Banking portfolio. For the remainder of loans in the Personal Banking portfolio, the table below shows the percentage of balances outstanding at December 31, 2022 and 2021 by FICO score.

	Personal Banking Loans			
	% of Loan Category			
	Real Estate - Personal	Consumer	Revolving Home Equity	Consumer Credit Card
December 31, 2022				
FICO score:				
Under 600	1.4 %	2.2 %	1.5 %	3.4 %
600 – 659	2.2	4.2	2.8	11.4
660 – 719	8.1	14.5	9.7	30.8
720 – 779	23.7	26.7	21.4	27.1
780 and over	64.6	52.4	64.6	27.3
Total	100.0 %	100.0 %	100.0 %	100.0 %
December 31, 2021				
FICO score:				
Under 600	1.0 %	1.9 %	0.9 %	3.4 %
600 – 659	2.4	3.9	2.6	11.3
660 – 719	7.4	13.8	9.4	29.9
720 – 779	25.2	25.3	20.4	28.2
780 and over	64.0	55.1	66.7	27.2
Total	100.0 %	100.0 %	100.0 %	100.0 %

Troubled debt restructurings

Restructured loans are those extended to borrowers who are experiencing financial difficulty and who have been granted a concession. Restructured loans are placed on non-accrual status if the Company does not believe it probable that amounts due under the contractual terms will be collected. Commercial performing restructured loans are primarily comprised of certain business, construction and business real estate loans classified as substandard, but renewed at rates judged to be non-market. These loans are performing in accordance with their modified terms, and because the Company believes it probable that all amounts due under the modified terms of the agreements will be collected, interest on these loans is being recognized on an accrual basis. Troubled debt restructurings also include certain credit card and other small consumer loans under various debt management and assistance programs. Modifications to these loans generally involve removing the available line of credit, placing loans on amortizing status, and lowering the contractual interest rate. Certain personal real estate, revolving home equity, and consumer loans were classified as consumer bankruptcy troubled debt restructurings because they were not reaffirmed by the borrower in bankruptcy proceedings. Interest on these loans is being recognized on an accrual basis, as the borrowers are continuing to make payments. Other consumer loans classified as troubled debt restructurings consist of various other workout arrangements with consumer customers.

Section 4013 of the CARES Act was signed into law on March 27, 2020, and includes a provision that short-term modifications are not troubled debt restructurings, if made on a good-faith basis in response to COVID-19 to borrowers who were current prior to December 31, 2019. The Company elected such option under the CARES Act when determining if a customer's modification is subject to troubled debt restructuring classification. If it is deemed the modification is not short-term, not COVID-19 related or the customer does not meet the criteria under the guidance to be scoped out of troubled debt restructuring classification, the Company will evaluate the loan modifications under its existing framework and account for the modification as a troubled debt restructuring.

The initial guidance issued under the CARES Act was due to expire on December 31, 2020. During January 2021, the Consolidated Appropriations Act, 2021 was enacted and extended relief offered under the CARES Act related to the accounting and disclosure requirements for troubled debt restructurings as a result of COVID-19. The Company elected to extend its application of this guidance through December 31, 2021.

The table below shows the balances of troubled debt restructurings by accrual status at December 31, 2022 and 2021.

<i>(In thousands)</i>	December 31	
	2022	2021
Accruing loans:		
Commercial	\$ 184,388	\$ 46,867
Assistance programs	5,156	6,146
Other consumer	4,049	4,787
Non-accrual loans	5,078	7,087
Total troubled debt restructurings	\$ 198,671	\$ 64,887

The table below shows the balance of troubled debt restructurings by loan classification at December 31, 2022, in addition to the outstanding balances of these restructured loans which the Company considers to have been in default at any time during the past twelve months. For purposes of this disclosure, the Company considers "default" to mean 90 days or more past due as to interest or principal.

<i>(In thousands)</i>	December 31, 2022	Balance 90 days past due at any time during previous 12 months
Commercial:		
Business	\$ 12,311	\$ —
Real estate – construction and land	57,547	—
Real estate – business	118,654	—
Personal Banking:		
Real estate – personal	2,809	419
Consumer	2,250	268
Revolving home equity	17	—
Consumer credit card	5,083	452
Total troubled debt restructurings	\$ 198,671	\$ 1,139

For those loans on non-accrual status also classified as restructured, the modification did not create any further financial effect on the Company as those loans were already recorded at net realizable value. For those performing commercial loans classified as restructured, there were no concessions involving forgiveness of principal or interest and, therefore, there was no financial impact to the Company as a result of modification to these loans. However, the effects of modifications to loans under various debt management and assistance programs were estimated to decrease interest income by approximately \$661 thousand on an annual, pre-tax basis, compared to amounts contractually owed. Performing consumer loans where the debt was not reaffirmed in bankruptcy did not result in a concession, as no changes to loan terms occurred in that process. Other modifications to consumer loans mainly involve extensions and other small modifications that did not include the forgiveness of principal or interest.

The allowance for credit losses related to troubled debt restructurings on non-accrual status is determined by individual evaluation, including collateral adequacy, using the same process as loans on non-accrual status which are not classified as troubled debt restructurings. Those performing loans classified as troubled debt restructurings are accruing loans which management expects to collect under contractual terms. Performing commercial loans having no other concessions granted other than being renewed at non-market interest rates are judged to have similar risk characteristics as non-troubled debt commercial loans and are collectively evaluated based on internal risk rating, loan type, delinquency, historical experience and current economic factors. Performing personal banking loans classified as troubled debt restructurings resulted from the borrower not reaffirming the debt during bankruptcy and have had no other concession granted, other than the Bank's future limitations on collecting payment deficiencies or in pursuing foreclosure actions. As such, they have similar risk characteristics as non-troubled debt personal banking loans and are evaluated collectively based on loan type, delinquency, historical experience and current economic factors.

If a troubled debt restructuring defaults and is already on non-accrual status, the allowance for credit losses continues to be based on individual evaluation, using discounted expected cash flows or the fair value of collateral. If an accruing, troubled debt restructuring defaults, the loan's risk rating is downgraded to non-accrual status and the loan's related allowance for credit losses is determined based on individual evaluation, or if necessary, the loan is charged off and collection efforts begin.

The Company had \$12.6 million commitments at December 31, 2022 to lend additional funds to borrowers with restructured loans, compared to no commitments at December 31, 2021.

Loans held for sale

The Company designates certain long-term fixed rate personal real estate loans as held for sale, and the Company has elected the fair value option for these loans. The election of the fair value option aligns the accounting for these loans with the related economic hedges discussed in Note 19. The loans are primarily sold to FNMA and FHLMC. At December 31, 2022, there was no personal real estate loans held for sale.

The Company also designates certain student loan originations as held for sale. The borrowers are credit-worthy students who are attending colleges and universities. The loans are intended to be sold in the secondary market, and the Company maintains contracts with Sallie Mae to sell the loans within 210 days after the last disbursement to the student. These loans are carried at lower of cost or fair value, which at December 31, 2022 totaled \$4.9 million.

At December 31, 2022, none of the loans held for sale were on non-accrual status or 90 days past due and still accruing.

Foreclosed real estate/repossessed assets

The Company's holdings of foreclosed real estate totaled \$96 thousand and \$115 thousand at December 31, 2022 and 2021, respectively. Personal property acquired in repossession, generally autos, marine and recreational vehicles (RV), totaled \$1.6 million and \$1.1 million at December 31, 2022 and 2021, respectively. Upon acquisition, these assets are recorded at fair value less estimated selling costs at the date of foreclosure, establishing a new cost basis. They are subsequently carried at the lower of this cost basis or fair value less estimated selling costs.

3. Investment Securities

Investment securities consisted of the following at December 31, 2022 and 2021:

<i>(In thousands)</i>	2022	2021
Available for sale debt securities	\$ 12,238,316	\$ 14,450,027
Trading debt securities	43,523	46,235
Equity securities:		
Readily determinable fair value	6,210	7,153
No readily determinable fair value	6,094	2,049
Other:		
Federal Reserve Bank stock	34,795	34,379
Federal Home Loan Bank stock	10,678	10,428
Equity method investments	1,434	1,834
Private equity investments	178,127	147,406
Total investment securities ⁽¹⁾	\$ 12,519,177	\$ 14,699,511

(1) Accrued interest receivable totaled \$38.8 million and \$39.5 million at December 31, 2022 and December 31, 2021, respectively, and was included within other assets on the consolidated balance sheet.

The Company has elected to measure equity securities with no readily determinable fair value at cost minus impairment, if any, plus or minus changes resulting from observable price changes for the identical or similar investment of the same issuer. This portfolio includes the Company's holdings of Visa Class B shares, which have a carrying value of zero, as there have not been observable price changes in orderly transactions for identical or similar investments of the same issuer. During the year-ended December 31, 2022, the Company did not record any impairment or significant other adjustments to the carrying amount of its portfolio of equity securities with no readily determinable fair value.

Other investment securities include Federal Reserve Bank (FRB) stock, Federal Home Loan Bank (FHLB) stock, equity method investments, and investments in portfolio concerns held by the Company's private equity subsidiary. FRB stock and FHLB stock are held for debt and regulatory purposes. Investment in FRB stock is based on the capital structure of the

investing bank, and investment in FHLB stock is tied to the level of borrowings from the FHLB. These holdings are carried at cost. Additionally, the Company's equity method investments are carried at cost, adjusted to reflect the Company's portion of income, loss, or dividends of the investee. These adjustments are included in non-interest income on the Company's consolidated statements of income. The private equity investments are carried at estimated fair value.

The majority of the Company's investment portfolio is comprised of available for sale debt securities, which are carried at fair value with changes in fair value reported in other comprehensive income (OCI). A summary of the available for sale debt securities by maturity groupings as of December 31, 2022 is shown in the following table. The weighted average yield for each range of maturities was calculated using the yield on each security within that range weighted by the amortized cost of each security at December 31, 2022. Yields on tax exempt securities have not been adjusted for tax exempt status. The investment portfolio includes agency mortgage-backed securities, which are guaranteed by agencies such as FHLMC, FNMA, and GNMA, in addition to non-agency mortgage-backed securities, which have no guarantee but are collateralized by commercial and residential mortgages. Also included are certain other asset-backed securities, which are primarily collateralized by credit cards, automobiles, student loans, and commercial loans. These securities differ from traditional debt securities primarily in that they may have uncertain maturity dates and are priced based on estimated prepayment rates on the underlying collateral.

<i>(Dollars in thousands)</i>	Amortized Cost	Fair Value	Weighted Average Yield
U.S. government and federal agency obligations:			
Within 1 year	\$ 350,398	\$ 343,843	1.80 *%
After 1 but within 5 years	537,661	515,773	1.19 *
After 5 but within 10 years	190,748	175,790	.28 *
Total U.S. government and federal agency obligations	1,078,807	1,035,406	1.23 *
Government-sponsored enterprise obligations:			
After 5 but within 10 years	4,987	4,531	2.94
After 10 years	50,742	38,577	2.32
Total government-sponsored enterprise obligations	55,729	43,108	2.38
State and municipal obligations:			
Within 1 year	223,656	222,705	2.54
After 1 but within 5 years	635,080	608,254	2.02
After 5 but within 10 years	937,670	792,158	1.83
After 10 years	168,622	143,992	2.11
Total state and municipal obligations	1,965,028	1,767,109	2.00
Mortgage and asset-backed securities:			
Agency mortgage-backed securities	5,087,893	4,308,427	2.07
Non-agency mortgage-backed securities	1,423,469	1,211,607	2.30
Asset-backed securities	3,588,025	3,397,801	2.07
Total mortgage and asset-backed securities	10,099,387	8,917,835	2.10
Other debt securities:			
Within 1 year	16,795	16,699	2.50
After 1 but within 5 years	265,853	244,826	1.90
After 5 but within 10 years	247,347	206,042	1.82
After 10 years	9,260	7,291	1.89
Total other debt securities	539,255	474,858	1.88 %
Total available for sale debt securities	\$ 13,738,206	\$ 12,238,316	

* Rate does not reflect inflation adjustment on inflation-protected securities

Investments in U.S. government and federal agency obligations include U.S. Treasury inflation-protected securities, which totaled \$373.8 million, at fair value, at December 31, 2022. Interest paid on these securities increases with inflation and decreases with deflation, as measured by the non-seasonally adjusted Consumer Price Index (CPI-U). At maturity, the principal paid is the greater of an inflation-adjusted principal or the original principal.

Allowance for credit losses on available for sale debt securities

Securities for which fair value is less than amortized cost are reviewed for impairment. Special emphasis is placed on securities whose credit rating has fallen below Baa3 (Moody's) or BBB- (Standard & Poor's), whose fair values have fallen more than 20% below purchase price, or who have been identified based on management's judgment. These securities are placed on a watch list and cash flow analyses are prepared on an individual security basis. Certain securities are analyzed using a projected cash flow model, discounted to present value, and compared to the current amortized cost bases of the securities. The model uses input factors such as cash flow projections, contractual payments required, expected delinquency rates, credit support from other tranches, prepayment speeds, collateral loss severity rates (including loan to values), and various other information related to the underlying collateral. Securities not analyzed using the cash flow model are analyzed by reviewing risk ratings, credit support agreements, and industry knowledge to project future cash flows and any possible credit impairment.

At December 31, 2022, the fair value of securities on this watch list was \$1.3 billion compared to \$13.4 million at December 31, 2021. The majority of the securities included on the Company's watch list were experiencing unrealized loss positions due to the significant increase in interest rates and were analyzed outside of the cash flow model. At December 31, 2022, the securities on the Company's watch list that were not deemed to be solely related to increasing interest rates were securities backed by government-guaranteed student loans and are expected to perform as contractually required. As of December 31, 2022, the Company did not identify any securities for which a credit loss exists, and for the years ended December 31, 2022 and 2021, the Company did not recognize a credit loss expense on any available for sale debt securities.

The table below summarizes debt securities available for sale in an unrealized loss position, aggregated by length of loss period, for which an allowance for credit losses has not been recorded at December 31, 2022 and 2021. Unrealized losses on these available for sale securities have not been recognized into income because after review, the securities were deemed not to be impaired. The unrealized losses on these securities are primarily attributable to changes in interest rates and current market conditions. At December 31, 2022, the Company does not intend to sell the securities, nor is it anticipated that it would be required to sell any of its impaired securities at a loss.

<i>(In thousands)</i>	Less than 12 months		12 months or longer		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
December 31, 2022						
U.S. government and federal agency obligations	\$ 605,840	\$ 17,490	\$ 380,573	\$ 25,940	\$ 986,413	\$ 43,430
Government-sponsored enterprise obligations	25,068	4,650	18,040	7,971	43,108	12,621
State and municipal obligations	814,799	26,708	875,329	171,385	1,690,128	198,093
Mortgage and asset-backed securities:						
Agency mortgage-backed securities	1,323,938	125,330	2,966,851	654,327	4,290,789	779,657
Non-agency mortgage-backed securities	135,984	16,736	1,069,222	195,218	1,205,206	211,954
Asset-backed securities	1,331,055	50,056	2,006,188	140,424	3,337,243	190,480
Total mortgage and asset-backed securities	2,790,977	192,122	6,042,261	989,969	8,833,238	1,182,091
Other debt securities	166,040	9,690	308,818	54,707	474,858	64,397
Total	\$ 4,402,724	\$ 250,660	\$ 7,625,021	\$ 1,249,972	\$12,027,745	\$ 1,500,632
December 31, 2021						
U.S. government and federal agency obligations	\$ 296,492	\$ 2,241	\$ —	\$ —	\$ 296,492	\$ 2,241
Government-sponsored enterprise obligations	—	—	18,899	919	18,899	919
State and municipal obligations	876,691	15,874	32,684	1,049	909,375	16,923
Mortgage and asset-backed securities:						
Agency mortgage-backed securities	3,333,691	59,044	265,835	8,720	3,599,526	67,764
Non-agency mortgage-backed securities	1,285,611	17,222	1,948	19	1,287,559	17,241
Asset-backed securities	2,518,935	19,201	87,893	525	2,606,828	19,726
Total mortgage and asset-backed securities	7,138,237	95,467	355,676	9,264	7,493,913	104,731
Other debt securities	270,409	5,098	58,574	3,017	328,983	8,115
Total	\$ 8,581,829	\$ 118,680	\$ 465,833	\$ 14,249	\$ 9,047,662	\$ 132,929

The entire available for sale debt securities portfolio included \$12.0 billion of securities that were in a loss position at December 31, 2022, compared to \$9.0 billion at December 31, 2021. The total amount of unrealized loss on these securities was \$1.5 billion at December 31, 2022, an increase of \$1.4 billion compared to the unrealized loss at December 31, 2021. Securities with significant unrealized losses are discussed in the "Allowance for credit losses on available for sale debt securities" section above.

For debt securities classified as available for sale, the following table shows the amortized cost, fair value, and allowance for credit losses of securities available for sale at December 31, 2022 and 2021 and the corresponding amounts of gross unrealized gains and losses (pre-tax) in AOCI, by security type.

<i>(In thousands)</i>	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Allowance for Credit Losses	Fair Value
December 31, 2022					
U.S. government and federal agency obligations	\$ 1,078,807	\$ 29	\$ (43,430)	—	\$ 1,035,406
Government-sponsored enterprise obligations	55,729	—	(12,621)	—	43,108
State and municipal obligations	1,965,028	174	(198,093)	—	1,767,109
Mortgage and asset-backed securities:					
Agency mortgage-backed securities	5,087,893	191	(779,657)	—	4,308,427
Non-agency mortgage-backed securities	1,423,469	92	(211,954)	—	1,211,607
Asset-backed securities	3,588,025	256	(190,480)	—	3,397,801
Total mortgage and asset-backed securities	10,099,387	539	(1,182,091)	—	8,917,835
Other debt securities	539,255	—	(64,397)	—	474,858
Total	\$ 13,738,206	\$ 742	\$ (1,500,632)	\$ —	\$ 12,238,316
December 31, 2021					
U.S. government and federal agency obligations	\$ 1,035,477	\$ 47,484	\$ (2,241)	—	\$ 1,080,720
Government-sponsored enterprise obligations	50,773	1,901	(919)	—	51,755
State and municipal obligations	2,072,210	41,540	(16,923)	—	2,096,827
Mortgage and asset-backed securities:					
Agency mortgage-backed securities	5,698,088	52,676	(67,764)	—	5,683,000
Non-agency mortgage-backed securities	1,383,037	681	(17,241)	—	1,366,477
Asset-backed securities	3,546,024	12,921	(19,726)	—	3,539,219
Total mortgage and asset-backed securities	10,627,149	66,278	(104,731)	—	10,588,696
Other debt securities	633,524	6,620	(8,115)	—	632,029
Total	\$ 14,419,133	\$ 163,823	\$ (132,929)	\$ —	\$ 14,450,027

The following table presents proceeds from sales of securities and the components of investment securities gains and losses which have been recognized in earnings.

<i>(In thousands)</i>	For the Year Ended December 31		
	2022	2021	2020
Proceeds from sales of securities:			
Available for sale debt securities	\$ 86,240	\$ 69,809	\$ 602,475
Equity securities	17	—	2
Other	20,714	11,002	—
Total proceeds	\$ 106,971	\$ 80,811	\$ 602,477
Investment securities gains (losses), net:			
Available for sale debt securities:			
Gains realized on sales	\$ —	\$ —	\$ 21,096
Losses realized on sales	(20,273)	(3,284)	—
Equity securities:			
Gains realized on sales	17	—	2
Fair value adjustments, net	(943)	187	37
Other:			
Gains realized on sales	1,670	1,611	—
Losses realized on sales	(3,798)	(159)	—
Fair value adjustments, net	43,833	31,704	(10,103)
Total investment securities gains, net	\$ 20,506	\$ 30,059	\$ 11,032

At December 31, 2022, securities totaling \$4.7 billion in fair value were pledged to secure public fund deposits, securities sold under agreements to repurchase, trust funds, and borrowings at the FRB and FHLB, compared to \$6.4 billion at December 31, 2021. Securities pledged under agreements pursuant to which the collateral may be sold or re-pledged by the secured parties approximated \$211.0 million, while the remaining securities were pledged under agreements pursuant to which the secured parties may not sell or re-pledge the collateral.

Except for obligations of various government-sponsored enterprises such as FNMA, FHLB and FHLMC, no investment in a single issuer exceeds 10% of stockholders' equity.

4. Premises and Equipment

Premises and equipment consist of the following at December 31, 2022 and 2021:

<i>(In thousands)</i>	2022	2021
Land	\$ 89,342	\$ 91,003
Buildings and improvements	673,802	622,642
Equipment	237,867	242,455
Right of use leased assets	26,030	25,677
Total	1,027,041	981,777
Less accumulated depreciation	608,132	593,039
Net premises and equipment	\$ 418,909	\$ 388,738

Depreciation expense of \$32.3 million in 2022, \$31.9 million in 2021, and \$32.2 million in 2020, was included in occupancy expense and equipment expense in the consolidated statements of income. Repairs and maintenance expense of \$17.7 million, \$16.0 million, and \$16.4 million for 2022, 2021 and 2020, respectively, was included in occupancy expense and equipment expense. Interest expense capitalized on constructions projects totaled \$1.4 million, \$29 thousand, and \$14 thousand in 2022, 2021 and 2020, respectively.

Right of use leased assets are comprised mainly of operating leases for branches, office space, ATM locations, and certain equipment, as described in Note 6.

5. Goodwill and Other Intangible Assets

The following table presents information about the Company's intangible assets which have estimable useful lives.

<i>(In thousands)</i>	December 31, 2022				December 31, 2021			
	Gross Carrying Amount	Accumulated Amortization	Valuation Allowance	Net Amount	Gross Carrying Amount	Accumulated Amortization	Valuation Allowance	Net Amount
Amortizable intangible assets:								
Core deposit premium	\$ 31,270	\$ (30,565)	\$ —	\$ 705	\$ 31,270	\$ (30,266)	\$ —	\$ 1,004
Mortgage servicing rights	22,187	(11,258)	—	10,929	20,870	(9,600)	(304)	10,966
Total	\$ 53,457	\$ (41,823)	\$ —	\$ 11,634	\$ 52,140	\$ (39,866)	\$ (304)	\$ 11,970

The carrying amount of goodwill and its allocation among segments at December 31, 2022 and 2021 is shown in the table below. As a result of ongoing assessments, no impairment of goodwill was recorded in 2022, 2021 or 2020. Further, the annual assessment of qualitative factors on January 1, 2023 revealed no likelihood of impairment as of that date.

<i>(In thousands)</i>	December 31, 2022	December 31, 2021
Consumer segment	\$ 70,721	\$ 70,721
Commercial segment	67,454	67,454
Wealth segment	746	746
Total goodwill	\$ 138,921	\$ 138,921

Changes in the net carrying amount of goodwill and other net intangible assets for the years ended December 31, 2022 and 2021 are shown in the following table. During the year ended December 31, 2020, the Company purchased an easement for \$3.6 million in connection with the Developer Services Agreement that was signed during the third quarter of 2020 to develop a commercial office complex in Clayton, Missouri. The easement, which grants the Company access to all portions of the parking facility and terrace garden, is perpetual and will be assessed for impairment at least annually, or whenever events or circumstances indicate an impairment may have occurred. No impairment was identified at December 31, 2022.

<i>(In thousands)</i>	Goodwill		Easement		Core Deposit Premium		Mortgage Servicing Rights	
Balance at December 31, 2020	\$	138,921	\$	3,600	\$	1,358	\$	6,249
Originations, net of disposals		—		—		—		5,632
Amortization		—		—		(354)		(2,714)
Impairment recovery		—		—		—		1,799
Balance at December 31, 2021		138,921		3,600		1,004		10,966
Originations, net of disposals		—		—		—		1,317
Amortization		—		—		(299)		(1,658)
Impairment recovery		—		—		—		304
Balance at December 31, 2022	\$	138,921	\$	3,600	\$	705	\$	10,929

Mortgage servicing rights (MSRs) are initially recorded at fair value and subsequently amortized over the period of estimated servicing income. They are periodically reviewed for impairment at a tranche level, and if impairment is indicated, recorded at fair value. Temporary impairment, including impairment recovery, is effected through a change in a valuation allowance. During 2022, impairment recovery of \$304 thousand was recognized. The fair value of the MSRs is based on the present value of expected future cash flows, as further discussed in Note 17 on Fair Value Measurements.

Aggregate amortization expense on intangible assets for the years ended December 31, 2022, 2021 and 2020 was \$2.0 million, \$3.1 million and \$2.4 million, respectively. The following table shows the estimated future amortization expense based on existing asset balances and the interest rate environment as of December 31, 2022. The Company's actual amortization expense in any given period may be different from the estimated amounts depending upon the acquisition of intangible assets, changes in mortgage interest rates, prepayment rates and other market conditions.

<i>(In thousands)</i>	
2023	\$ 1,403
2024	1,243
2025	1,101
2026	963
2027	830

6. Leases

The Company's leasing activities include leasing certain real estate and equipment, providing lease financing to commercial customers, and leasing office space to third parties. The Company uses the FHLB fixed-advance rate at lease commencement or at any subsequent remeasurement event date based on the remaining lease term to calculate the liability for each lease.

Lessee

The Company primarily has operating leases for branches, office space, ATM locations, and certain equipment. As of December 31, 2022, the right-of-use asset for operating leases, reported within premises and equipment, net, and lease liability, reported within other liabilities, recognized on the Company's consolidated balance sheets totaled \$24.9 million and \$25.2 million, respectively, compared to right-of-use assets of \$25.2 million and lease liability of \$27.2 million at December 31, 2021. Total lease cost for the year ended December 31, 2022 was \$7.9 million, compared to \$7.7 million for the year ended December 31, 2021. For leases with a term of 12 months or less, an election was made not to recognize lease assets and lease liabilities for all asset classes, and to recognize lease expense for these leases on a straight-line basis over the lease term. The Company's leases have remaining terms of 1 month to 29 years, most of which contain renewal options. However, the renewal options are generally not included in the leased asset or liability because the option exercises are uncertain.

The maturities of operating leases are included in the table below.

<i>(in thousands)</i>	Operating Leases⁽¹⁾
2023	\$ 6,168
2024	4,684
2025	3,001
2026	2,434
2027	2,204
After 2027	13,743
Total lease payments	\$ 32,234
Less: Interest	7,003
Present value of lease liabilities	\$ 25,231

(1) Excludes \$2.1 million of legally binding minimum lease payments for operating leases signed but not yet commenced.

The following table presents the average lease term and discount rate of operating leases.

	December 31, 2022	December 31, 2021
Weighted-average remaining lease term	10.6 years	11.1 years
Weighted-average discount rate	3.73 %	3.05 %

Supplemental cash flow information related to operating leases is included in the table below.

<i>(in thousands)</i>	For the Year Ended December 31	
	2022	2021
Operating cash paid toward lease liabilities	\$ 6,529	6,180
Leased assets obtained in exchange for new lease liabilities	\$ 5,161	4,407

Lessor

The Company has net investments in direct financing and sales-type leases to commercial, industrial, and tax-exempt entities. These leases are included within business loans on the Company's consolidated balance sheets. The Company primarily leases various types of equipment, trucks and trailers, and office furniture and fixtures. Lease agreements may include options for the lessee to renew or purchase the leased equipment at the end of the lease term. The Company has elected to adopt the lease component expedient in which the lease and nonlease components are combined into the total lease receivable. The Company also leases office space to third parties, and these leases are classified as operating leases. The leases may include options to renew or to expand the leased space, and currently the leases have remaining terms of 3 months to 16 years.

The following table provides the components of lease income.

<i>(in thousands)</i>	For the Year Ended December 31	
	2022	2021
Direct financing and sales-type leases	22,144	22,736
Operating leases ⁽¹⁾	8,948	7,488
Total lease income	\$ 31,092	\$ 30,224

(1) Includes rent from Tower Properties, a related party, of \$76 thousand for the years ended both December 31, 2022 and 2021.

The following table presents the components of the net investments in direct financing and sales-type leases.

<i>(in thousands)</i>	December 31, 2022	December 31, 2021
Lease payment receivable	\$ 704,509	\$ 655,885
Unguaranteed residual assets	72,157	66,638
Total net investments in direct financing and sales-type leases	\$ 776,666	\$ 722,523
Deferred origination cost	3,222	3,035
Total net investment included within business loans	\$ 779,888	\$ 725,558

The maturities of lease receivables are included in the table below.

<i>(in thousands)</i>	Direct Financing and Sale-Type Leases	Operating Leases	Total
2023	\$ 200,282	\$ 9,451	\$ 209,733
2024	169,469	11,518	180,987
2025	132,892	10,248	143,140
2026	103,897	9,595	113,492
2027	74,193	11,716	85,909
After 2027	87,260	62,977	150,237
Total lease receipts	767,993	\$ 115,505	\$ 883,498
Less: Net present value adjustment	63,484		
Present value of lease receipts	\$ 704,509		

7. Deposits

At December 31, 2022, the scheduled maturities of certificates of deposit were as follows:

<i>(In thousands)</i>	
Due in 2023	\$ 726,984
Due in 2024	187,440
Due in 2025	44,678
Due in 2026	29,009
Due in 2027	5,910
Thereafter	82
Total	\$ 994,103

The aggregate amount of certificates of deposit that exceeded the \$250,000 FDIC insurance limit totaled \$426.5 million at December 31, 2022.

8. Borrowings

At December 31, 2022, the Company's borrowings primarily consisted of federal funds purchased and securities sold under agreements to repurchase (repurchase agreements). The following table sets forth selected information for federal funds purchased and repurchase agreements.

<i>(Dollars in thousands)</i>	Year End Weighted Rate	Average Weighted Rate	Average Balance Outstanding	Maximum Outstanding at any Month End	Balance at December 31
Federal funds purchased and repurchase agreements:					
2022	2.01 %	1.1 %	\$ 2,439,279	\$ 2,841,734	\$ 2,841,734
2021	.06	.1	2,334,837	3,022,967	3,022,967
2020	.04	.3	1,966,479	2,314,756	2,098,383

Federal funds purchased and repurchase agreements comprised the majority of the Company's short-term borrowings (borrowings with an original maturity of less than one year at December 31, 2022), and \$2.7 billion of these borrowings were repurchase agreements, which generally have one day maturities and are mainly comprised of non-insured customer funds secured by a portion of the Company's investment portfolio. Additional information about the securities pledged for repurchase agreements and repurchase agreement maturity is provided in Note 20 on Resale and Repurchase Agreements.

The Bank is a member of the Des Moines FHLB and has access to term financing from the FHLB. These borrowings are secured under a blanket collateral agreement including primarily residential mortgages as well as all unencumbered assets and stock of the borrowing bank. At December 31, 2022, the Bank had no outstanding advances from the FHLB. The FHLB also issues letters of credit to secure the Bank's obligations to certain depositors of public funds, which totaled \$678.2 million at December 31, 2022.

9. Income Taxes

The components of income tax expense from operations for the years ended December 31, 2022, 2021 and 2020 were as follows:

<i>(In thousands)</i>	Current	Deferred	Total
Year ended December 31, 2022:			
U.S. federal	\$ 96,849	\$ 19,990	\$ 116,839
State and local	13,793	1,726	15,519
Total	\$ 110,642	\$ 21,716	\$ 132,358
Year ended December 31, 2021:			
U.S. federal	\$ 104,924	\$ 22,184	\$ 127,108
State and local	15,174	3,429	18,603
Total	\$ 120,098	\$ 25,613	\$ 145,711
Year ended December 31, 2020:			
U.S. federal	\$ 92,035	\$ (14,055)	\$ 77,980
State and local	14,798	(5,485)	9,313
Total	\$ 106,833	\$ (19,540)	\$ 87,293

The components of income tax (benefit) expense recorded directly to stockholders' equity for the years ended 2022, 2021 and 2020 were as follows:

<i>(In thousands)</i>	2022	2021	2020
Unrealized gain (loss) on available for sale debt securities	\$ (382,697)	\$ (80,211)	\$ 53,909
Change in fair value on cash flow hedges	(6,446)	(6,040)	20,795
Accumulated pension (benefit) loss	1,161	1,484	(1,059)
Adoption of ASU 2016-13	—	—	1,183
Income tax (benefit) expense allocated to stockholders' equity	\$ (387,982)	\$ (84,767)	\$ 74,828

Significant components of the Company's deferred tax assets and liabilities at December 31, 2022 and 2021 were as follows:

<i>(In thousands)</i>	2022	2021
Deferred tax assets:		
Unrealized loss on available for sale debt securities	\$ 374,973	\$ —
Loans, principally due to allowance for credit losses	43,553	41,507
Deferred compensation	7,864	7,777
Equity-based compensation	7,491	7,348
Accrued expenses	6,748	6,340
Unearned fee income	5,534	5,258
Other	1,737	3,284
Total deferred tax assets	447,900	71,514
Deferred tax liabilities:		
Equipment lease financing	91,913	74,827
Cash flow hedges	19,747	23,633
Land, buildings, and equipment	17,210	18,728
Private equity investments	9,393	3,034
Intangible assets	7,519	7,459
Unrealized gain on available for sale debt securities	—	7,724
Other	8,138	8,396
Total deferred tax liabilities	153,920	143,801
Net deferred tax assets (liabilities)	\$ 293,980	\$ (72,287)

Management believes it is more likely than not that the results of future operations will generate sufficient taxable income to realize the total deferred tax assets, therefore, no valuation allowance is needed for the deferred tax assets at year end.

A reconciliation between the expected federal income tax expense using the federal statutory tax rate of 21%, and the Company's actual income tax expense for 2022, 2021, and 2020 is provided below. The effective tax rate is calculated by dividing income taxes by income before income taxes less the non-controlling interest expense.

<i>(In thousands)</i>	2022	2021	2020
Computed "expected" tax expense	\$ 130,359	\$ 142,060	\$ 92,683
Increase (decrease) in income taxes resulting from:			
Tax-exempt interest, net of cost to carry	(8,473)	(9,002)	(10,013)
State and local income taxes, net of federal tax benefit	12,260	14,697	7,357
Share-based award payments	(1,669)	(2,941)	(3,090)
Other	(119)	897	356
Total income tax expense	\$ 132,358	\$ 145,711	\$ 87,293

The gross amount of unrecognized tax benefits was \$1.2 million and \$1.3 million at December 31, 2022 and 2021, respectively, and the total amount of unrecognized tax benefits that would impact the effective tax rate, if recognized, was \$1.0 million at both December 31, 2022 and 2021. The activity in the accrued liability for unrecognized tax benefits for the years ended December 31, 2022 and 2021 was as follows:

<i>(In thousands)</i>	2022	2021
Unrecognized tax benefits at beginning of year	\$ 1,276	\$ 1,331
Gross increases – tax positions in prior period	21	15
Gross decreases – tax positions in prior period	—	(8)
Gross increases – current-period tax positions	235	222
Lapse of statute of limitations	(327)	(284)
Unrecognized tax benefits at end of year	\$ 1,205	\$ 1,276

The Company and its subsidiaries are subject to income tax by federal, state and local government taxing authorities. Tax years 2019 through 2022 remain open to examination for U.S. federal income tax and for major state taxing jurisdictions.

10. Employee Benefit Plans

Employee benefits charged to operating expenses are summarized in the table below. Substantially all of the Company's employees are covered by a defined contribution (401(k)) plan, under which the Company makes matching contributions.

<i>(In thousands)</i>	2022	2021	2020
Payroll taxes	\$ 29,580	\$ 28,084	\$ 27,664
Medical plans	31,004	31,131	30,002
401(k) plan	18,590	17,237	16,834
Pension plans	516	388	410
Other	3,097	1,170	1,990
Total employee benefits	\$ 82,787	\$ 78,010	\$ 76,900

A portion of the Company's employees are covered by a noncontributory defined benefit pension plan, however, participation in the pension plan is not available to employees hired after June 30, 2003. All participants are fully vested in their benefit payable upon normal retirement date, which is based on years of participation and compensation. Since January 2011, all benefits accrued under the pension plan have been frozen. However, the accounts continue to accrue interest at a stated annual rate. Certain key executives also participate in a supplemental executive retirement plan (the CERP) that the Company funds only as retirement benefits are disbursed. The CERP carries no segregated assets. The CERP continues to provide credits based on hypothetical contributions in excess of those permitted under the 401(k) plan. In the tables presented below, the pension plan and the CERP are presented on a combined basis.

Under the Company's funding policy for the defined benefit pension plan, contributions are made to a trust as necessary to satisfy the statutory minimum required contribution as defined by the Pension Protection Act, which is intended to provide for current service accruals and for any unfunded accrued actuarial liabilities over a reasonable period. To the extent that these

requirements are fully covered by assets in the trust, a contribution might not be made in a particular year. No contributions to the defined benefit plan were made in 2022, 2021 or 2020. The minimum required contribution for 2023 is expected to be zero. The Company does not expect to make any further contributions in 2023 other than the necessary funding contributions to the CERP. Contributions to the CERP were \$14 thousand, \$14 thousand and \$80 thousand during 2022, 2021 and 2020, respectively.

The following items are components of the net pension cost for the years ended December 31, 2022, 2021 and 2020.

<i>(In thousands)</i>	2022	2021	2020
Service cost-benefits earned during the year	\$ 516	\$ 388	\$ 410
Interest cost on projected benefit obligation	2,725	2,169	3,282
Expected return on plan assets	(4,515)	(4,532)	(5,214)
Amortization of prior service cost	(271)	(271)	(271)
Amortization of unrecognized net (gain) loss	1,717	2,578	2,138
Net periodic pension cost	\$ 172	\$ 332	\$ 345

The following table sets forth the pension plans' funded status, using valuation dates of December 31, 2022 and 2021.

<i>(In thousands)</i>	2022	2021
Change in projected benefit obligation		
Projected benefit obligation at prior valuation date	\$ 121,738	\$ 127,163
Service cost	516	388
Interest cost	2,725	2,169
Benefits paid	(6,933)	(6,735)
Actuarial (gain) loss	(22,204)	(1,247)
Projected benefit obligation at valuation date	95,842	121,738
Change in plan assets		
Fair value of plan assets at prior valuation date	109,807	109,615
Actual return on plan assets	(14,492)	6,913
Employer contributions	14	14
Benefits paid	(6,933)	(6,735)
Fair value of plan assets at valuation date	88,396	109,807
Funded status and net amount recognized at valuation date	\$ (7,446)	\$ (11,931)

The pension benefit obligation decreased from the prior year primarily due to an increase in the discount rate from 2.58% to 5.19%, which decreased the pension benefit liability by approximately \$23.8 million. This decrease was slightly offset by updates to lump sum payment assumptions.

The accumulated benefit obligation, which represents the liability of a plan using only benefits as of the measurement date, was \$95.8 million and \$121.7 million for the combined plans on December 31, 2022 and 2021, respectively.

Amounts not yet reflected in net periodic benefit cost and included in accumulated other comprehensive income (loss) at December 31, 2022 and 2021 are shown below, including amounts recognized in other comprehensive income during the periods. All amounts are shown on a pre-tax basis.

<i>(In thousands)</i>	2022	2021
Prior service credit (cost)	\$ 452	\$ 723
Accumulated gain (loss)	(23,363)	(28,277)
Accumulated other comprehensive income (loss)	(22,911)	(27,554)
Cumulative employer contributions in excess of net periodic benefit cost	15,465	15,623
Net amount recognized as an accrued benefit liability on the December 31 balance sheet	\$ (7,446)	\$ (11,931)
Net gain (loss) arising during period	3,197	3,627
Amortization of net (gain) loss	1,717	2,578
Amortization of prior service cost	(271)	(271)
Total recognized in other comprehensive income (loss)	\$ 4,643	\$ 5,934
Total income (expense) recognized in net periodic pension cost and other comprehensive income	\$ 4,471	\$ 5,602

The following assumptions, on a weighted average basis, were used in accounting for the plans.

	2022	2021	2020
Determination of benefit obligation at year end:			
Effective discount rate on benefit obligations	5.19%	2.58%	2.25%
Assumed cash balance interest crediting rate	5.00%	5.00%	5.00%
Determination of net periodic benefit cost for year ended:			
Effective discount rate on benefit obligations	2.64%	2.25%	3.08%
Effective rate for interest cost on benefit obligations	2.15%	1.63%	2.69%
Long-term rate of return on assets	4.25%	4.25%	5.00%
Assumed cash balance interest crediting rate	5.00%	5.00%	5.00%

The following table shows the fair values of the Company's pension plan assets by asset category at December 31, 2022 and 2021. Information about the valuation techniques and inputs used to measure fair value are provided in Note 17 on Fair Value Measurements.

(In thousands)	Total Fair Value	Fair Value Measurements		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2022				
Assets:				
U.S. government obligations	\$ 9,960	\$ 9,960	\$ —	\$ —
Government-sponsored enterprise obligations ^(a)	1,022	—	1,022	—
State and municipal obligations	6,840	—	6,840	—
Agency mortgage-backed securities ^(b)	2,871	—	2,871	—
Non-agency mortgage-backed securities	2,527	—	2,527	—
Asset-backed securities	6,768	—	6,768	—
Corporate bonds ^(c)	35,234	—	35,234	—
Equity securities and mutual funds: ^(d)				
Mutual funds	4,395	4,395	—	—
Common stocks	15,868	15,868	—	—
International developed markets funds	2,604	2,604	—	—
Emerging markets funds	307	307	—	—
Total	\$ 88,396	\$ 33,134	\$ 55,262	\$ —
December 31, 2021				
Assets:				
U.S. government obligations	\$ 6,824	\$ 6,824	\$ —	\$ —
Government-sponsored enterprise obligations ^(a)	2,066	—	2,066	—
State and municipal obligations	8,000	—	8,000	—
Agency mortgage-backed securities ^(b)	3,266	—	3,266	—
Non-agency mortgage-backed securities	2,974	—	2,974	—
Asset-backed securities	7,648	—	7,648	—
Corporate bonds ^(c)	40,832	—	40,832	—
Equity securities and mutual funds: ^(d)				
Mutual funds	6,004	6,004	—	—
Common stocks	27,702	27,702	—	—
International developed markets funds	3,943	3,943	—	—
Emerging markets funds	548	548	—	—
Total	\$ 109,807	\$ 45,021	\$ 64,786	\$ —

(a) This category represents bonds (excluding mortgage-backed securities) issued by agencies such as the Government National Mortgage Association, the Federal Home Loan Mortgage Corp and the Federal National Mortgage Association.

(b) This category represents mortgage-backed securities issued by the agencies mentioned in (a).

(c) This category represents investment grade bonds issued in the U.S., primarily by domestic issuers, representing diverse industries.

(d) This category represents investments in individual common stocks and equity funds. These holdings are diversified, largely across the financial services, technology services, electronic technology, healthcare technology, and retail trade industries.

The investment policy of the pension plan is designed for growth in principal, within limits designed to safeguard against significant losses within the portfolio. The policy sets guidelines, which may change from time to time, regarding the types and percentages of investments held. Currently, the policy includes guidelines such as holding bonds rated investment grade or better and prohibiting investment in Company stock. The plan does not utilize derivatives. Management believes there are no significant concentrations of risk within the plan asset portfolio at December 31, 2022. Under the current policy, the long-term investment target mix for the plan is 25% equity securities and 75% fixed income securities. The Company regularly reviews its policies on investment mix and may make changes depending on economic conditions and perceived investment risk.

The assumed overall expected long-term rate of return on pension plan assets used in calculating 2022 pension plan expense was 4.25%. Determination of the plan's expected rate of return is based upon historical and anticipated returns of the asset classes invested in by the pension plan and the allocation strategy currently in place among those classes. The rate used in plan calculations may be adjusted by management for current trends in the economic environment. The 10-year annualized return for the Company's pension plan was 5.0%. During 2022, the plan's assets lost 12.0% of their value, compared to a gain of 5.9% in 2021. Returns for any plan year may be affected by changes in the stock market and interest rates. The Company expects to incur pension expense of \$2.5 million in 2023, compared to \$172 thousand in 2022.

The following future benefit payments are expected to be paid:

<i>(In thousands)</i>	
2023	\$ 7,988
2024	7,884
2025	7,810
2026	7,722
2027	7,597
2028 - 2032	34,819

11. Stock-Based Compensation and Directors Stock Purchase Plan*

The Company's stock-based compensation is provided under a stockholder-approved plan that allows for issuance of various types of awards, including stock options, stock appreciation rights, restricted stock and restricted stock units, performance awards and stock-based awards. During the past three years, stock-based compensation has been issued in the form of nonvested restricted stock awards and stock appreciation rights. At December 31, 2022, 1,586,377 shares remained available for issuance under the plan. The stock-based compensation expense that was charged against income was \$17.0 million, \$15.4 million and \$14.9 million for the years ended December 31, 2022, 2021 and 2020, respectively. The total income tax benefit recognized in the income statement for share-based compensation arrangements was \$3.0 million, \$2.7 million and \$3.0 million for the years ended December 31, 2022, 2021 and 2020, respectively.

Nonvested Restricted Stock Awards

Nonvested stock is awarded to key employees by action of the Company's Compensation and Human Resources Committee and Board of Directors. These awards generally vest after 4 to 7 years of continued employment, but vesting terms may vary according to the specifics of the individual grant agreement. There are restrictions as to transferability, sale, pledging, or assigning, among others, prior to the end of the vesting period. Dividend and voting rights are conferred upon grant of restricted stock awards. A summary of the status of the Company's nonvested share awards as of December 31, 2022 and changes during the year then ended is presented below.

	Shares	Weighted Average Grant Date Fair Value
Nonvested at January 1, 2022	1,176,253	\$ 52.93
Granted	283,970	67.40
Vested	(282,845)	45.45
Forfeited	(28,505)	57.94
Nonvested at December 31, 2022	1,148,873	\$ 58.20

The total fair value (at vest date) of shares vested during 2022, 2021 and 2020 was \$18.8 million, \$17.6 million and \$18.0 million, respectively.

Stock Appreciation Rights

Stock appreciation rights (SARs) are granted with exercise prices equal to the market price of the Company's stock at the date of grant. SARs generally vest ratably over 4 years of continuous service and have 10-year contractual terms. All SARs must be settled in stock under provisions of the plan. A summary of SAR activity during 2022 is presented below.

<i>(Dollars in thousands, except per share data)</i>	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at January 1, 2022	940,722	\$ 44.01		
Granted	101,044	67.28		
Forfeited	(9,057)	58.82		
Expired	(2,493)	54.17		
Exercised	(81,489)	38.14		
Outstanding at December 31, 2022	948,727	\$ 46.82	5.2 years	\$ 20,163
Exercisable at December 31, 2022	667,936	\$ 41.11	4.2 years	\$ 18,007

In determining compensation cost, the Black-Scholes option-pricing model is used to estimate the fair value of SARs on date of grant. The Black-Scholes model is a closed-end model that uses various assumptions as shown in the following table. Expected volatility is based on historical volatility of the Company's stock. The Company uses historical exercise behavior and other factors to estimate the expected term of the SARs, which represents the period of time that the SARs granted are expected to be outstanding. The risk-free rate for the expected term is based on the U.S. Treasury zero coupon spot rates in effect at the time of grant. The per share average fair value and the model assumptions for SARs granted during the past three years are shown in the table below.

	2022	2021	2020
Weighted per share average fair value at grant date	\$16.59	\$15.22	\$8.74
Assumptions:			
Dividend yield	1.5 %	1.4 %	1.7 %
Volatility	28.4 %	28.2 %	20.2 %
Risk-free interest rate	1.6 %	.7 %	1.0 %
Expected term	5.7 years	5.7 years	5.8 years

Additional information about SARs exercised is presented below.

<i>(In thousands)</i>	2022	2021	2020
Intrinsic value of SARs exercised	\$ 2,448	\$ 7,664	\$ 6,278
Tax benefit realized SARs exercised	462	1,488	1,252

As of December 31, 2022, there was \$31.6 million of unrecognized compensation cost related to unvested SARs and stock awards. This cost is expected to be recognized over a weighted average period of approximately 3.2 years.

Directors Stock Purchase Plan

The Company has a directors stock purchase plan whereby outside directors of the Company and its subsidiaries may elect to use their directors' fees to purchase Company stock at market value each month end. Remaining shares available for issuance under this plan were 129,665 at December 31, 2022. Shares authorized for issuance under the plan were increased to 150,000 shares in February 2022. In 2022, 21,725 shares were purchased at an average price of \$67.27, and in 2021, 14,057 shares were purchased at an average price of \$65.86.

* All share and per share amounts in this note have been restated for the 5% common stock dividend distributed in 2022.

12. Accumulated Other Comprehensive Income

The table below shows the activity and accumulated balances for components of other comprehensive income. The largest component is the unrealized holding gains and losses on available for sale debt securities. Another component is the amortization from other comprehensive income of losses associated with pension benefits, which occurs as the losses are included in current net periodic pension cost. The remaining component is gains and losses in fair value on certain interest rate floors that have been designated as cash flow hedges, including interest rate floors terminated in prior years. For those terminated floors, the realized gains are amortized into interest income through the original maturity dates of the floors. Information about unrealized gains and losses on securities can be found in Note 3, information about unrealized gains and losses on pension plans can be found in Note 10, and information about unrealized gains and losses on cash flow hedge derivatives is located in Note 19.

<i>(In thousands)</i>	Unrealized Gains (Losses) on Securities (1)	Pension Loss	Unrealized Gains (Losses) on Cash Flow Hedge Derivatives (2)	Total Accumulated Other Comprehensive Income (Loss)
Balance January 1, 2022	\$ 23,174	\$ (20,668)	\$ 74,574	\$ 77,080
Other comprehensive income (loss) before reclassifications to current earnings	(1,551,059)	3,197	(2,428)	(1,550,290)
Amounts reclassified to current earnings from accumulated other comprehensive income	20,273	1,446	(23,355)	(1,636)
Current period other comprehensive income (loss), before tax	(1,530,786)	4,643	(25,783)	(1,551,926)
Income tax (expense) benefit	382,697	(1,161)	6,446	387,982
Current period other comprehensive income (loss), net of tax	(1,148,089)	3,482	(19,337)	(1,163,944)
Balance December 31, 2022	\$ (1,124,915)	\$ (17,186)	\$ 55,237	\$ (1,086,864)
Balance January 1, 2021	\$ 263,801	\$ (25,118)	\$ 92,694	\$ 331,377
Other comprehensive income (loss) before reclassifications to current earnings	(324,122)	3,627	—	(320,495)
Amounts reclassified to current earnings from accumulated other comprehensive income	3,284	2,307	(24,160)	(18,569)
Current period other comprehensive income (loss), before tax	(320,838)	5,934	(24,160)	(339,064)
Income tax (expense) benefit	80,211	(1,484)	6,040	84,767
Current period other comprehensive income (loss), net of tax	(240,627)	4,450	(18,120)	(254,297)
Balance December 31, 2021	\$ 23,174	\$ (20,668)	\$ 74,574	\$ 77,080

(1) The pre-tax amounts reclassified from accumulated other comprehensive income to current earnings are included in "investment securities gains (losses), net" in the consolidated statements of income.

(2) The pre-tax amounts reclassified from accumulated other comprehensive income to current earnings are included in "interest and fees on loans" in the consolidated statements of income.

13. Segments

The Company segregates financial information for use in assessing its performance and allocating resources among three operating segments: Consumer, Commercial, and Wealth. The Consumer segment consists of various consumer loan and deposit products offered through its retail branch network of approximately 150 locations. This segment also includes indirect and other consumer loan financing businesses, along with debit and credit card loan and fee businesses. Residential mortgage origination, sales and servicing functions are included in this Consumer segment, but residential mortgage loans retained by the Company are not considered part of this segment and are instead included in the Other/Elimination column. The Commercial segment provides corporate lending (including the Small Business Banking product line within the branch network), leasing, and international services, along with business and governmental deposit products and commercial cash management services. This segment also includes both merchant and commercial bank card products as well as the Capital Markets Group, which sells fixed income securities and provides securities safekeeping and accounting services to its business and correspondent bank customers. The Wealth segment provides traditional trust and estate planning, advisory and discretionary investment management, and brokerage services. This segment also provides various loan and deposit related services to its private banking customers.

The Company's business line reporting system derives segment information from the internal profitability reporting system used by management to monitor and manage the financial performance of the Company. This information is based on internal management accounting procedures and methods, which have been developed to reflect the underlying economics of the businesses. These methodologies are applied in connection with funds transfer pricing and assignment of overhead costs

among segments. Funds transfer pricing was used in the determination of net interest income. A standard cost for funds used is applied to assets, and a credit for funds provided is applied to liabilities based on their maturity, prepayment and/or repricing characteristics. Income and expense that directly relate to segment operations are recorded in the segment when incurred. Expenses that indirectly support the segments are allocated based on the most appropriate method available.

The Company uses a funds transfer pricing method to value funds used (e.g., loans, fixed assets, and cash) and funds provided (e.g., deposits, borrowings, and equity) by the business segments and their components. This process assigns a specific value to each new source or use of funds with a maturity, based on current swap rates, thus determining an interest spread at the time of the transaction. Non-maturity assets and liabilities are valued using weighted average pools. The funds transfer pricing process attempts to remove interest rate risk from valuation, allowing management to compare profitability under various rate environments.

The following tables present selected financial information by segment and reconciliations of combined segment totals to consolidated totals. There were no material intersegment revenues between the three segments. Management periodically makes changes to methods of assigning costs and income to its business segments to better reflect operating results. If appropriate, these changes are reflected in prior year information presented below.

Segment Income Statement Data

<i>(In thousands)</i>	Consumer	Commercial	Wealth	Segment Totals	Other/ Elimination	Consolidated Totals
Year ended December 31, 2022:						
Net interest income	\$ 339,080	\$ 452,686	\$ 74,416	\$ 866,182	\$ 76,003	\$ 942,185
Provision for credit losses	(17,872)	(1,196)	(8)	(19,076)	(8,995)	(28,071)
Non-interest income	116,030	224,890	213,388	554,308	(7,773)	546,535
Investment securities gains, net	—	—	—	—	20,506	20,506
Non-interest expense	(300,566)	(365,276)	(144,914)	(810,756)	(38,021)	(848,777)
Income before income taxes	\$ 136,672	\$ 311,104	\$ 142,882	\$ 590,658	\$ 41,720	\$ 632,378
Year ended December 31, 2021:						
Net interest income	\$ 319,439	\$ 453,692	\$ 71,522	\$ 844,653	\$ (9,229)	\$ 835,424
Provision for loan losses	(23,249)	4,845	(52)	(18,456)	84,782	66,326
Non-interest income	147,273	211,048	213,617	571,938	(11,545)	560,393
Investment securities gains, net	—	—	—	—	30,059	30,059
Non-interest expense	(293,504)	(329,313)	(136,356)	(759,173)	(46,728)	(805,901)
Income before income taxes	\$ 149,959	\$ 340,272	\$ 148,731	\$ 638,962	\$ 47,339	\$ 686,301
Year ended December 31, 2020:						
Net interest income	\$ 321,031	\$ 414,724	\$ 57,925	\$ 793,680	\$ 36,167	\$ 829,847
Provision for loan losses	(31,220)	(3,724)	12	(34,932)	(102,258)	(137,190)
Non-interest income	148,586	194,505	188,942	532,033	(26,166)	505,867
Investment securities gains, net	—	—	—	—	11,032	11,032
Non-interest expense	(297,790)	(316,004)	(124,964)	(738,758)	(29,620)	(768,378)
Income before income taxes	\$ 140,607	\$ 289,501	\$ 121,915	\$ 552,023	\$ (110,845)	\$ 441,178

The segment activity, as shown above, includes both direct and allocated items. Amounts in the “Other/Elimination” column include activity not related to the segments, such as that relating to administrative functions, the investment securities portfolio, and the effect of certain expense allocations to the segments. The provision for credit losses in this category contains the difference between net loan charge-offs assigned directly to the segments and the recorded provision for credit loss expense. Included in this category’s net interest income are earnings of the investment portfolio, which are not allocated to a segment.

Segment Balance Sheet Data

<i>(In thousands)</i>	Consumer	Commercial	Wealth	Segment Totals	Other/ Elimination	Consolidated Totals
Average balances for 2022:						
Assets	\$ 1,973,907	\$ 10,239,825	\$ 1,838,023	\$ 14,051,755	\$ 19,553,562	\$ 33,605,317
Loans, including held for sale	1,828,792	10,021,057	1,827,283	13,677,132	1,892,609	15,569,741
Goodwill and other intangible assets	82,566	67,727	746	151,039	3,600	154,639
Deposits	13,398,484	11,941,396	2,804,781	28,144,661	(43,964)	28,100,697
Average balances for 2021:						
Assets	\$ 2,066,625	\$ 10,550,065	\$ 1,584,765	\$ 14,201,455	\$ 19,962,280	\$ 34,163,735
Loans, including held for sale	1,924,297	10,237,980	1,575,058	13,737,335	1,948,577	15,685,912
Goodwill and other intangible assets	80,448	67,832	746	149,026	3,600	152,626
Deposits	12,838,702	11,990,753	2,965,818	27,795,273	(11,157)	27,784,116

The above segment balances include only those items directly associated with the segment. The “Other/Elimination” column includes unallocated bank balances not associated with a segment (such as investment securities and federal funds sold), balances relating to certain other administrative and corporate functions, and eliminations between segment and non-segment balances. This column also includes the resulting effect of allocating such items as float, deposit reserve and capital for the purpose of computing the cost or credit for funds used/provided.

The Company’s reportable segments are strategic lines of business that offer different products and services. They are managed separately because each line services a specific customer need, requiring different performance measurement analyses and marketing strategies. The performance measurement of the segments is based on the management structure of the Company and is not necessarily comparable with similar information for any other financial institution. The information is also not necessarily indicative of the segments’ financial condition and results of operations if they were independent entities.

14. Common and Preferred Stock*

On December 19, 2022, the Company distributed a 5% stock dividend on its \$5 par common stock for the 29th consecutive year. All per common share data in this report has been restated to reflect the stock dividend.

The Company applies the two-class method of computing income per share, as nonvested share-based awards that pay nonforfeitable common stock dividends are considered securities which participate in undistributed earnings with common stock. The two-class method requires the calculation of separate income per share amounts for the nonvested share-based awards and for common stock. Income per share attributable to common stock is shown in the following table. Nonvested share-based awards are further discussed in Note 11, Stock-Based Compensation.

Basic income per share is based on the weighted average number of common shares outstanding during the year. Diluted income per share gives effect to all dilutive potential common shares that were outstanding during the year. Presented below is a summary of the components used to calculate basic and diluted income per common share, which have been restated for all stock dividends.

<i>(In thousands, except per share data)</i>	2022	2021	2020
Basic income per common share:			
Net income attributable to Commerce Bancshares, Inc.	\$ 488,399	\$ 530,765	\$ 354,057
Less preferred stock dividends	—	—	11,966
Net income available to common shareholders	488,399	530,765	342,091
Less income allocated to nonvested restricted stock	4,450	4,846	3,215
Net income allocated to common stock	\$ 483,949	\$ 525,919	\$ 338,876
Weighted average common shares outstanding	125,275	127,738	128,286
Basic income per common share	\$ 3.86	\$ 4.12	\$ 2.64
Diluted income per common share:			
Net income available to common shareholders	\$ 488,399	\$ 530,765	\$ 342,091
Less income allocated to nonvested restricted stock	4,442	4,838	3,211
Net income allocated to common stock	\$ 483,957	\$ 525,927	\$ 338,880
Weighted average common shares outstanding	125,275	127,738	128,286
Net effect of the assumed exercise of stock-based awards - based on the treasury stock method using the average market price for the respective periods	285	300	248
Weighted average diluted common shares outstanding	125,560	128,038	128,534
Diluted income per common share	\$ 3.85	\$ 4.11	\$ 2.64

Unexercised stock appreciation rights of 163 thousand, 92 thousand and 333 thousand were excluded from the computation of diluted income per share for the years ended December 31, 2022, 2021 and 2020, respectively, because their inclusion would have been anti-dilutive.

On September 1, 2020, the Company redeemed all outstanding shares of its 6.00% Series B Non-Cumulative Perpetual Preferred Stock, \$1.00 par value per share, (Series B Preferred Stock) and the corresponding depositary shares representing fractional interests in the Series B Preferred Stock (Series B Depositary Shares). The 6,000,000 depositary shares, each representing a 1/1,000th interest in a share of Series B Preferred Stock, were redeemed simultaneously with the redemption of the Series B Preferred Stock at a redemption price of \$25 per depositary share. Regular dividends on the outstanding shares of the Series B Preferred Stock were paid separately on September 1, 2020 to all holders of record as of August 14, 2020, in the customary manner, and future dividends ceased to accrue. For the year ended December 31, 2020, preferred stock dividends totaled \$12.0 million, and included \$5.2 million related to the preferred stock redemption, which is the excess of the redemption costs over the book value of the preferred stock.

The Company maintains a treasury stock buyback program authorized by its Board of Directors. The most recent authorization in April 2022 approved future purchases of 5,000,000 shares of the Company's common stock. At December 31, 2022, 3,112,058 shares of common stock remained available for purchase under the current authorization.

The table below shows activity in the outstanding shares of the Company's common stock during the past three years. Shares in the table below are presented on an historical basis and have not been restated for the annual 5% stock dividends.

<i>(In thousands)</i>	Years Ended December 31		
	2022	2021	2020
Shares outstanding at January 1	121,436	117,138	112,132
Issuance of stock:			
Awards and sales under employee and director plans	306	328	335
5% stock dividend	5,953	5,790	5,574
Other purchases of treasury stock	(2,684)	(1,807)	(887)
Other	(12)	(13)	(16)
Shares outstanding at December 31	124,999	121,436	117,138

* Except as noted in the above table, all share and per share amounts in this footnote have been restated for the 5% common stock dividend distributed in 2022.

15. Regulatory Capital Requirements

The Company is subject to various regulatory capital requirements administered by the federal banking agencies. Failure to meet minimum capital requirements can initiate certain mandatory and additional discretionary actions by regulators that could have a direct material effect on the Company's financial statements. The regulations require the Company to meet specific capital adequacy guidelines that involve quantitative measures of the Company's assets, liabilities and certain off-balance sheet items as calculated under regulatory accounting practices. The Company's capital classification is also subject to qualitative judgments by the regulators about components, risk weightings and other factors.

The following tables show the capital amounts and ratios for the Company (on a consolidated basis) and the Bank, together with the minimum capital adequacy and well-capitalized capital requirements, at the last two year ends.

	Actual		Minimum Capital Adequacy Requirement		Well-Capitalized Capital Requirement	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
<i>(Dollars in thousands)</i>						
December 31, 2022						
Total Capital (to risk-weighted assets):						
Commerce Bancshares, Inc. (consolidated)	\$3,600,920	14.89%	\$1,934,274	8.00%	N.A.	N.A.
Commerce Bank	3,125,987	13.05	1,916,529	8.00	\$2,395,661	10.00%
Tier I Capital (to risk-weighted assets):						
Commerce Bancshares, Inc. (consolidated)	\$3,417,223	14.13%	\$1,450,705	6.00%	N.A.	N.A.
Commerce Bank	2,942,291	12.28	1,437,397	6.00	\$1,916,529	8.00%
Tier I Common Capital (to risk-weighted assets):						
Commerce Bancshares, Inc. (consolidated)	\$3,417,223	14.13%	\$1,088,029	4.50%	N.A.	N.A.
Commerce Bank	2,942,291	12.28	1,078,047	4.50	\$1,557,180	6.50%
Tier I Capital (to adjusted quarterly average assets):						
(Leverage Ratio)						
Commerce Bancshares, Inc. (consolidated)	\$3,417,223	10.34%	\$1,322,102	4.00%	N.A.	N.A.
Commerce Bank	2,942,291	8.86	1,328,220	4.00	\$1,660,275	5.00%
December 31, 2021						
Total Capital (to risk-weighted assets):						
Commerce Bancshares, Inc. (consolidated)	\$3,399,880	15.12%	\$1,798,700	8.00%	N.A.	N.A.
Commerce Bank	2,939,345	13.19	1,783,288	8.00	\$2,229,110	10.00%
Tier I Capital (to risk-weighted assets):						
Commerce Bancshares, Inc. (consolidated)	\$3,225,044	14.34%	\$1,349,025	6.00%	N.A.	N.A.
Commerce Bank	2,764,509	12.40	1,337,466	6.00	\$1,783,288	8.00%
Tier I Common Capital (to risk-weighted assets):						
Commerce Bancshares, Inc. (consolidated)	\$3,225,044	14.34%	\$1,011,769	4.50%	N.A.	N.A.
Commerce Bank	2,764,509	12.40	1,003,100	4.50	\$1,448,922	6.50%
Tier I Capital (to adjusted quarterly average assets):						
(Leverage Ratio)						
Commerce Bancshares, Inc. (consolidated)	\$3,225,044	9.13%	\$1,412,370	4.00%	N.A.	N.A.
Commerce Bank	2,764,509	7.86	1,406,785	4.00	\$1,758,482	5.00%

The minimum required ratios for well-capitalized banks (under prompt corrective action provisions) are 6.5% for Tier I common capital, 8.0% for Tier I capital, 10.0% for Total capital and 5.0% for the leverage ratio.

At December 31, 2022 and 2021, the Company met all capital requirements to which it is subject, and the Bank's capital position exceeded the regulatory definition of well-capitalized.

16. Revenue from Contracts with Customers

The core principle of ASU 2014-09 Revenue from Contracts with Customers is that an entity should recognize revenue to reflect the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. For the year ended December 31, 2022, approximately 63% of the Company's total revenue was comprised of net interest income, which is not within the scope of this guidance. Of the remaining revenue, those items that were subject to this guidance mainly included fees for bank card, trust, deposit account services and consumer brokerage services.

The following table disaggregates non-interest income subject to ASU 2014-09 by major product line.

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Bank card transaction fees	\$ 176,144	\$ 167,891	\$ 151,797
Trust fees	184,719	188,227	160,637
Deposit account charges and other fees	94,381	97,217	93,227
Consumer brokerage services	19,117	18,362	15,095
Other non-interest income	34,742	27,223	31,040
Total non-interest income from contracts with customers	509,103	498,920	451,796
Other non-interest income ⁽¹⁾	37,432	61,473	54,071
Total non-interest income	\$ 546,535	\$ 560,393	\$ 505,867

(1) This revenue is not within the scope of ASU 2014-09, and includes fees relating to capital market activities, loan fees and sales, derivative instruments, standby letters of credit and various other transactions.

The following table presents the opening and closing receivable balances for the years ended December 31, 2022 and 2021 for the Company's significant revenue categories subject to ASU 2014-09.

<i>(In thousands)</i>	December 31, 2022	December 31, 2021	December 31, 2020
Bank card transaction fees	\$ 17,254	\$ 16,424	\$ 14,199
Trust fees	2,038	2,222	2,071
Deposit account charges and other fees	6,631	6,702	6,933
Consumer brokerage services	949	391	432

For these revenue categories, none of the transaction price has been allocated to performance obligations that are unsatisfied as of the end of a reporting period. A description of these revenue categories follows.

Bank Card Transaction Fees

The following table presents the components of bank card fee income.

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Debit card:			
Fee income	\$ 44,240	\$ 44,170	\$ 39,862
Expense for network charges	(3,272)	(3,160)	(2,218)
Net debit card fees	40,968	41,010	37,644
Credit card:			
Fee income	31,609	29,214	24,921
Expense for network charges and rewards	(17,049)	(14,070)	(11,528)
Net credit card fees	14,560	15,144	13,393
Corporate card:			
Fee income	217,539	197,483	179,251
Expense for network charges and rewards	(117,527)	(105,782)	(96,877)
Net corporate card fees	100,012	91,701	82,374
Merchant:			
Fee income	34,583	33,019	29,660
Fees to cardholder banks	(10,425)	(9,640)	(8,115)
Expense for network charges	(3,554)	(3,343)	(3,159)
Net merchant fees	20,604	20,036	18,386
Total bank card transaction fees	\$ 176,144	\$ 167,891	\$ 151,797

The majority of debit and credit card fees are reported in the Consumer segment, while corporate card and merchant fees are reported in the Commercial segment.

Debit and Credit Card Fees

The Company issues debit and credit cards to its retail and commercial banking customers who use the cards to purchase goods and services from merchants through an electronic payment system. As a card issuer, the Company earns fees, including interchange income, for processing the cardholder's purchase transaction with a merchant through a settlement network. Purchases are charged directly to a customer's checking account (in the case of a debit card), or are posted to a customer's credit card account. The fees earned are established by the settlement network and are dependent on the type of transaction processed but are typically based on a per unit charge. Interchange income, the largest component of debit and credit card fees, is settled daily through the networks. The services provided to the cardholders include issuing and maintaining cards, settling purchases with merchants, and maintaining memberships in various card networks to facilitate processing. These services are considered one performance obligation, as one of the services would not be performed without the others. The performance obligation is satisfied as services are rendered for each purchase transaction, and income is immediately recognized.

In order to participate in the settlement network process, the Company must pay various transaction-related costs, established by the networks, including membership fees and a per unit charge for each transaction. These expenses are recorded net of the card fees earned.

Consumer credit card products offer cardholders rewards that can be later redeemed for cash, goods or services to encourage card usage. Reward programs must meet network requirements based on the type of card issued. The expense associated with the rewards granted are recorded net of the credit card fees earned.

Commercial card products offer cash rewards to corporate cardholders to encourage card usage in facilitating corporate payments. The Company pays cash rewards based on contractually agreed upon amounts, normally as a percent of each sales transaction. The expense associated with the cash rewards program is recorded net of the corporate card fees earned.

Merchant Fees

The Company offers merchant processing services to its business customers to enable them to accept credit and debit card payments. Merchant processing activities include gathering merchant sales information, authorizing sales transactions and collecting the funds from card issuers using the networks. The merchant is charged a merchant discount fee for the services based on agreed upon pricing between the merchant and the Company. Merchant fees are recorded net of outgoing interchange costs paid to the card issuing banks and net of other network costs as shown in the table above.

Merchant services provided are considered one performance obligation, as one of the services would not be performed without the others. The performance obligation is satisfied as services are rendered for each settlement transaction and income is immediately recognized. Income earned from merchant fees settles with the customer according to terms negotiated in individual customer contracts. The majority of customers settle with the Company at least monthly.

Trust Fees

The following table shows the components of revenue within trust fees, which are reported within the Wealth segment.

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Private client	\$ 147,239	\$ 147,653	\$ 123,941
Institutional	31,525	33,890	30,544
Other	5,955	6,684	6,152
Total trust fees	\$ 184,719	\$ 188,227	\$ 160,637

The Company provides trust and asset management services to both private client and institutional trust customers including asset custody, investment advice, and reporting and administrative services. Other specialized services such as tax preparation, financial planning, representation and other related services are provided as needed. Trust fees are generally earned monthly and billed based on a rate multiplied by the fair value of the customer's trust assets. The majority of customer trust accounts are billed monthly. However, some accounts are billed quarterly, and a small number of accounts are billed semi-annually or annually, in accordance with agreements in place with the customer. The Company accrues trust fees monthly based on an estimate of fees due and either directly charges the customer's account the following month or invoices the customer for fees due according to the billing schedule.

The Company maintains written product pricing information which is used to bill each trust customer based on the services provided. Providing trust services is considered to be a single performance obligation that is satisfied on a monthly basis, involving the monthly custody of customer assets, statement rendering, periodic investment advice where applicable, and other specialized services as needed. As such, performance obligations are considered to be satisfied at the conclusion of each month while trust fee income is also recognized monthly.

Deposit Account Charges and Other Fees

The following table shows the components of revenue within deposit account charges and other fees.

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Corporate cash management fees	\$ 52,501	\$ 50,051	\$ 46,762
Overdraft and return item fees	19,938	24,157	22,951
Other service charges on deposit accounts	21,942	23,009	23,514
Total deposit account charges and other fees	\$ 94,381	\$ 97,217	\$ 93,227

Approximately 60% of this revenue is reported in the Commercial segment, while the remainder is reported in the Consumer segment.

The Company provides corporate cash management services to its business and non-profit customers to meet their various transaction processing needs. Such services include deposit and check processing, lockbox, remote deposit, reconciliation, online banking and other similar transaction processing services. The Company maintains unit prices for each type of service, and the customer is billed based on transaction volumes processed monthly. The customer is usually billed either monthly or

quarterly, however, some customers may be billed semi-annually or annually. The customer may pay for the cash management services either by paying in cash or using the value of deposit balances (formula provided to the customer) held at the Company. The Company's performance obligation for corporate cash management services is the processing of items over a monthly term, and the obligations are satisfied at the conclusion of each month.

Overdraft fees are charged to customers when daily checks and other withdrawals to customers' accounts exceed balances on hand. Fees are based on a unit price multiplied by the number of items processed whose total amounts exceed the available account balance. The daily overdraft charge is calculated and the fee is posted to the customer's account each day. The Company's performance obligation for overdraft transactions is based on the daily transaction processed and the obligation is satisfied as each day's transaction processing is concluded. In September 2022, as discussed in the Non-Interest Income section of Item 7, the Company implemented enhancements to consumer checking accounts that eliminated return item fees and are expected to lower future overdraft fees for customers.

Other deposit fees include numerous smaller fees such as monthly statement fees, foreign ATM processing fees, identification restoration fees, and stop payment fees. Such fees are mostly billed to customers directly on their monthly deposit account statements, or in the case of foreign ATM processing fees, the fee is charged to the customer on the day that transactions are processed. Performance obligations for all of these various services are satisfied at the time that the service is rendered.

Consumer Brokerage Services

The following shows the components of revenue within consumer brokerage services, and nearly all of this revenue is reported in the Company's Wealth segment.

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Commission income	\$ 10,359	\$ 9,328	\$ 8,002
Managed account services	8,758	9,034	7,093
Total consumer brokerage services	\$ 19,117	\$ 18,362	\$ 15,095

Consumer brokerage services revenue is comprised of commissions received upon the execution of purchases and sales of mutual fund shares and equity securities, in addition to sales of annuities and certain limited insurance products in an agency capacity. Also, fees are earned on professionally managed advisory programs through arrangements with sub-advisors. Payment from the customer is due upon settlement date for purchases and sales of securities, at the purchase date for annuities and insurance products, and upon inception of the service period for advisory programs.

Most of the contracts (except advisory contracts) encompass two types of performance obligations. The first is an obligation to provide account maintenance, record keeping and custodial services throughout the contract term. The second is the obligation to provide trade execution services for the customers' purchases and sales of products mentioned above. The first obligation is satisfied over time as the service period elapses, while the second type of obligation is satisfied upon the execution of each purchase/sale transaction. Contracts for advisory services contain a single performance obligation comprised of providing the management services and related reporting/administrative services over the contract term.

The transaction price of the contracts (except advisory contracts) is a commission charged at the time of trade execution. The commission varies across different security types, insurance products and mutual funds. It is generally determined by standardized price lists published by the Company and its mutual fund and insurance vendors. Because the transaction price relates specifically to the trade execution, it has been allocated to that performance obligation and is recorded at the time of execution. The fee for advisory services is charged to the customer in advance of the quarterly service period, based on the account balance at the beginning of the period. Revenue is recognized ratably over the service period.

Other Non-Interest Income from Contracts with Customers

Other non-interest income from contracts with customers consists mainly of various customer deposit related fees such as ATM fees and gains on sales of tax credits, foreclosed assets, and bank premises and equipment. Performance obligations for these services consist mainly of the execution of transactions for sales of various properties or providing specific deposit related transactions. Fees from these revenue sources are recognized when the performance obligation is completed, at which time cash is received by the Company.

17. Fair Value Measurements

The Company uses fair value measurements to record fair value adjustments to certain financial and nonfinancial assets and liabilities and to determine fair value disclosures. Various financial instruments such as available for sale debt securities, equity securities, trading debt securities, certain investments relating to private equity activities, and derivatives are recorded at fair value on a recurring basis. Additionally, from time to time, the Company may be required to record other assets and liabilities at fair value on a nonrecurring basis, such as mortgage servicing rights and certain other investment securities. These nonrecurring fair value adjustments typically involve lower of cost or fair value accounting, or write-downs of individual assets.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Depending on the nature of the asset or liability, the Company uses various valuation techniques and assumptions when estimating fair value. For accounting disclosure purposes, a three-level valuation hierarchy of fair value measurements has been established. The valuation hierarchy is based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date. The three levels are defined as follows:

- Level 1 – inputs to the valuation methodology are quoted prices for identical assets or liabilities in active markets.
- Level 2 – inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, and inputs that are observable for the assets or liabilities, either directly or indirectly (such as interest rates, yield curves, and prepayment speeds).
- Level 3 – inputs to the valuation methodology are unobservable and significant to the fair value. These may be internally developed, using the Company's best information and assumptions that a market participant would consider.

When determining the fair value measurements for assets and liabilities required or permitted to be recorded or disclosed at fair value, the Company considers the principal or most advantageous market in which it would transact and considers assumptions that market participants would use when pricing the asset or liability. When possible, the Company looks to active and observable markets to price identical assets or liabilities. When identical assets and liabilities are not traded in active markets, the Company looks to observable market data for similar assets and liabilities. Nevertheless, certain assets and liabilities are not actively traded in observable markets, and the Company must use alternative valuation techniques to derive an estimated fair value measurement.

Instruments Measured at Fair Value on a Recurring Basis

The table below presents the carrying values of assets and liabilities measured at fair value on a recurring basis at December 31, 2022 and 2021. There were no transfers among levels during these years.

(In thousands)	Total Fair Value	Fair Value Measurements Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2022				
Assets:				
Residential mortgage loans held for sale	\$ —	\$ —	\$ —	\$ —
Available for sale debt securities:				
U.S. government and federal agency obligations	1,035,406	1,035,406	—	—
Government-sponsored enterprise obligations	43,108	—	43,108	—
State and municipal obligations	1,767,109	—	1,765,268	1,841
Agency mortgage-backed securities	4,308,427	—	4,308,427	—
Non-agency mortgage-backed securities	1,211,607	—	1,211,607	—
Asset-backed securities	3,397,801	—	3,397,801	—
Other debt securities	474,858	—	474,858	—
Trading debt securities	43,523	—	43,523	—
Equity securities	6,210	6,210	—	—
Private equity investments	178,127	—	—	178,127
Derivatives *	60,492	—	60,458	34
Assets held in trust for deferred compensation plan	17,856	17,856	—	—
Total assets	12,544,524	1,059,472	11,305,050	180,002
Liabilities:				
Derivatives *	54,984	—	54,865	119
Liabilities held in trust for deferred compensation plan	17,856	17,856	—	—
Total liabilities	\$ 72,840	\$ 17,856	\$ 54,865	\$ 119
December 31, 2021				
Assets:				
Residential mortgage loans held for sale	\$ 5,570	\$ —	\$ 5,570	\$ —
Available for sale debt securities:				
U.S. government and federal agency obligations	1,080,720	1,080,720	—	—
Government-sponsored enterprise obligations	51,755	—	51,755	—
State and municipal obligations	2,096,827	—	2,094,843	1,984
Agency mortgage-backed securities	5,683,000	—	5,683,000	—
Non-agency mortgage-backed securities	1,366,477	—	1,366,477	—
Asset-backed securities	3,539,219	—	3,539,219	—
Other debt securities	632,029	—	632,029	—
Trading debt securities	46,235	—	46,235	—
Equity securities	7,153	7,153	—	—
Private equity investments	147,406	—	—	147,406
Derivatives *	41,842	—	40,994	848
Assets held in trust for deferred compensation plan	21,794	21,794	—	—
Total assets	14,720,027	1,109,667	13,460,122	150,238
Liabilities:				
Derivatives *	12,101	—	11,824	277
Liabilities held in trust for deferred compensation plan	21,794	21,794	—	—
Total liabilities	\$ 33,895	\$ 21,794	\$ 11,824	\$ 277

*The fair value of each class of derivative is shown in Note 19.

Valuation methods for instruments measured at fair value on a recurring basis

Following is a description of the Company's valuation methodologies used for instruments measured at fair value on a recurring basis:

Residential mortgage loans held for sale

The Company originates fixed rate, first lien residential mortgage loans that are intended for sale in the secondary market. Fair value is based on quoted secondary market prices for loans with similar characteristics, which are adjusted to include the embedded servicing value in the loans. This adjustment represents an unobservable input to the valuation but is not considered significant given the relative insensitivity of the valuation to changes in this input. Accordingly, these loan measurements are classified as Level 2.

Available for sale debt securities

For available for sale securities, changes in fair value are recorded in other comprehensive income. This portfolio comprises the majority of the assets which the Company records at fair value. Most of the portfolio, which includes government-sponsored enterprise, mortgage-backed and asset-backed securities, are priced utilizing industry-standard models that consider various assumptions, including time value, yield curves, volatility factors, prepayment speeds, default rates, loss severity, current market and contractual prices for the underlying financial instruments, as well as other relevant economic measures. Substantially all of these assumptions are observable in the marketplace, can be derived from observable data, or are supported by observable levels at which transactions are executed in the marketplace. These measurements are classified as Level 2 in the fair value hierarchy. Where quoted prices are available in an active market, the measurements are classified as Level 1. Most of the Level 1 measurements apply to U.S. Treasury obligations.

The fair values of Level 1 and 2 securities in the available for sale portfolio are prices provided by a third-party pricing service. The prices provided by the third-party pricing service are based on observable market inputs, as described in the sections below. On a quarterly basis, the Company compares these prices to other independent sources for the same and similar securities. Variances are analyzed, and, if appropriate, additional research is conducted with the third-party pricing service. Based on this research, the pricing service may affirm or revise its quoted price. No significant adjustments have been made to the prices provided by the pricing service. The pricing service also provides documentation on an ongoing basis that includes reference data, inputs and methodology by asset class, which is reviewed by the Company to ensure that security placement within the fair value hierarchy is appropriate.

Valuation methods and inputs, by class of security:

- *U.S. government and federal agency obligations*

U.S. treasury bills, bonds and notes, including inflation-protected securities, are valued using live data from active market makers and inter-dealer brokers. Valuations for stripped coupon and principal issues are derived from yield curves generated from various dealer contacts and live data sources.

- *Government-sponsored enterprise obligations*

Government-sponsored enterprise obligations are evaluated using cash flow valuation models. Inputs used are live market data, cash settlements, Treasury market yields, and floating rate indices such as LIBOR, CMT, and Prime.

- *State and municipal obligations, excluding auction rate securities*

A yield curve is generated and applied to bond sectors, and individual bond valuations are extrapolated. Inputs used to generate the yield curve are bellwether issue levels, established trading spreads between similar issuers or credits, historical trading spreads over widely accepted market benchmarks, new issue scales, and verified bid information. Bid information is verified by corroborating the data against external sources such as broker-dealers, trustees/paying agents, issuers, or non-affiliated bondholders.

- *Mortgage and asset-backed securities*

Collateralized mortgage obligations and other asset-backed securities are valued at the tranche level. For each tranche valuation, the process generates predicted cash flows for the tranche, applies a market based (or benchmark) yield/spread for each tranche, and incorporates deal collateral performance and tranche level attributes to determine tranche-specific spreads to adjust the benchmark yield. Tranche cash flows are generated from new deal files and prepayment/default assumptions. Tranche spreads are based on tranche characteristics such as average life, type, volatility, ratings, underlying collateral and performance, and prevailing market conditions. The appropriate tranche spread is applied to the corresponding benchmark, and the resulting value is used to discount the cash flows to generate an evaluated price.

Valuation of agency pass-through securities, typically issued under GNMA, FNMA, FHLMC, and SBA programs, are primarily derived from information from the to-be-announced (TBA) market. This market consists of generic mortgage pools which have not been received for settlement. Snapshots of the TBA market, using live data feeds distributed by multiple electronic platforms, are used in conjunction with other indices to compute a price based on discounted cash flow models.

- *Other debt securities*

Other debt securities are valued using active markets and inter-dealer brokers as well as bullet spread scales and option adjusted spreads. The spreads and models use yield curves, terms and conditions of the bonds, and any special features (e.g., call or put options and redemption features).

- *Auction rate securities*

The available for sale portfolio includes certain auction rate securities. Due to the illiquidity in the auction rate securities market in recent years, the fair value of these securities cannot be based on observable market prices. The fair values of these securities are estimated using a discounted cash flows analysis which is discussed more fully in the Level 3 Inputs section of this note. Because many of the inputs significant to the measurement are not observable, these measurements are classified as Level 3 measurements.

Trading debt securities

The securities in the Company's trading portfolio are priced by averaging several broker quotes for similar instruments and are classified as Level 2 measurements.

Equity securities with readily determinable fair values

Equity securities are priced using the market prices for each security from the major stock exchanges or other electronic quotation systems. These are generally classified as Level 1 measurements. Stocks which trade infrequently are classified as Level 2.

Private equity investments

These securities are held by the Company's private equity subsidiary and are included in other investment securities in the consolidated balance sheets. Due to the absence of quoted market prices, valuation of these nonpublic investments requires significant management judgment. These fair value measurements, which are discussed in the Level 3 Inputs section of this note, are classified as Level 3.

Derivatives

The Company's derivative instruments include interest rate swaps and floors, foreign exchange forward contracts, and certain credit risk guarantee agreements. When appropriate, the impact of credit standing as well as any potential credit enhancements, such as collateral, has been considered in the fair value measurement.

- Valuations for interest rate swaps are derived from a proprietary model whose significant inputs are readily observable market parameters, primarily yield curves used to calculate current exposure. Counterparty credit risk is incorporated into the model and calculated by applying a net credit spread over LIBOR to the swap's total expected exposure over time. The net credit spread is comprised of spreads for both the Company and its counterparty, derived from probability of default and other loss estimate information obtained from a third party credit data provider or from the Company's Credit Department when not otherwise available. The credit risk component is not significant compared to the overall fair value of the swaps. The results of the model are constantly validated through comparison to active trading in the marketplace.

Parties to swaps requiring central clearing are required to post collateral (generally in the form of cash or marketable securities) to an authorized clearing agency that holds and monitors the collateral. The Company's clearing counterparty characterizes a component of this collateral, known as variation margin, as a legal settlement of the derivative contract exposure, and as a result, the variation margin is considered in determining the fair value of the derivative.

Valuations for interest rate floors are also derived from a proprietary model whose significant inputs are readily observable market parameters, primarily yield curves and volatility surfaces. The model uses market standard methodology of discounting the future expected cash receipts that would occur if variable interest rates fall below the strike rates of the floors. The model also incorporates credit valuation adjustments of both the Company's and the

counterparties' non-performance risk. The credit valuation adjustment component is not significant compared to the overall fair value of the floors.

The fair value measurements of interest rate swaps and floors are classified as Level 2 due to the observable nature of the significant inputs utilized.

- Fair value measurements for foreign exchange contracts are derived from a model whose primary inputs are quotations from global market makers and are classified as Level 2.
- The Company's contracts related to credit risk guarantees are valued under a proprietary model which uses unobservable inputs and assumptions about the creditworthiness of the counterparty (generally a Bank customer). Customer credit spreads, which are based on probability of default and other loss estimates, are calculated internally by the Company's Credit Department, as mentioned above, and are based on the Company's internal risk rating for each customer. Because these inputs are significant to the measurements, they are classified as Level 3.
- Derivatives relating to residential mortgage loan sale activity include commitments to originate mortgage loans held for sale, forward loan sale contracts, and forward commitments to sell TBA securities. The fair values of loan commitments and sale contracts are estimated using quoted market prices for loans similar to the underlying loans in these instruments. The valuations of loan commitments are further adjusted to include embedded servicing value and the probability of funding. These assumptions are considered Level 3 inputs and are significant to the loan commitment valuation; accordingly, the measurement of loan commitments is classified as Level 3. The fair value measurement of TBA contracts is based on security prices published on trading platforms and is classified as Level 2.

Assets held in trust for deferred compensation plan

Assets held in an outside trust for the Company's deferred compensation plan consist of investments in mutual funds. The fair value measurements are based on quoted prices in active markets and classified as Level 1. The Company has recorded an asset representing the total investment amount. The Company has also recorded a corresponding liability, representing the Company's liability to the plan participants.

The changes in Level 3 assets and liabilities measured at fair value on a recurring basis are summarized as follows:

<i>(In thousands)</i>	Fair Value Measurements Using Significant Unobservable Inputs (Level 3)			
	State and Municipal Obligations	Private Equity Investments	Derivatives	Total
Year ended December 31, 2022:				
Balance at January 1, 2022	\$ 1,984	\$ 147,406	\$ 571	\$ 149,961
Total gains or losses (realized/unrealized):				
Included in earnings	—	43,833	(591)	43,242
Included in other comprehensive income *	(148)	—	—	(148)
Discount accretion	5	—	—	5
Purchases of private equity securities	—	12,281	—	12,281
Sale / pay down of private equity securities	—	(25,437)	—	(25,437)
Capitalized interest/dividends	—	44	—	44
Purchase of risk participation agreement	—	—	459	459
Sale of risk participation agreement	—	—	(524)	(524)
Balance at December 31, 2022	\$ 1,841	\$ 178,127	\$ (85)	\$ 179,883
Total gains or losses for the year included in earnings attributable to the change in unrealized gains or losses relating to assets still held at December 31, 2022	\$ —	\$ 35,333	\$ 170	\$ 35,503
Total gains or losses for the year included in other comprehensive income attributable to the change in unrealized gains or losses relating to assets still held at December 31, 2022	\$ (148)	\$ —	\$ —	\$ (148)
Year ended December 31, 2021:				
Balance at January 1, 2021	\$ 7,968	\$ 94,368	\$ 2,741	\$ 105,077
Total gains or losses (realized/unrealized):				
Included in earnings	—	36,344	(2,650)	33,694
Included in other comprehensive income *	(170)	—	—	(170)
Investment securities called	(6,000)	—	—	(6,000)
Discount accretion	186	—	—	186
Purchases of private equity securities	—	31,449	—	31,449
Sale / pay down of private equity securities	—	(16,523)	—	(16,523)
Capitalized interest/dividends	—	1,768	—	1,768
Purchase of risk participation agreement	—	—	685	685
Sale of risk participation agreement	—	—	(205)	(205)
Balance at December 31, 2021	\$ 1,984	\$ 147,406	\$ 571	\$ 149,961
Total gains or losses for the year included in earnings attributable to the change in unrealized gains or losses relating to assets still held at December 31, 2021	\$ —	\$ 28,654	\$ 475	\$ 29,129
Total gains or losses for the year included in other comprehensive income attributable to the change in unrealized gains or losses relating to assets still held at December 31, 2021	\$ 11	\$ —	\$ —	\$ 11

* Included in "net unrealized gains (losses) on securities" in the consolidated statements of comprehensive income.

Gains and losses on the Level 3 assets and liabilities in the table above are reported in the following income categories:

<i>(In thousands)</i>	Loan Fees and Sales	Other Non- Interest Income	Investment Securities Gains (Losses), Net	Total
Year ended December 31, 2022:				
Total gains or losses included in earnings	\$ (763)	\$ 172	\$ 43,833	\$ 43,242
Change in unrealized gains or losses relating to assets still held at December 31, 2022	\$ —	\$ 170	\$ 35,333	\$ 35,503
Year ended December 31, 2021:				
Total gains or losses included in earnings	\$ (2,463)	\$ (187)	\$ 36,344	\$ 33,694
Change in unrealized gains or losses relating to assets still held at December 31, 2021	\$ 764	\$ (289)	\$ 28,654	\$ 29,129

Level 3 Inputs

As shown above, the Company's significant Level 3 measurements which employ unobservable inputs that are readily quantifiable pertain to auction rate securities (ARS) held by the Bank, investments in portfolio concerns held by the Company's private equity subsidiary, and held for sale residential mortgage loan commitments. ARS are included in state and municipal securities and totaled \$1.8 million at December 31, 2022, while private equity investments, included in other securities, totaled \$178.1 million. At December 31, 2022, there were no mortgage loan commitments outstanding.

For the the Company's significant Level 3 measurements at December 31, 2022, information about the significant unobservable inputs is presented in the table and discussions below.

Quantitative Information about Level 3 Fair Value Measurements				Weighted
	Valuation Technique	Unobservable Input	Range	Average*
Auction rate securities	Discounted cash flow	Estimated market recovery period	5 years	5 years
		Estimated market rate	7.2% - 7.8%	7.5%
Private equity investments	Market comparable companies	EBITDA multiple	4.0 - 6.5	5.4

* Unobservable inputs were weighted by the relative fair value of the instruments.

The fair values of ARS are estimated using a discounted cash flows analysis in which estimated cash flows are based on mandatory interest rates paid under failing auctions and projected over an estimated market recovery period. Under normal conditions, ARS traded in weekly auctions and were considered liquid investments. The Company's estimate of when these auctions might resume is highly judgmental and subject to variation depending on current and projected market conditions. Few auctions of these securities have been successful in recent years, and most secondary transactions have been privately arranged. Estimated cash flows during the period over which the Company expects to hold the securities are discounted at an estimated market rate. These securities are comprised of bonds issued by various states and municipalities for healthcare and student lending purposes, and market rates are derived for each type. Market rates are calculated at each valuation date using a LIBOR or Treasury based rate plus spreads representing adjustments for liquidity premium and nonperformance risk. The spreads are developed internally by employees in the Company's bond department. An increase in the holding period alone would result in a higher fair value measurement, while an increase in the estimated market rate (the discount rate) alone would result in a lower fair value measurement. The valuation of the ARS portfolio is reviewed on a quarterly basis by the Company's chief investment officers.

The fair values of the Company's private equity investments are based on a determination of fair value of the investee company less preference payments assuming the sale of the investee company. Investee companies are normally non-public entities. The fair value of the investee company is determined by reference to the investee's total earnings before interest, depreciation/amortization, and income taxes (EBITDA) multiplied by an EBITDA factor. EBITDA is normally determined based on a trailing prior period adjusted for specific factors including current economic outlook, investee management, and specific unique circumstances such as sales order information, major customer status, regulatory changes, etc. The EBITDA multiple is based on management's review of published trading multiples for recent private equity transactions and other judgments and is derived for each individual investee. The fair value of the Company's investment is then calculated based on its ownership percentage in the investee company. On a quarterly basis, these fair value analyses are reviewed by a valuation committee consisting of investment managers and senior Company management.

The significant unobservable inputs used in the fair value measurement of the Company's derivative commitments to originate residential mortgage loans are the percentage of commitments that are actually funded and the mortgage servicing

value that is inherent in the underlying loan value. A significant increase in the rate of loans that fund would result in a larger derivative asset or liability. A significant increase in the inherent mortgage servicing value would result in an increase in the derivative asset or a reduction in the derivative liability. The probability of funding and the inherent mortgage servicing values are directly impacted by changes in market rates and will generally move in the same direction as interest rates.

Instruments Measured at Fair Value on a Nonrecurring Basis

For assets measured at fair value on a nonrecurring basis during 2022 and 2021, and still held as of December 31, 2022 and 2021, the following table provides the adjustments to fair value recognized during the respective periods, the level of valuation assumptions used to determine each adjustment, and the carrying value of the related individual assets or portfolios at December 31, 2022 and 2021.

<i>(In thousands)</i>	Fair Value	Fair Value Measurements Using			Total Gains (Losses)
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
Balance at December 31, 2022					
Collateral dependent loans	\$ 1,988	\$ —	\$ —	\$ 1,988	\$ (2,090)
Mortgage servicing rights	10,929	—	—	10,929	304
Long-lived assets	480	—	—	480	(965)
Balance at December 31, 2021					
Collateral dependent loans	\$ 1,664	\$ —	\$ —	\$ 1,664	\$ (213)
Mortgage servicing rights	10,966	—	—	10,966	1,799
Long-lived assets	1,018	—	—	1,018	(1,101)

The Company's significant Level 3 measurements that are measured on a nonrecurring basis pertain to the Company's mortgage servicing rights retained on certain fixed rate personal real estate loan originations. Mortgage servicing rights are included in other intangible assets on the consolidated balance sheets, and information about these inputs is presented in the table below.

<u>Quantitative Information about Level 3 Fair Value Measurements</u>				Weighted
	Valuation Technique	Unobservable Input	Range	Average*
Mortgage servicing rights	Discounted cash flow	Discount rate	9.51 % - 9.72 %	9.60 %
		Prepayment speeds (CPR)*	6.26 % - 7.28 %	6.43 %
		Loan servicing costs - annually per loan		
		Performing loans	\$ 70 - \$ 72	\$ 71
		Delinquent loans	\$ 200 - \$ 750	
		Loans in foreclosure	\$1,000	

*Ranges and weighted averages based on interest rate tranches.

The significant unobservable inputs used in the fair value measurement of the Company's mortgage servicing rights are updated periodically for changes in market conditions. Actual rates may differ from our estimates. Increases in prepayment speed and discount rates negatively impact the fair value of our mortgage servicing rights.

Valuation methods for instruments measured at fair value on a nonrecurring basis

Following is a description of the Company's valuation methodologies used for other financial and nonfinancial instruments measured at fair value on a nonrecurring basis.

Collateral dependent loans

While the overall loan portfolio is not carried at fair value, the Company periodically records nonrecurring adjustments to the carrying value of loans based on fair value measurements for partial charge-offs of the uncollectible portions of those loans. Nonrecurring adjustments also include certain impairment amounts for collateral dependent loans when establishing the allowance for credit losses on loans. Such amounts are generally based on the fair value of the underlying collateral supporting

the loan. In determining the value of real estate collateral, the Company relies on external and internal appraisals of property values depending on the size and complexity of the real estate collateral. The Company maintains a staff of qualified appraisers who also review third party appraisal reports for reasonableness. In the case of non-real estate collateral, reliance is placed on a variety of sources, including external estimates of value and judgments based on the experience and expertise of internal specialists. Values of all loan collateral are regularly reviewed by credit administration. Unobservable inputs to these measurements, which include estimates and judgments often used in conjunction with appraisals, are not readily quantifiable. These measurements are classified as Level 3. Nonrecurring adjustments to the carrying value of loans based on fair value measurements at December 31, 2022 and 2021 are shown in the table above.

Mortgage servicing rights

The Company initially measures its mortgage servicing rights at fair value and amortizes them over the period of estimated net servicing income. They are periodically assessed for impairment based on fair value at the reporting date. Mortgage servicing rights do not trade in an active market with readily observable prices. Accordingly, the fair value is estimated based on a valuation model which calculates the present value of estimated future net servicing income. The model incorporates assumptions that market participants use in estimating future net servicing income, including estimates of prepayment speeds, market discount rates, cost to service, float earnings rates, and other ancillary income, including late fees. The fair value measurements are classified as Level 3.

Long-lived assets

When investments in branch facilities and various office buildings are determined to be impaired, their carrying values are written down to estimated fair value, or estimated fair value less cost to sell if the property is held for sale. Fair value is estimated in a process which considers current local commercial real estate market conditions and the judgment of the sales agent and often involves obtaining third party appraisals from certified real estate appraisers. The carrying amounts of these real estate holdings are regularly monitored by real estate professionals employed by the Company. These fair value measurements are classified as Level 3. Unobservable inputs to these measurements, which include estimates and judgments often used in conjunction with appraisals, are not readily quantifiable.

18. Fair Value of Financial Instruments

The carrying amounts and estimated fair values of financial instruments held by the Company are set forth below. Fair value estimates are made at a specific point in time based on relevant market information. They do not reflect any premium or discount that could result from offering for sale at one time the Company's entire holdings of a particular financial instrument. Because no market exists for many of the Company's financial instruments, fair value estimates are based on judgments regarding future expected loss experience, risk characteristics and economic conditions. These estimates are subjective, involve uncertainties, and cannot be determined with precision. Changes in assumptions could significantly affect the estimates.

The estimated fair values of the Company's financial instruments and the classification of their fair value measurement within the valuation hierarchy are as follows at December 31, 2022 and 2021:

<i>(In thousands)</i>	Carrying Amount	Estimated Fair Value at December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial Assets					
Loans:					
Business	\$ 5,661,725	\$ —	\$ —	\$ 5,506,128	\$ 5,506,128
Real estate - construction and land	1,361,095	—	—	1,347,328	1,347,328
Real estate - business	3,406,981	—	—	3,289,655	3,289,655
Real estate - personal	2,918,078	—	—	2,654,423	2,654,423
Consumer	2,059,088	—	—	1,999,788	1,999,788
Revolving home equity	297,207	—	—	295,005	295,005
Consumer credit card	584,000	—	—	538,268	538,268
Overdrafts	14,957	—	—	14,666	14,666
Total loans	16,303,131	—	—	15,645,261	15,645,261
Loans held for sale	4,964	—	4,964	—	4,964
Investment securities	12,511,649	1,041,616	11,244,592	225,441	12,511,649
Federal funds sold	49,505	49,505	—	—	49,505
Securities purchased under agreements to resell	825,000	—	—	795,574	795,574
Interest earning deposits with banks	389,140	389,140	—	—	389,140
Cash and due from banks	452,496	452,496	—	—	452,496
Derivative instruments	60,492	—	60,458	34	60,492
Assets held in trust for deferred compensation plan	17,856	17,856	—	—	17,856
Total	\$ 30,614,233	\$ 1,950,613	\$ 11,310,014	\$ 16,666,310	\$ 29,926,937
Financial Liabilities					
Non-interest bearing deposits	\$ 10,066,356	\$ 10,066,356	\$ —	\$ —	\$ 10,066,356
Savings, interest checking and money market deposits	15,126,981	15,126,981	—	—	15,126,981
Certificates of deposit	994,103	—	—	982,613	982,613
Federal funds purchased	159,860	159,860	—	—	159,860
Securities sold under agreements to repurchase	2,681,874	—	—	2,684,471	2,684,471
Other borrowings	8,831	—	8,831	—	8,831
Derivative instruments	54,984	—	54,865	119	54,984
Liabilities held in trust for deferred compensation plan	17,856	17,856	—	—	17,856
Total	\$ 29,110,845	\$ 25,371,053	\$ 63,696	\$ 3,667,203	\$ 29,101,952

<i>(In thousands)</i>	Carrying Amount	Estimated Fair Value at December 31, 2021			
		Level 1	Level 2	Level 3	Total
Financial Assets					
Loans:					
Business	\$ 5,303,535	\$ —	\$ —	\$ 5,229,153	\$ 5,229,153
Real estate - construction and land	1,118,266	—	—	1,099,747	1,099,747
Real estate - business	3,058,837	—	—	3,054,481	3,054,481
Real estate - personal	2,805,401	—	—	2,809,490	2,809,490
Consumer	2,032,225	—	—	2,031,408	2,031,408
Revolving home equity	275,945	—	—	273,450	273,450
Consumer credit card	575,410	—	—	536,468	536,468
Overdrafts	6,740	—	—	6,458	6,458
Total loans	15,176,359	—	—	15,040,655	15,040,655
Loans held for sale	8,615	—	8,615	—	8,615
Investment securities	14,695,628	1,087,873	13,413,558	194,197	14,695,628
Federal funds sold	2,800	2,800	—	—	2,800
Securities purchased under agreements to resell	1,625,000	—	—	1,623,856	1,623,856
Interest earning deposits with banks	3,971,217	3,971,217	—	—	3,971,217
Cash and due from banks	305,539	305,539	—	—	305,539
Derivative instruments	41,842	—	40,994	848	41,842
Assets held in trust for deferred compensation plan	21,794	21,794	—	—	21,794
Total	\$ 35,848,794	\$ 5,389,223	\$ 13,463,167	\$ 16,859,556	\$ 35,711,946
Financial Liabilities					
Non-interest bearing deposits	\$ 11,772,374	\$ 11,772,374	\$ —	\$ —	\$ 11,772,374
Savings, interest checking and money market deposits	16,598,085	16,598,085	—	—	16,598,085
Certificates of deposit	1,442,614	—	—	1,438,919	1,438,919
Federal funds purchased	43,385	43,385	—	—	43,385
Securities sold under agreements to repurchase	2,979,582	—	—	2,979,677	2,979,677
Other borrowings	12,514	—	12,514	—	12,514
Derivative instruments	12,101	—	11,824	277	12,101
Liabilities held in trust for deferred compensation plan	21,794	21,794	—	—	21,794
Total	\$ 32,882,449	\$ 28,435,638	\$ 24,338	\$ 4,418,873	\$ 32,878,849

19. Derivative Instruments

The notional amounts of the Company's derivative instruments are shown in the table below. These contractual amounts, along with other terms of the derivative, are used to determine amounts to be exchanged between counterparties and are not a measure of loss exposure. With the exception of the interest rate floors (discussed below), the Company's derivative instruments are accounted for as free-standing derivatives, and changes in their fair value are recorded in current earnings.

<i>(In thousands)</i>	December 31	
	2022	2021
Interest rate swaps	\$ 1,981,821	\$ 2,229,419
Interest rate floors	1,000,000	—
Interest rate caps	152,784	152,058
Credit risk participation agreements	579,925	485,633
Foreign exchange contracts	27,991	5,119
Mortgage loan commitments	—	21,787
Mortgage loan forward sale contracts	—	1,165
Forward TBA contracts	—	21,000
Total notional amount	\$ 3,742,521	\$ 2,916,181

The largest group of notional amounts relate to interest rate swap contracts sold to commercial customers who wish to modify their interest rate sensitivity. Those customers are engaged in a variety of businesses, including real estate, manufacturing, retail product distribution, education, and retirement communities. These interest rate swap contracts with customers are offset by matching interest rate swap contracts purchased by the Company from other financial institutions (dealers). Contracts with dealers that require central clearing are novated to a clearing agency who becomes the Company's counterparty. Because of the matching terms of the offsetting contracts, in addition to collateral provisions which mitigate the impact of non-performance risk, changes in fair value subsequent to initial recognition have a minimal effect on earnings.

Many of the Company's interest rate swap contracts with large financial institutions contain contingent features relating to debt ratings or capitalization levels. Under these provisions, if the Company's debt rating falls below investment grade or if the Company ceases to be "well-capitalized" under risk-based capital guidelines, certain counterparties can require immediate and ongoing collateralization on interest rate swaps in net liability positions or instant settlement of the contracts. The Company maintains debt ratings and capital well above those minimum requirements.

As of December 31, 2022, the Company holds two interest rate floors with a combined notional value of \$1.0 billion to hedge the risk of declining interest rates on certain floating rate commercial loans. The first floor has a purchased strike rate of 2.50%, is forward-starting beginning on January 1, 2024 and matures on January 1, 2030. In the event that the index rate falls below zero, the maximum rate spread the Company can earn on the notional amount is limited to 2.50%. The second floor has a purchased strike rate of 3.00%, is forward-starting beginning on April 1, 2024 and matures on April 1, 2030. In the event that the index rate on the second floor falls below zero, the maximum rate the Company can earn on the notional amount of the second floor is limited to 3.00%. The premium paid for these floors totaled \$35.8 million. As of December 31, 2022, the maximum length of time over which the Company is hedging its exposure to lower rates is approximately 6 years. These interest rate floors qualified and were designated as cash flow hedges and were assessed for effectiveness using regression analysis. The change in the fair value of these interest rate floors is recorded in AOCI, net of the amortization of the premiums paid, which are recorded against interest and fees on loans in the consolidated statements of income. As of December 31, 2022, net deferred gains on the interest rate floors totaled \$2.4 million (pre-tax) and were recorded in AOCI in the consolidated balance sheet. As of December 31, 2022, it is expected that \$4.9 million (pre-tax) interest rate floor premium amortization will be reclassified from AOCI into earnings over the next 12 months.

During the year ended December 31, 2020, the Company monetized three interest rate floors that were previously classified as cash flow hedges with a combined notional balance of \$1.5 billion and an asset fair value of \$163.2 million. As of December 31, 2022, the total unrealized gains on the monetized cash flow hedges remaining in AOCI was \$74.9 million (pre-tax). The unrealized gains will be reclassified into interest income as the underlying forecasted transactions impact earnings through the original maturity dates of the hedged forecasted transactions, or approximately within 4.0 years. The estimated amount of net gains related to the cash flow hedges remaining in AOCI at December 31, 2022 that is expected to be reclassified into income within the next 12 months is \$23.6 million.

The Company also contracts with other financial institutions, as a guarantor or beneficiary, to share credit risk associated with certain interest rate swaps through risk participation agreements. The Company's risks and responsibilities as guarantor are further discussed in Note 21 on Commitments, Contingencies and Guarantees. In addition, the Company enters into foreign exchange contracts, which are mainly comprised of contracts with customers to purchase or deliver specific foreign currencies at specific future dates.

Under its program to sell residential mortgage loans in the secondary market, the Company designates certain newly-originated residential mortgage loans as held for sale. Derivative instruments arising from this activity include mortgage loan commitments and forward loan sale contracts. Changes in the fair values of the loan commitments and funded loans prior to sale that are due to changes in interest rates are economically hedged with forward contracts to sell residential mortgage-backed securities in the to-be-announced (TBA) market. These forward TBA contracts are also considered to be derivatives and are settled in cash at the security settlement date. In late 2022, the Company temporarily paused sales of these loans and halted entering into the forward contracts, as lower demand for mortgage loans coupled with volatility in the TBA market made it difficult to effectively hedge the Company's mortgage loan production.

The fair values of the Company's derivative instruments, whose notional amounts are listed above, are shown in the table below. Information about the valuation methods used to determine fair value is provided in Note 17 on Fair Value Measurements. The Company presents derivative assets and derivative liabilities on a gross basis, as other assets and other liabilities, on its consolidated balance sheets.

	Asset Derivatives		Liability Derivatives	
	December 31		December 31	
	2022	2021	2022	2021
<i>(In thousands)</i>	Fair Value		Fair Value	
Derivatives designated as hedging instruments:				
Interest rate floors	\$ 33,371	\$ —	\$ —	\$ —
Total derivatives designated as hedging instruments	\$ 33,371	\$ —	\$ —	\$ —
Derivatives not designated as hedging instruments:				
Interest rate swaps *	\$ 23,894	\$ 40,752	\$ (51,742)	\$ (11,606)
Interest rate caps	2,705	147	(2,705)	(147)
Credit risk participation agreements	34	84	(119)	(277)
Foreign exchange contracts	488	77	(418)	(45)
Mortgage loan commitments	—	764	—	—
Mortgage loan forward sale contracts	—	5	—	(1)
Forward TBA contracts	—	13	—	(25)
Total derivatives not designated as hedging instruments	\$ 27,121	\$ 41,842	\$ (54,984)	\$ (12,101)
Total	\$ 60,492	\$ 41,842	\$ (54,984)	\$ (12,101)

*Certain collateral was posted to and from the Company's clearing party and has been applied to the fair values of the cleared swaps. As a result, these values are net of variation margin of \$27.8 million and \$587 thousand for interest rate swaps in an asset position, and \$— million and \$29.7 million for interest rate swaps in a liability position, at December 31, 2022 and 2021, respectively.

The Company made an election to exclude the initial premiums paid on the interest rate floors from the hedge effectiveness measurement. Those initial premiums are amortized over the periods between the premium payment month and the contract maturity month. The pre-tax effects of the gains and losses (both the included and excluded amounts for hedge effectiveness assessment) recognized in the other comprehensive income from the cash flow hedging instruments and the amounts reclassified from accumulated other comprehensive income into income (both included and excluded amounts for hedge effectiveness measurement) are shown in the table below.

<i>(In thousands)</i>	Amount of Gain or (Loss) Recognized in OCI			Location of Gain (Loss) Reclassified from AOCI into Income <i>(In thousands)</i>	Amount of Gain (Loss) Reclassified from AOCI into Income		
	Total	Included Component	Excluded Component		Total	Included Component	Excluded Component
For the Year Ended December 31, 2022							
Derivatives in cash flow hedging relationships:							
Interest rate floors	\$ (2,428)	\$ —	\$ (2,428)	Interest and fees on loans	\$ 23,355	\$ 30,679	\$ (7,324)
Total	\$ (2,428)	\$ —	\$ (2,428)	Total	\$ 23,355	\$ 30,679	\$ (7,324)
For the Year Ended December 31, 2021							
Derivatives in cash flow hedging relationships:							
Interest rate floors	\$ —	\$ —	\$ —	Interest and fees on loans	\$ 24,160	\$ 30,310	\$ (6,150)
Total	\$ —	\$ —	\$ —	Total	\$ 24,160	\$ 30,310	\$ (6,150)
For the Year Ended December 31, 2020							
Derivatives in cash flow hedging relationships:							
Interest rate floors	\$ 93,497	\$ 120,140	\$ (26,643)	Interest and fees on loans	\$ 10,319	\$ 15,257	\$ (4,938)
Total	\$ 93,497	\$ 120,140	\$ (26,643)	Total	\$ 10,319	\$ 15,257	\$ (4,938)

The gain and loss recognized through various derivative instruments on the consolidated statements of income are shown in the table below.

<i>(In thousands)</i>	Location of Gain/(Loss) Recognized in the Consolidated Statements of Income	Amount of Gain/(Loss) Recognized in Income on Derivative		
		For the Years Ended December 31		
		2022	2021	2020
Derivative instruments:				
Interest rate swaps	Other non-interest income	\$ 2,472	\$ 3,170	\$ 317
Interest rate caps	Other non-interest income	16	15	20
Credit risk participation agreements	Other non-interest income	172	(187)	413
Foreign exchange contracts	Other non-interest income	38	78	(111)
Mortgage loan commitments	Loan fees and sales	(763)	(2,463)	2,768
Mortgage loan forward sale contracts	Loan fees and sales	(4)	4	(4)
Forward TBA contracts	Loan fees and sales	1,773	1,777	(1,440)
Total		\$ 3,704	\$ 2,394	\$ 1,963

The following table shows the extent to which assets and liabilities relating to derivative instruments have been offset in the consolidated balance sheets. It also provides information about these instruments which are subject to an enforceable master netting arrangement, irrespective of whether they are offset, and the extent to which the instruments could potentially be offset. Also shown is collateral received or pledged in the form of other financial instruments, which is generally cash or marketable securities. The collateral amounts in this table are limited to the outstanding balances of the related asset or liability (after netting is applied); thus amounts of excess collateral are not shown. Most of the derivatives in the following table were transacted under master netting arrangements that contain a conditional right of offset, such as close-out netting, upon default.

While the Company is party to master netting arrangements with most of its swap counterparties, the Company does not offset derivative assets and liabilities under these arrangements on its consolidated balance sheets. Collateral exchanged between the Company and dealer bank counterparties is generally subject to thresholds and transfer minimums, and usually consist of marketable securities. By contract, this collateral may be sold or re-pledged by the secured party until recalled at a subsequent valuation date by the pledging party. For those swap transactions requiring central clearing, the Company posts cash or securities to its clearing agent. Collateral positions are valued daily, and adjustments to amounts received and pledged by the Company are made as appropriate to maintain proper collateralization for these transactions. Swap derivative transactions with customers are generally secured by rights to non-financial collateral, such as real and personal property, which is not shown in the table below.

<i>(In thousands)</i>	Gross Amount Recognized	Gross Amounts Offset in the Balance Sheet	Net Amounts Presented in the Balance Sheet	Gross Amounts Not Offset in the Balance Sheet		Net Amount
				Financial Instruments Available for Offset	Collateral Received/ Pledged	
December 31, 2022						
Assets:						
Derivatives subject to master netting agreements	\$ 60,270	\$ —	\$ 60,270	\$ (1,007)	\$ (56,816)	2,447
Derivatives not subject to master netting agreements	222	—	222			
Total derivatives	\$ 60,492	\$ —	\$ 60,492			
Liabilities:						
Derivatives subject to master netting agreements	\$ 54,609	\$ —	\$ 54,609	\$ (1,007)	\$ —	53,602
Derivatives not subject to master netting agreements	375	—	375			
Total derivatives	\$ 54,984	\$ —	\$ 54,984			
December 31, 2021						
Assets:						
Derivatives subject to master netting agreements	\$ 40,970	\$ —	\$ 40,970	\$ (347)	\$ —	40,623
Derivatives not subject to master netting agreements	872	—	872			
Total derivatives	\$ 41,842	\$ —	\$ 41,842			
Liabilities:						
Derivatives subject to master netting agreements	\$ 12,019	\$ —	\$ 12,019	\$ (347)	\$ (10,146)	1,526
Derivatives not subject to master netting agreements	82	—	82			
Total derivatives	\$ 12,101	\$ —	\$ 12,101			

20. Resale and Repurchase Agreements

The Company regularly enters into resale and repurchase agreement transactions with other financial institutions and with its own customers. Resale and repurchase agreements are agreements to purchase/sell securities subject to an obligation to resell/repurchase the same or similar securities. They are accounted for as secured lending and collateralized borrowing (e.g. financing transactions), not as true sales and purchases of the underlying collateral securities. Some of the resale and repurchase agreements were transacted under master netting arrangements that contain a conditional right of offset, such as close-out netting, upon default. The security collateral accepted or pledged in resale and repurchase agreements with other financial institutions may be sold or re-pledged by the secured party, but is usually delivered to and held by third party trustees. The Company generally retains custody of securities pledged for repurchase agreements with its customers. Additional information about the Company's repurchase agreements is included in Note 8.

The Company is party to agreements commonly known as collateral swaps. These agreements involve the exchange of collateral under simultaneous repurchase and resale agreements with the same financial institution counterparty. These repurchase and resale agreements have the same principal amounts, inception dates, and maturity dates and have been offset against each other in the consolidated balance sheets, as permitted under the netting provisions of ASC 210-20-45. The collateral swaps totaled \$200.0 million at December 31, 2022 and \$400.0 million at December 31, 2021.

The following table shows the extent to which resale agreement assets and repurchase agreement liabilities with the same counterparty have been offset on the consolidated balance sheets, in addition to the extent to which they could potentially be offset. Also shown is collateral received or pledged, which consists of marketable securities. The collateral amounts in the table are limited to the outstanding balances of the related asset or liability (after offsetting is applied); thus amounts of excess collateral are not shown.

<i>(In thousands)</i>	Gross Amount Recognized	Gross Amounts Offset on the Balance Sheet	Net Amounts Presented on the Balance Sheet	Gross Amounts Not Offset in the Balance Sheet		
				Financial Instruments Available for Offset	Securities Collateral Received/ Pledged	Unsecured amount
December 31, 2022						
Total resale agreements, subject to master netting arrangements	\$ 1,025,000	\$ (200,000)	\$ 825,000	\$ —	\$ (825,000)	\$ —
Total repurchase agreements, subject to master netting arrangements	2,881,874	(200,000)	2,681,874	—	(2,681,874)	—
December 31, 2021						
Total resale agreements, subject to master netting arrangements	\$ 2,025,000	\$ (400,000)	\$ 1,625,000	\$ —	\$ (1,625,000)	\$ —
Total repurchase agreements, subject to master netting arrangements	3,379,582	(400,000)	2,979,582	—	(2,979,582)	—

The table below shows the remaining contractual maturities of repurchase agreements outstanding at December 31, 2022 and 2021, in addition to the various types of marketable securities that have been pledged by the Company as collateral for these borrowings.

<i>(In thousands)</i>	Remaining Contractual Maturity of the Agreements			Total
	Overnight and continuous	Up to 90 days	Greater than 90 days	
December 31, 2022				
Repurchase agreements, secured by:				
U.S. government and federal agency obligations	\$ 488,053	\$ 26,928	\$ 12,460	\$ 527,441
Agency mortgage-backed securities	1,792,314	21,744	204,500	2,018,558
Non-agency mortgage-backed securities	40,950	—	—	40,950
Asset-backed securities	293,001	—	—	293,001
Other debt securities	1,924	—	—	1,924
Total repurchase agreements, gross amount recognized	\$ 2,616,242	\$ 48,672	\$ 216,960	\$ 2,881,874
December 31, 2021				
Repurchase agreements, secured by:				
U.S. government and federal agency obligations	\$ 600,866	\$ 33,373	\$ 9,259	\$ 643,498
Agency mortgage-backed securities	1,844,652	3,908	400,250	2,248,810
Non-agency mortgage-backed securities	32,299	—	—	32,299
Asset-backed securities	422,525	—	—	422,525
Other debt securities	32,450	—	—	32,450
Total repurchase agreements, gross amount recognized	\$ 2,932,792	\$ 37,281	\$ 409,509	\$ 3,379,582

21. Commitments, Contingencies and Guarantees

The Company engages in various transactions and commitments with off-balance sheet risk in the normal course of business to meet customer financing needs. The Company uses the same credit policies in making the commitments and conditional obligations described below as it does for on-balance sheet instruments. The following table summarizes these commitments at December 31:

<i>(In thousands)</i>	2022	2021
Commitments to extend credit:		
Credit card	\$ 5,190,942	\$ 5,007,409
Other unfunded loan commitments	9,102,525	8,319,715
Standby letters of credit, net of conveyance to other financial institutions	555,858	418,328
Commercial letters of credit	4,393	5,304

Commitments to extend credit are legally binding agreements to lend to a borrower providing there are no violations of any conditions established in the contract. As many of the commitments are expected to expire without being drawn upon, the total commitment does not necessarily represent future cash requirements. Refer to Note 2 on Loans and Allowance for Credit Losses for further discussion.

The Company, as a provider of financial services, routinely issues financial guarantees in the form of financial and performance standby letters of credit. Standby letters of credit are contingent commitments issued by the Company generally to guarantee the payment or performance obligation of a customer to a third party. While these represent a potential cash outflow by the Company, a significant amount of the commitments may expire without being drawn upon. To mitigate the potential loss exposure, the Company involves other financial institutions to participate in certain standby letters of credit. Even with such participation, the Company remains liable for the full amount of the standby letters of credit to the third party. The Company has recourse against the customer for any amount it is required to pay to a third party under a standby letter of credit. The standby letters of credit are subject to the same credit policies, underwriting standards and approval process as loans made by the Company. Most of the standby letters of credit are secured, and in the event of nonperformance by the customer, the Company has rights to the underlying collateral, which could include commercial real estate, physical plant and property, inventory, receivables, cash and marketable securities.

At December 31, 2022, the Company had recorded a liability of \$3.9 million, representing the carrying value of the guarantee obligations associated with the standby letters of credit. This amount will be accreted into income over the remaining life of the respective commitments. Excluding amounts conveyed to others, commitments outstanding under these letters of credit were \$614.5 million, which represents the maximum potential future payments guaranteed by the Company at December 31, 2022.

Commercial letters of credit act as a means of ensuring payment to a seller upon shipment of goods to a buyer. The majority of commercial letters of credit issued are used to settle payments in international trade. Typically, letters of credit require presentation of documents which describe the commercial transaction, evidence shipment, and transfer title.

The Company regularly purchases various state tax credits arising from third-party property redevelopment. These tax credits are either resold to third parties for a profit or retained for use by the Company. During 2022, the Company purchased and sold state tax credits amounting to \$112.7 million and \$126.9 million, respectively. At December 31, 2022, the Company had outstanding purchase commitments totaling \$121.8 million that it expects to fund in 2023. The remaining purchase commitments amount to \$398.8 million and are expected to be funded from 2024 through 2029.

The Company periodically enters into credit risk participation agreements (RPAs) as a guarantor to other financial institutions, in order to mitigate those institutions' credit risk associated with interest rate swaps with third parties. The RPA stipulates that, in the event of default by the third party on the interest rate swap, the Company will reimburse a portion of the loss borne by the financial institution. These interest rate swaps are normally collateralized (generally with real property, inventories and equipment) by the third party, which limits the credit risk associated with the Company's RPAs. The third parties usually have other borrowing relationships with the Company. The Company monitors overall borrower collateral, and at December 31, 2022, believes sufficient collateral is available to cover potential swap losses. The RPAs are carried at fair value throughout their term, with all changes in fair value, including those due to a change in the third party's creditworthiness, recorded in current earnings. The terms of the RPAs, which correspond to the terms of the underlying swaps, range from 1 to 14 years. At December 31, 2022, the fair value of the Company's guarantee liability RPAs was \$119 thousand, and the notional

amount of the underlying swaps was \$421.0 million. The maximum potential future payment guaranteed by the Company cannot be readily estimated and is dependent upon the fair value of the interest rate swaps at the time of default.

During the third quarter of 2020, the Company signed a \$106.7 million agreement with U.S. Capital Development to develop a 280,000 square foot commercial office building in a two building complex in Clayton, Missouri. As of December 31, 2022, the Company has made payments totaling \$94.0 million. While the Company intends to occupy a portion of the office building for executive offices, a 15 year lease has been signed by an anchor tenant to lease approximately 50% of the office building.

The Company has various legal proceedings pending at December 31, 2022, arising in the normal course of business. While some matters pending against the Company specify damages claimed by plaintiffs, others do not seek a specified amount of damages or are at very early stages of the legal process. The Company records a loss accrual for all legal and regulatory matters for which it deems a loss is probable and can be reasonably estimated. Some matters, which are in the early stages, have not yet progressed to the point where a loss amount can be determined to be probable and estimable.

22. Related Parties

The Company's Chief Executive Officer, its Executive Chairman, and its former Vice Chairman are directors of Tower Properties Company (Tower) and, together with members of their immediate families, beneficially own approximately 66% of the outstanding stock of Tower. At December 31, 2022, Tower owned 245,410 shares of Company stock. Tower is primarily engaged in the business of owning, developing, leasing and managing real property.

Payments from the Company and its affiliates to Tower are summarized below. These payments, with the exception of dividend payments, relate to property management services, including construction oversight, on three Company-owned office buildings and related parking garages in downtown Kansas City.

<i>(In thousands)</i>	2022	2021	2020
Leasing agent fees	\$ 125	\$ 31	\$ —
Operation of parking garages	100	71	81
Building management fees	2,118	2,046	2,110
Property construction management fees	184	143	251
Project consulting fees	—	84	335
Dividends paid on Company stock held by Tower	248	234	229
Total	\$ 2,775	\$ 2,609	\$ 3,006

Tower has a \$13.5 million line of credit with the Bank which is subject to normal credit terms and has a variable interest rate. The line of credit is collateralized by Company stock and based on collateral value had a maximum borrowing amount of approximately \$13.4 million at December 31, 2022. There were no borrowings under this line during 2022, and no balance outstanding at December 31, 2022. There were no borrowings during 2021 and 2020, and there was no balance outstanding at December 31, 2021 or 2020. Letters of credit may be collateralized under this line of credit; however, there were no letters of credit outstanding during 2022, 2021 or 2020, and thus, no fees were received during these periods. From time to time, the Bank extends additional credit to Tower for construction and development projects. No construction loans were outstanding during 2022, 2021 and 2020.

Tower leases office space in the Kansas City bank headquarters building owned by the Company. Rent paid to the Company totaled \$82 thousand in 2022, \$83 thousand in 2021, and \$87 thousand in 2020, at \$17.44, \$17.25 and \$17.19 per square foot, respectively.

Directors of the Company and their beneficial interests have deposit accounts with the Bank and may be provided with cash management and other banking services, including loans, in the ordinary course of business. Such loans were made on substantially the same terms, including interest rates and collateral, as those prevailing at the time for comparable transactions with other unrelated persons and did not involve more than the normal risk of collectability. See Note 2 Loans and Allowance for Credit Losses for additional information for loans to directors and executive officers of the Company and the Bank, and to their affiliates.

23. Parent Company Condensed Financial Statements

Following are the condensed financial statements of Commerce Bancshares, Inc. (Parent only) for the periods indicated:

Condensed Balance Sheets

<i>(In thousands)</i>	December 31	
	2022	2021
Assets		
Investment in consolidated subsidiaries:		
Bank	\$ 2,008,454	\$ 2,997,775
Non-banks	138,501	100,347
Cash	233,261	245,616
Investment securities:		
Available for sale debt	5,207	4,805
Equity	11,129	7,977
Note receivable due from bank subsidiary	50,000	50,000
Advances to subsidiaries, net of borrowings	20,529	40,525
Deferred tax assets	11,987	8,645
Other assets	26,539	29,393
Total assets	\$ 2,505,607	\$ 3,485,083
Liabilities and stockholders' equity		
Pension obligation	\$ 7,446	\$ 11,931
Other liabilities	32,870	35,854
Total liabilities	40,316	47,785
Stockholders' equity	2,465,291	3,437,298
Total liabilities and stockholders' equity	\$ 2,505,607	\$ 3,485,083

Condensed Statements of Income

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Income			
Dividends received from consolidated bank subsidiary	\$ 300,001	\$ 340,001	\$ 210,001
Earnings of consolidated subsidiaries, net of dividends	203,965	200,461	148,435
Interest and dividends on investment securities	2,480	2,162	1,802
Management fees charged to subsidiaries	38,632	36,310	33,472
Investment securities gains	(872)	79	53
Net interest income on advances and note to subsidiaries	1,403	51	233
Other	3,709	2,927	4,282
Total income	549,318	581,991	398,278
Expense			
Salaries and employee benefits	44,352	37,362	31,277
Professional fees	2,740	2,006	1,977
Data processing fees paid to affiliates	3,173	2,834	2,765
Other	15,595	12,973	11,850
Total expense	65,860	55,175	47,869
Income tax benefit	(4,941)	(3,949)	(3,648)
Net income	\$ 488,399	\$ 530,765	\$ 354,057

Condensed Statements of Cash Flows

<i>(In thousands)</i>	For the Years Ended December 31		
	2022	2021	2020
Operating Activities			
Net income	\$ 488,399	\$ 530,765	\$ 354,057
Adjustments to reconcile net income to net cash provided by operating activities:			
Earnings of consolidated subsidiaries, net of dividends	(203,965)	(200,461)	(148,435)
Other adjustments, net	2,557	8,842	5,504
Net cash provided by operating activities	286,991	339,146	211,126
Investing Activities			
(Increase) decrease in investment in subsidiaries, net	(9)	6	3
Proceeds from maturities/pay downs of investment securities	38	22	1,410
Purchases of investment securities	(4,534)	(4,786)	(4,863)
(Increase) decrease in advances to subsidiaries, net	19,996	(8,618)	(5,810)
Net purchases of building improvements and equipment	(741)	(28)	(94)
Net cash provided by (used in) investing activities	14,750	(13,404)	(9,354)
Financing Activities			
Preferred stock redemption	—	—	(150,000)
Purchases of treasury stock	(186,622)	(129,361)	(54,163)
Issuance of stock under equity compensation plans	(8)	(15)	(11)
Cash dividends paid on common stock	(127,466)	(122,693)	(120,818)
Cash dividends paid on preferred stock	—	—	(6,750)
Net cash used in financing activities	(314,096)	(252,069)	(331,742)
Increase (decrease) in cash	(12,355)	73,673	(129,970)
Cash at beginning of year	245,616	171,943	301,913
Cash at end of year	\$ 233,261	\$ 245,616	\$ 171,943
Income tax receipts, net	\$ (587)	\$ (4,808)	\$ (3,663)

Dividends paid by the Parent to its shareholders were substantially provided from Bank dividends. The Bank may distribute common dividends without prior regulatory approval, provided that the dividends do not exceed the sum of net income for the current year and retained net income for the preceding two years, subject to maintenance of minimum capital requirements. The Parent charges fees to its subsidiaries for management services provided, which are allocated to the subsidiaries based primarily on total average assets. The Parent makes cash advances to its private equity subsidiary for general short-term cash flow purposes. Advances may be made to the Parent by its subsidiary bank for temporary investment of idle funds. Interest on such advances is based on market rates.

The Bank has \$50.0 million of borrowings from the Parent as part of its strategy to manage FDIC insurance premiums. The note has a rolling 13 month maturity, and the interest rate is a variable rate equal to the one year treasury rate.

For the past several years, the Parent has maintained a \$20.0 million line of credit for general corporate purposes with the Bank. The Parent has not borrowed under this line during the past three years.

At December 31, 2022, the fair value of the investment securities held by the Parent consisted of investments of \$5.2 million in corporate bonds, \$6.0 million in preferred and common stock with readily determinable fair values, and \$5.1 million in equity securities that do not have readily determinable fair values.

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

There were no changes in or disagreements with accountants on accounting and financial disclosure.

Item 9a. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934. Based on this evaluation, our principal executive officer and our principal financial officer concluded that our disclosure controls and procedures were effective as of the end of the period covered by this annual report.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on our evaluation under the framework in *Internal Control — Integrated Framework (2013)*, our management concluded that our internal control over financial reporting was effective as of December 31, 2022.

The Company's internal control over financial reporting as of December 31, 2022 has been audited by KPMG LLP, an independent registered public accounting firm, as stated in their report which follows.

Changes in Internal Control Over Financial Reporting

No change in the Company's internal control over financial reporting occurred that has materially affected, or is reasonably likely to materially affect, such controls during the last quarter of the period covered by this report.

Report of Independent Registered Public Accounting Firm

To the Shareholders and Board of Directors
Commerce Bancshares, Inc.:

Opinion on Internal Control Over Financial Reporting

We have audited Commerce Bancshares, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively, the consolidated financial statements), and our report dated February 22, 2023 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

KPMG LLP

Kansas City, Missouri
February 22, 2023

Item 9b. OTHER INFORMATION

None

Item 9c. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

None

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Items 401, 405, 406 and 407(c)(3), (d)(4) and (d)(5) of Regulation S-K regarding executive officers, directors, and corporate governance is included at the end of Part I of this Form 10-K under the caption "Information about the Company's Executive Officers" and under the captions "Proposal One - Election of the 2026 Class of Directors", "Corporate Governance Guidelines", "Delinquent Section 16(a) Reports", "Audit and Risk Committee Report", "Committees of the Board" and "Shareholder Proposals and Nominations" in the Company's definitive Proxy Statement relating to the Annual Meeting of Shareholders to be held on April 19, 2023, which is incorporated herein by reference.

The Company's senior financial officer code of ethics for the chief executive officer and senior financial officers of the Company, including the chief financial officer, principal accounting officer or controller, or persons performing similar functions, is available at www.commercebank.com. Amendments to, and waivers of, the code of ethics are posted on this website.

Item 11. EXECUTIVE COMPENSATION

The information required by Items 402 and 407(e)(4) and (e)(5) of Regulation S-K regarding executive compensation is included under the captions "Compensation Discussion and Analysis", "Executive Compensation", "Director Compensation", "Compensation and Human Resources Committee Report", and "Compensation and Human Resources Committee Interlocks and Insider Participation" in the Company's definitive Proxy Statement relating to the Annual Meeting of Shareholders to be held on April 19, 2023, which is incorporated herein by reference.

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

The information required by Items 201(d) and 403 of Regulation S-K is included under the captions "Equity Compensation Plan Information" and "Security Ownership of Certain Beneficial Owners and Management" in the Company's definitive Proxy Statement relating to the Annual Meeting of Shareholders to be held on April 19, 2023, which is incorporated herein by reference.

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

The information required by Items 404 and 407(a) of Regulation S-K is covered under the captions "Proposal One - Election of the 2026 Class of Directors" and "Corporate Governance" in the Company's definitive Proxy Statement relating to the Annual Meeting of Shareholders to be held on April 19, 2023, which is incorporated herein by reference.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Our independent registered public accounting firm is KPMG, LLP, Kansas City, Missouri, PCAOB Firm ID: 185

The information required by Item 9(e) of Schedule 14A is included under the captions "Pre-approval of Services by the External Independent Registered Public Accounting Firm" and "Fees Paid to KPMG LLP" in the Company's definitive Proxy Statement relating to the Annual Meeting of Shareholders to be held on April 19, 2023, which is incorporated herein by reference.

PART IV

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

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

	<u>Page</u>
(1) Financial Statements:	
Consolidated Balance Sheets	67
Consolidated Statements of Income	68
Consolidated Statements of Comprehensive Income	69
Consolidated Statements of Changes in Equity	70
Consolidated Statements of Cash Flows	71
Notes to Consolidated Financial Statements	72
Summary of Quarterly Statements of Income	64
(2) Financial Statement Schedules:	
All schedules are omitted as such information is inapplicable or is included in the financial statements.	

(b) The exhibits filed as part of this report and exhibits incorporated herein by reference to other documents are listed below.

3 —Articles of Incorporation and By-Laws:

[\(1\) Restated Articles of Incorporation, as amended, were filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated May 7, 2019, and the same are hereby incorporated by reference.](#)

[\(2\) By-Laws, as amended, were filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 25, 2020, and the same are hereby incorporated by reference.](#)

[\(3\) Termination of Certificate of Designation of 6.00% Series B Non-Cumulative Perpetual Preferred Stock of Commerce Bancshares, Inc. was filed in current report on Form 8-K \(Commission file number 0-2989\) dated September 1, 2020, and the same is hereby incorporated by reference.](#)

4 — Instruments defining the rights of security holders, including indentures:

(1) Pursuant to paragraph (b)(4)(iii) of Item 601 Regulation S-K, Registrant will furnish to the Commission upon request copies of long-term debt instruments.

[\(2\) Description of Commerce Bancshares, Inc. registered securities was filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 25, 2020, and the same is hereby incorporated by reference.](#)

10 — Material Contracts (Except for the Development Services Agreement and associated Amendments to the Development Service Agreement listed below, each of the following is a management contract or compensatory plan arrangement):

[\(1\) Commerce Bancshares, Inc. Executive Incentive Compensation Plan amended and restated as of January 1, 2019, was filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 21, 2019, and the same is hereby incorporated by reference.](#)

[\(2\) Commerce Bancshares, Inc. Stock Purchase Plan for Non-Employee Directors amended and restated as of April 17, 2013 was filed in current report on Form 8-K \(Commission file number 0-2989\) dated April 23, 2013, and the same is hereby incorporated by reference.](#)

[\(3\) Commerce Bancshares, Inc. Stock Purchase Plan for Non-Employee Directors amended and restated as of December 21, 2021 was filed in registration statement on Form S-8 \(Commission file number 333-262580\) dated February 8, 2022, and the same is hereby incorporated by reference.](#)

[\(4\) Commerce Executive Retirement Plan amended and restated as of January 28, 2011 was filed in annual report on Form 10-K \(Commission file number 0-2989\) dated February 25, 2011, and the same is hereby incorporated by reference.](#)

[\(5\) 2009 Form of Severance Agreement between Commerce Bancshares, Inc. and the persons listed at the end of such agreement was filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 24, 2015, and the same is hereby incorporated by reference.](#)

- [\(6\) 2015 Form of Severance Agreement between Commerce Bancshares, Inc. and the persons listed at the end of such agreement was filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 24, 2015, and the same is hereby incorporated by reference.](#)
- [\(7\) 2009 Form of Severance Agreement between Commerce Bancshares, Inc. and the persons listed at the end of such agreement was filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 21, 2019, and the same is hereby incorporated by reference.](#)
- [\(8\) Trust Agreement for the Commerce Bancshares, Inc. Executive Incentive Compensation Plan amended and restated as of January 1, 2001 was filed in quarterly report on Form 10-Q \(Commission file number 0-2989\) dated May 8, 2001, and the same is hereby incorporated by reference.](#)
- [\(9\) Commerce Bancshares, Inc. 2023 Compensatory Arrangements with CEO and Named Executive Officers were filed in amended current report on Form 8-K \(Commission file number 1-36502\) dated February 7, 2023, and the same is hereby incorporated by reference.](#)
- [\(10\) Commerce Bancshares, Inc. Amended and Restated 2005 Equity Incentive Plan, amended and restated as of April 17, 2013 \(incorporated by reference to Exhibit 10\(j\) to Commerce Bancshares, Inc.'s Form 8-K dated April 23, 2013\).](#)
- [\(10\)\(1\) Amendment No. 1 dated November 12, 2018 to Commerce Bancshares, Inc. Amended and Restated 2005 Equity Incentive Plan, amended and restated as of April 17, 2013, was filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 21, 2019.](#)
- [\(11\) Commerce Bancshares, Inc. Stock Appreciation Rights Agreement and Commerce Bancshares, Inc. Restricted Stock Award Agreement, pursuant to the 2005 Equity Incentive Plan, were filed in current report on Form 8-K \(Commission file number 0-2989\) dated February 23, 2006, and the same are hereby incorporated by reference.](#)
- [\(12\) Commerce Bancshares, Inc. Stock Appreciation Rights Agreement, Commerce Bancshares, Inc. Restricted Stock Award Agreements for Executive Officers, and Commerce Bancshares, Inc. Restricted Stock Award Agreements for Employees other than Executive Officers, pursuant to the 2005 Equity Incentive Plan, were filed in quarterly report on Form 10-Q \(Commission file number 0-2989\) dated May 6, 2013, and the same are hereby incorporated by reference.](#)
- [\(13\) Form of Notice of Grant of Award and Award Agreement for Restricted Stock for Executive Officers, pursuant to the Commerce Bancshares, Inc. 2005 Equity Incentive Plan, was filed in quarterly report on Form 10-Q \(Commission file number 0-2989\) dated May 7, 2014, and the same is hereby incorporated by reference.](#)
- [\(14\) Form of Notice of Grant of Award and Award Agreement for Restricted Stock for Employees other than Executive Officers, pursuant to the Commerce Bancshares, Inc. 2005 Equity Incentive Plan, was filed in quarterly report on Form 10-Q \(Commission file number 0-2989\) dated May 7, 2014, and the same is hereby incorporated by reference.](#)
- [\(15\) Form of Notice of Grant of Award and Award Agreement for Stock Appreciation Rights, pursuant to the Commerce Bancshares, Inc. 2005 Equity Incentive Plan, was filed in quarterly report on Form 10-Q \(Commission file number 0-2989\) dated May 7, 2014, and the same is hereby incorporated by reference.](#)
- [\(16\) Form of Notice of Grant of Award and Award Agreement for Restricted Stock, pursuant to the Commerce Bancshares, Inc. 2005 Equity Incentive Plan, was filed in annual report on Form 10-K \(Commission file number 1-36502\) dated February 21, 2019, and the same is hereby incorporated by reference.](#)
- [\(17\) Development Services Agreement* was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)
- [\(18\) Amendment 1 to Development Services Agreement* was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)
- [\(19\) Amendment 2 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)
- [\(20\) Amendment 3 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)
- [\(21\) Amendment 4 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)
- [\(22\) Amendment 5 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)
- [\(23\) Amendment 6 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)

[\(24\) Amendment 7 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)

[\(25\) Amendment 8 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)

[\(26\) Amendment 9 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)

[\(27\) Amendment 10 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)

[\(28\) Amendment 11 to Development Services Agreement* was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated November 5, 2020, and the same is hereby incorporated by reference.](#)

[\(29\) Amendment 12 to Development Services Agreement was filed in quarterly report on Form 10-Q \(Commission file number 1-36502\) dated August 5, 2022, and the same is hereby incorporated by reference.](#)

[\(30\) Amendment 13 to Development Services Agreement.*](#)

[21 — Subsidiaries of the Registrant](#)

[23 — Consent of Independent Registered Public Accounting Firm](#)

[24 — Power of Attorney](#)

[31.1 — Certification of CEO pursuant to Section 302 of the Sarbanes-Oxley Act of 2002](#)

[31.2 — Certification of CFO pursuant to Section 302 of the Sarbanes-Oxley Act of 2002](#)

[32 — Certifications of CEO and CFO pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002](#)

101 — Interactive data files pursuant to Rule 405 of Regulation S-T: (i) the Consolidated Balance Sheets, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statements of Changes in Equity, (v) the Consolidated Statements of Cash Flows and (vi) the Notes to Consolidated Financial Statements, tagged as blocks of text and in detail. The instance document does not appear in the interactive data file because its XBRL tags are embedded within the inline XBRL document.

104 — Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

* In accordance with Item 601(a)(5) of Regulation S-K, certain schedules and exhibits to this exhibit have been omitted from this filing. The Company will furnish a copy of any omitted schedule or exhibit to the Securities and Exchange Commission or its staff upon request. In accordance with Item 601(b)(10)(iv) of Regulation S-K, certain portions of this exhibit have been redacted because they are both (i) not material and (ii) would likely cause competitive harm to the Company if publicly disclosed. The Company will provide an unredacted copy of the exhibit on a supplementary basis to the Securities and Exchange Commission or its staff upon request.

Item 16. FORM 10-K SUMMARY

None.

The consolidated subsidiaries of the Registrant at February 1, 2023 were as follows:

<u>Name</u>	<u>State or Other Jurisdiction of Incorporation</u>
CBI-Kansas, Inc.	Kansas
Commerce Bank	Missouri
Commerce Brokerage Services, Inc.	Missouri
Clayton Holdings, LLC	Missouri
Clayton Financial Corp.	Missouri
Clayton Realty Corp.	Missouri
Illinois Financial, LLC	Delaware
Illinois Realty, LLC	Delaware
Commerce Insurance Services, Inc.	Missouri
Commerce Investment Advisors, Inc.	Missouri
CBI Equipment Finance, Inc.	Missouri
CB Acquisition, LLC	Delaware
Tower Redevelopment Corporation	Missouri
CBI Insurance Company	Arizona
CFB Partners, LLC	Delaware
CFB Venture Fund I, Inc.	Missouri
CFB Venture Fund, L.P.	Delaware
Capital for Business, Inc.	Missouri

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the registration statements No. 33-28294, No. 33-82692, No. 33-8075, No. 33-78344, No. 333-14651, No. 333-186867, No. 333-188374, No. 333-214495, and No. 333-262580 on Form S-8 and No. 333-140221 on Form S-3ASR of our reports dated February 22, 2023, with respect to the consolidated financial statements of Commerce Bancshares, Inc. and the effectiveness of internal control over financial reporting.

KPMG LLP

Kansas City, Missouri
February 22, 2023

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the undersigned do hereby appoint Margaret M. Rowe and Paul A. Steiner, or either of them, attorney for the undersigned to sign the Annual Report on Form 10-K of Commerce Bancshares, Inc., for the fiscal year ended December 31, 2022, together with any and all amendments which might be required from time to time with respect thereto, to be filed with the Securities and Exchange Commission under the Securities Exchange Act of 1934, with respect to Commerce Bancshares, Inc., with full power and authority in either of said attorneys to do and perform in the name of and on behalf of the undersigned every act whatsoever necessary or desirable to be done in the premises as fully and to all intents and purposes as the undersigned might or could do in person.

IN WITNESS WHEREOF, the undersigned have executed these presents as of this 3rd day of February, 2023.

/s/ TERRY D. BASSHAM

/s/ BLACKFORD F. BRAUER

/s/ W. KYLE CHAPMAN

/s/ KAREN L. DANIEL

/s/ EARL H. DEVANNY, III

/s/ JUNE MCALLISTER FOWLER

/s/ DAVID W. KEMPER

/s/ JONATHAN M. KEMPER

/s/ JONATHAN M. KEMPER

/s/ BENJAMIN F. RASSIEUR, III

/s/ TODD R. SCHNUCK

/s/ CHRISTINE B. TAYLOR

/s/ KIMBERLY G. WALKER

CERTIFICATION

I, John W. Kemper, certify that:

1. I have reviewed this annual report on Form 10-K of Commerce Bancshares, Inc.;

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

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

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

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

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

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

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

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

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

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

/s/ JOHN W. KEMPER

John W. Kemper
President and
Chief Executive Officer

February 22, 2023

CERTIFICATION

I, Charles G. Kim, certify that:

1. I have reviewed this annual report on Form 10-K of Commerce Bancshares, Inc.;

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

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

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

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

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

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

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

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

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

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

/s/ CHARLES G. KIM

Charles G. Kim
*Executive Vice President and
Chief Financial Officer*

February 22, 2023

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Commerce Bancshares, Inc. (the “Company”) on Form 10-K for the year ended December 31, 2022 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), we, John W. Kemper and Charles G. Kim, Chief Executive Officer and Chief Financial Officer, respectively, of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of our knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

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

/s/ JOHN W. KEMPER

John W. Kemper
Chief Executive Officer

/s/ CHARLES G. KIM

Charles G. Kim
Chief Financial Officer

February 22, 2023

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

CORPORATE HEADQUARTERS

1000 Walnut
P.O. Box 419248
Kansas City, MO 64141-6248
816.234.2000
www.commercebank.com

**TRANSFER AGENT, REGISTRAR
AND DIVIDEND DISBURSING AGENT**

Shareholder correspondence should be mailed to:

Computershare
P.O. Box 43078
Providence, RI 02940-3078

Overnight correspondence should be sent to:

Computershare
150 Royall Street, Suite 101
Canton, MA 02021

Within USA Telephone: 800.317.4445
Outside USA Telephone: 781.575.2723
Hearing Impaired/TDD: 800.952.9245
Website: www.computershare.com/investor

Shareholder online inquiries:

<https://www.us.computershare.com/investor/contact>

STOCK EXCHANGE LISTING

Nasdaq
Common Stock Symbol: CBSH

ANNUAL MEETING

This year's annual meeting will be a virtual meeting of shareholders. The meeting will be held Wednesday, April 19, 2023 at 9:30 a.m. Central, and you may attend via webcast. Please note there will be no in-person meeting to attend.

INVESTOR INQUIRIES

Shareholders, analysts and investors seeking information about the company should direct their inquiries to:

Matt Burkemper
Senior Vice President, Commerce Bank
Corporate Development and Investor Relations
8000 Forsyth Boulevard
St. Louis, MO 63105
314.746.7485
Matthew.Burkemper@commercebank.com

SHAREHOLDERS MAY RECEIVE FUTURE ANNUAL REPORTS AND PROXY MATERIALS ONLINE

To receive materials electronically, rather than by mail, **individuals who hold stock in their name** may enroll for electronic delivery at Computershare's investor website: www.computershare.com/investor

- If you have already created a login ID and password at the above site, log in and follow the prompts to "Enroll in Electronic Delivery."
- If you have not created a login ID and password at the above site, choose "Create Login." You will need the Social Security number or tax ID number associated with your Commerce stock account to create the login. After you have created your login, follow the prompts to "Enroll in Electronic Delivery."

Please note:

- Your consent is entirely revocable.
- You can always vote your proxy on the internet whether or not you elect to receive your materials electronically.

Shareholders who hold their Commerce stock through a bank, broker or other holder of record should refer to the information provided by that entity for instructions on how to elect to view future annual reports and proxy statements over the internet.

Employee PIP [401(k)] shareholders who have a company email address and online access will automatically be enrolled to receive the Annual Report, Proxy Statement, and proxy card over the internet unless they choose to opt out by emailing the Corporate Secretary at Peggy.Rowe@commercebank.com.



COMMERCE BANCSHARES, INC.

1000 WALNUT
P.O. BOX 419248
KANSAS CITY, MO 64141-6248
Phone: 816.234.2000
800.892.7100

Email: CBShInvestorRelations@commercebank.com
Website: www.commercebank.com

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