

ANNUAL REPORT

Live Oak Bancshares

LETTER FROM THE CHAIRMAN

To Our Shareholders,

Looking back at last year, all I can say is wow to what has happened between now and then!

Throughout 2022, inflation, rising interest rates, labor shortages and recession fears were the dominant headlines.

Let me unpack how these events affect Live Oak Bank.

We are often challenged by analysts and onlookers relative to the resiliency of our customers.

They will ask:

- Your customers are the tip of the spear, so how are they going to weather this impending storm?
- Isn't inflation hurting them?
- Interest rates are sky rocketing. How are they going to make their payments?
- Don't they have supply chain challenges?
- How can they possibly attract and retain talent compared to larger more sophisticated companies?
- Aren't your losses going to double or triple?

Etc. Etc.

The bottom line is, we are not like other banks. In 2022, we aimed to show you how incredibly resilient not just American small business owners are, but how resilient our Live Oak Bank customers are. Quite simply, they are the best folks to answer these questions, so this year I randomly picked a few customers from all over the country so you can hear directly from them. More on that in a minute.

The point is to show you, our shareholders, that our approach is different.

How does Live Oak stack up?

Let me share some points from my close friend, co-founder and board member David Lucht as evidence of our distinction in the industry:

- Live Oak still does more of its business in the "lower default" industries than a typical lender.
- Our geographic diversity is unmatched, avoiding regional disruptions.
- Our servicing is unmatched. Every relationship is examined multiple times a year. Nobody actually talks to these small businesses as much as we do.
- Not paying commissions for production can't be over-stated as a differentiator against making poor loans.
- Finally, our philosophy of doing "collateral-light" loans has made us very in tune with cash flow

and service businesses. Asset heavy industries tend to do worse in recessions historically.

As David states, our model allows us to do things differently, so we can adjust to all the challenges that face our customers or our very own industry.

This is where we again can point to the fact that as a non-traditional bank, we have tools others don't! Our uninsured deposits were about 18% of our deposit base at the end of 2022. On March 13, 2023, we had approximately \$4.0 billion in cash and available liquidity to cover uninsured deposits. That's right, we had \$3 available for every \$1 in uninsured deposits. Again, our mantra of soundness, profitability and growth, **in that order** will never be removed from our lips. As there is a flight to quality, we will be first in line!

Our team remains focused on being America's small business bank by continuing the work we have always done since inception.

Period.

Warren Buffet wrote his first annual epistle to shareholders in 1965. Almost every CEO of a public company has tried to emulate.

I am not.

In the words of the indomitable Clint Eastwood in his 1973 movie "Magnum Force," "a man has got to know his limitations."

I know mine and I will yield to my partner and President of Live Oak Bank, Huntley Garriott, and a few special guests to further explain our strategy for success.

Last year I wanted you to get a feel for our culture of service by wandering around the bank and interviewing our folks.

This year I invite you to listen to those who tell our story the best — our customers.

You can see our conversations on our website liveoakbank.com/annualreport2022.

Over to Huntley for his take.

A handwritten signature in dark ink, reading "James S. Mahan III". The signature is fluid and cursive, with the first name "James" being the most prominent.

James S. "Chip" Mahan III
Chairman and Chief Executive Officer

As we were putting the final touches on our 2022 Annual Report, the U.S. banking system underwent a shock unlike anything seen since the Financial Crisis of 2008/2009. The startling events remind us that banking is fundamentally a business of trust, and that risk management is paramount to operating in this industry. After spending long days and sleepless nights preparing for what might unfold and focusing on our customers and our teammates, we returned to this letter with a clearheaded lens. Fortunately, the core messages here are enduring, and the timelessness of our dedicated focus on our customers has always required us to maintain a strong balance sheet.

A NOTE FROM HUNTLEY GARRIOTT

President of Live Oak Bank

Successful small businesses are more than just open signs and smiles — they provide jobs for hard working people. They put dollars in local economies. They offer opportunities when sometimes few exist.

In recent years, these businesses have been tested.

For Small Business America, the direct impacts of the pandemic began to fade in 2022 but the second order impacts remained acute. Inflation, labor shortages, and rising interest rates are still affecting businesses across the country. In the face of these challenges, our small business customers demonstrated their resiliency, reminding us why we are so passionate about serving them. At Live Oak, we are on a mission to become America's small business bank, and throughout 2022 we continued to make significant progress along that journey.

Core Banking

Although as an industry we often try to convince ourselves otherwise, the banking business is, at its core, relatively simple.

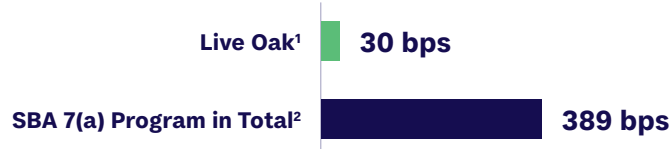
We exist to help our customers achieve their financial goals, and for the most part that means we make loans and gather deposits. For nearly 15 years, Live Oak has operated primarily as a small business lender with the same guiding principles: safety and soundness, profitability, and growth. In that order.

Safety and Soundness

Credit quality is first and foremost in every loan we make. We focus on diving deep into our small business owners' industries, understanding the use of proceeds, and determining whether the business owner has the eye of the tiger, which have all been hallmarks of the company since inception. Prioritizing safety and soundness also involves managing a conservative balance sheet, one anchored by diversification, strength and flexibility required to navigate economic turbulence.

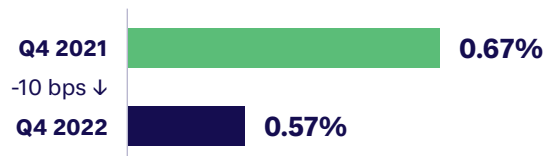
As a result of our thoughtful credit culture, over our history, we have enjoyed loss experience 10 times less than the SBA industry on average.

Cumulative SBA 7(a) Loss Rate Since 2013



Despite continued pressure from inflation and tight labor markets, rapid interest rate increases and a slowing economy throughout the year, we ended 2022 with strong credit metrics.

Nonaccruals³

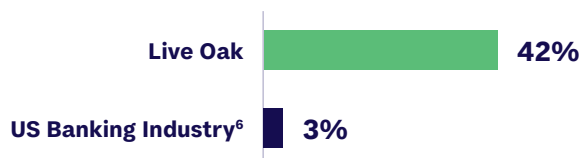


Classified and Criticized^{3, 4, 5}



By leveraging government guaranteed loan programs, primarily SBA and USDA, we have a much larger percentage of guaranteed loans on our balance sheet than other banks.

Government Guaranteed % of Loan Portfolio



The combination of government guarantees, and strong capital levels lead to a balance sheet that we are confident is well prepared to navigate an uncertain economic environment.

The Mahan Ratio: Strong Capital Position

TIER 1 CAPITAL (A)	\$	888
ACL AND FV MARK ON UNGUARANTEED LOANS AND LEASES (B)	\$	109
TOTAL UNGUARANTEED LOANS AND LEASES ⁷ (C)	\$	4,596
TIER 1 CAPITAL TO UNGUARANTEED LOANS AND LEASES ⁷ (A/C)		19.3%
ACL AND FV MARK TO UNGUARANTEED LOANS AND LEASES ⁷ (B/C)		2.4%
TIER 1 CAPITAL + ACL AND FV MARK TO UNGUARANTEED LOANS AND LEASES ⁷ (A+B/C)		21.7%

\$ in Millions

Since the financial crisis, credit quality has been the primary driver of assessing safety within the banking system. Over the course of March 2023, however, attention quickly turned to liquidity as the impacts of higher interest rates and deposit outflow led to the failure of several large, highly respected banks. At Live Oak, we have consistently understood the criticality of liquidity, as many of us here were intimately involved with large banks that struggled during the financial crisis. We learned that while credit issues may be the

driver, liquidity is equally as important. We have always maintained a liquid balance sheet, with limited concentrations in deposits of any type, including those above the FDIC insurance limit.

Uninsured Deposits / Total Deposits⁶



Profitability

The primary way to maintain a strong balance sheet is to generate capital through retained earnings. Historically, that income has been generated by the sale of SBA loans in the secondary market. Over the last five years, we have reduced the reliance on that gain as a percent of revenues, instead retaining those loans on our balance sheet driving significant growth in net interest income.

Net Interest Income Growth



This shift in our balance sheet strategy served us well, as the secondary market recoiled in 2022 from rapid changes in monetary policy. Our diversified business model, with 42% of our total loan portfolio government guaranteed and a stronger net interest margin than most, is quite unique and comforting.

We also augmented our core profitability with approximately \$150 million of gains from the sale of two of our financial technology portfolio companies last year. Those gains allowed us to accelerate our technology roadmap and be more selective in loan sales in a weaker secondary market.

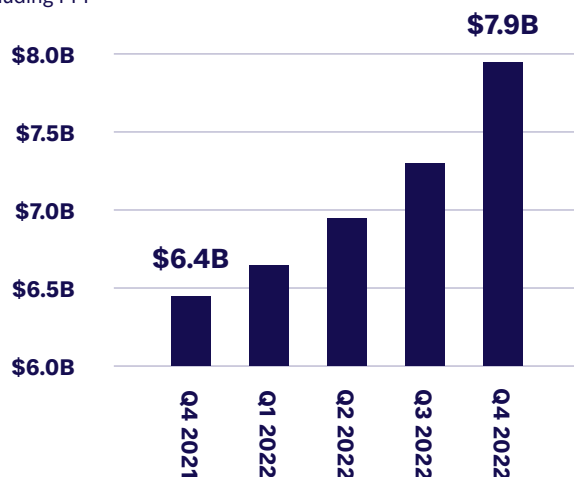
Overall, the momentum in our business drove positive trends in our pre-provision net revenue (PPNR), with recurring revenue growth primarily through net interest income.

Growth

Growth has never been our primary goal, however. Treating customers with the highest level of service is. Growth, in many ways, is a result of our success, and has come broadly across the franchise, from hiring additional experienced lenders, to launching new verticals, to selectively following our customers up-market. Over the course of 2022, we provided \$4 billion of capital to small businesses across the nation which drove significant growth in our loan portfolio.

Loan Growth YoY

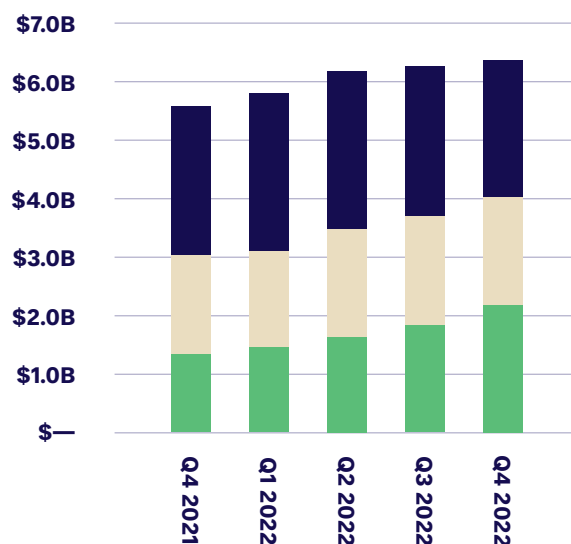
Excluding PPP



That growth was funded primarily via our business savings accounts, where we committed to helping better serve small businesses with easy-to-use savings products offering a competitive market rate.

Total Deposit Growth⁸

● Retail Savings ● Retail CDs ● Business Savings and CDs



Innovating to Better Serve Small Business America

Our expanded product offerings are built with nimbleness and modernization in mind.

Live Oak has a rich history of leveraging technology to better serve small businesses, driven by our conviction that the world, and our customers' expectations, continue to evolve rapidly. While financial technology valuations may have corrected in 2022, the strategic imperative to deliver an elegant customer experience and leverage technology to improve the efficiency of our teammates has only increased. We generally think of our technology strategy in three categories:

01 Improving the way we currently do business

Over the course of 2022, we re-platformed our loan origination and servicing systems to better serve our small business customers while driving operational efficiencies across our entire lending life cycle.

02 Preparing for the future

We have been hard at work behind the scenes evolving from a small business lender to becoming a full-service bank for small businesses. That requires a robust checking account with treasury management capabilities. As I write this letter, our first customers have been onboarded onto our new platform, setting the stage for significant opportunities to better serve our customers.

03 Taking our shots at disruption

Much of the industry is talking about some version of embedded banking. For Live Oak, that means the ability to deliver the full suite of our banking functionality through APIs to partners that serve small businesses. Small businesses increasingly rely on verticalized software to help them start, run and grow their operations, and we believe integrating banking capabilities will further support small businesses. This is a long game, but we are taking the necessary steps to ensure our relevance.

Three-Legged Stool

The “marathon, not a sprint” approach requires a deep commitment to our people. Above all else, we prioritize the well-being of our employees, empowering them to provide best-in-class service to our customers, which in turn benefits you, our shareholders.

Leg 1: Employees

In 2022, we:

- Grew our team by almost 200, ending the year approaching 1,000 people
- Rolled out our People First framework to formalize how we support our teammates
- Launched an employee engagement survey to collect data on what we need to continue and what we need to improve

These internal efforts are designed to produce extraordinary external results. Our mantra to treat every customer like the only customer starts with our culture of taking care of our people. We support remote work and have employees across the nation, but Live Oak’s inimitable campus in Wilmington, NC, is the linchpin of our internal culture. Thoughtfully designed to be a hub for our people, the campus includes a fitness center, onsite medical care and two restaurants — all in the name of making our employees’ lives better, so that they can continue taking care of our customers. Visitors often remark of the “energy” that flows throughout our campus, a feeling of camaraderie and deep dedication.

Strong cultures don’t get there, or stay there, by accident. It takes a commitment by everyone to protect it, but it also takes intentionally designed programs and communication to ensure that culture thrives. We believe we are taking the right steps to ensure our highly differentiated culture remains as strong as ever.

Leg 2: Customers

In an effort to better serve our customers, we decided to hear from them directly in our first Voice of the Customer survey, powered by Barlow & Associates.

Barlow Research surveyed 768 Live Oak lending customers across the U.S. to gather current viewpoints on trends in the commercial banking sector. Customers have access to view this data set and gain insight on benchmarks and economic sentiment within their industry. Overall, our customers remain steadfastly confident despite macro dynamics.



Customers are optimistic with 60% believing it is a good time to expand



Staffing and pricing pressures have been a challenge



25% anticipate transitioning ownership of their company over the next five years

Leg 3: Shareholders

At Live Oak Bank, being a responsible corporate citizen has always been central to who we are. We understand that doesn’t stop with the individual, but continues to their family, and our communities where small businesses count on relationship-driven banks like us. In 2022, we demonstrated that commitment by taking big strides in our corporate social responsibly (CSR) strategy.

We expanded our Environmental, Social and Governance report published in the 2020 and 2021 shareholder reports, and launched a more robust CSR framework that can be seen on our website at liveoakbank.com/csr.

We are proud of the work we have done to date, but we know we have further to go. Our ethos is firmly rooted in the belief that doing good is good business. We are committed to listening, learning, setting ambitious targets, measuring our progress, and sharing our results.

As we head into 2023, despite the disruption in our industry, our focus is clear.

We'll continue to provide capital to small businesses, thoughtfully grow our unique franchise, maintain robust capital, credit and liquidity standards, and finally deliver the complete suite of banking services small businesses deserve. Through all of this we remain laser-focused on becoming America's small business bank.

Service is our calling card, and by leveraging our great people and next-generation technology, we believe our market share, earnings and core business will continue to grow.

At the end of the day, it is the ingenuity and resiliency of small business owners that we applaud. We are proud to serve them — they are not only the backbone of our nation's economy, but they are truly the American Dream — and they inspire us every day. I encourage you to see what our intrepid founder, Chairman and CEO Chip Mahan, recently discovered when he had the opportunity to visit some of Live Oak's customers. The conversations in his video are pretty special, just like our customers, and we wanted to share that with you to hopefully bring to life those who we serve.



M. Huntley Garriott, Jr.

1. Total SBA 7(a) net charge-offs (inclusive of those at fair value and historical cost) / Total SBA 7(a) originations from 2013 through Q4 2022. | 2. Derived from SBA guarantee payment data by assuming aggregate of all payments plus 25% (for unguaranteed portion) equate to total charge-off history. Source is SBA 7(a) Program data from September 30, 2022 SBA Loan Program Performance Report, includes charge-offs, guaranteed, and originations for the entire SBA 7(a) program. | 3. Ratios use total HFI unguaranteed loans and leases at amortized cost (inclusive of loans and leases at fair value and historical cost). | 4. Classified includes loans and leases rated a risk grade 6 or higher. | 5. Criticized includes loans and leases rated a risk grade 5. | 6. Bank Call Reports via S&P Capital IQ. Includes commercial and savings banks with total assets in excess of \$1 billion and excludes any banks with \$0 or "NA" deposits. Government guaranteed loans derived from that data by assuming reported loans and leases with a 0% and 20% risk-weighting are government guaranteed. | 7. Represents total unguaranteed loans and leases at amortized cost (inclusive of loans and leases at fair value and historical cost). | 8. Excludes brokered CDs and CDARs.

Capital is just one way we invest in our customers

VOICE OF THE CUSTOMER

2022 Survey Results

We're thrilled to share the results from our inaugural Voice of the Customer study, completed by 768 Live Oak Bank loan customers. Its objective was to deliver insights, industry benchmarks and candid advice to help small business owners define challenges and opportunities. The study revealed some fascinating and timely viewpoints on the many factors impacting small businesses in America.

This survey embodies our commitment to going above and beyond for our customers and small business owners across the country. We believe it is a valuable tool to help customers identify opportunities and potential challenges in 2023 and beyond.

To download the full report, visit
liveoakbank.com/voiceofthecustomer

On average, Live Oak's small business customers ...



Started their business **19 years ago**



Have **24 employees**



81% have less than \$5MM
in annual sales revenue



75% are expanding or attempting
to expand their business

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549
FORM 10-K

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

For the fiscal year ended December 31, 2022

or

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

For the transition period from _____ to _____.
Commission file number: 001-37497



LIVE OAK BANCSHARES, INC.

(Exact name of registrant as specified in its charter)

North Carolina

26-4596286

(State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification No.)

1741 Tiburon Drive, Wilmington, NC

28403

(Address of principal executive offices)

(Zip Code)

Registrant's telephone number, including area code: (910) 790-5867

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Voting Common Stock, no par value per share	LOB	New York Stock Exchange LLC

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. YES ☒ NO ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the 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, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☒

Accelerated Filer ☐

Non-accelerated Filer ☐

Smaller Reporting Company ☐

Emerging growth company ☐

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

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

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 registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES ☐ NO ☒

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant as of June 30, 2022, was approximately \$1,118,535,078. Shares of common stock held by each officer and director have been excluded in that such persons may be deemed to be affiliates. There is no public market for the registrant's non-voting common stock. For purposes of this calculation, the registrant has assumed that the market value of each share of non-voting common stock is equal to a share of voting common stock.

APPLICABLE ONLY TO CORPORATE REGISTRANTS:

As of February 22, 2023, there were 44,146,013 shares of the registrant's voting common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement for the 2023 Annual Meeting of Shareholders, which the registrant plans to file subsequent to the date hereof, are incorporated by reference into Part III. Portions of the registrant's annual report to shareholders for the year ended December 31, 2022, which will be posted on the registrant's website subsequent to the date hereof, are incorporated by reference into Part II.

Live Oak Bancshares, Inc.
Annual Report on Form 10-K
December 31, 2022
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Important Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K (this “Report”) contains statements that management believes are forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995. These statements generally relate to the financial condition, results of operations, plans, objectives, future performance or business of Live Oak Bancshares, Inc. (the “Company”). They usually can be identified by the use of forward-looking terminology, such as “believes,” “expects,” or “are expected to,” “plans,” “projects,” “goals,” “estimates,” “will,” “may,” “should,” “could,” “would,” “continues,” “intends to,” “outlook” or “anticipates,” or variations of these and similar words, or by discussions of strategies that involve risks and uncertainties. You should not place undue reliance on these statements, as they are subject to risks and uncertainties, including but not limited to, those described in this Report. When considering these forward-looking statements, you should keep in mind these risks and uncertainties, as well as any cautionary statements management may make. Moreover, you should treat these statements as speaking only as of the date they are made and based only on information actually known to the Company at the time. Management undertakes no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise. Forward-looking statements contained in this Report are based on current expectations, estimates and projections about the Company’s business, management’s beliefs and assumptions made by management. These statements are not guarantees of the Company’s 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 the forward-looking statements. These risks, uncertainties and assumptions include, without limitation:

- deterioration in the financial condition of borrowers resulting in significant increases in the Company’s loan and lease losses and provisions for those losses and other adverse impacts to results of operations and financial condition;
- changes in Small Business Administration (“SBA”) rules, regulations and loan products, including specifically the Section 7(a) program, changes in SBA standard operating procedures or changes to the status of Live Oak Banking Company (the “Bank” or “Live Oak Bank”) as an SBA Preferred Lender;
- changes in rules, regulations or procedures for other government loan programs, including those of the United States Department of Agriculture (“USDA”);
- changes in interest rates that affect the level and composition of deposits, loan demand and the values of loan collateral, securities, and interest sensitive assets and liabilities;
- the failure of assumptions underlying the establishment of reserves for possible loan and lease losses;
- changes in loan underwriting, credit review or loss reserve policies associated with economic conditions, examination conclusions, or regulatory developments;
- the impacts of global health crises and pandemics, such as the Coronavirus Disease 2019 (“COVID-19”) pandemic on trade (including supply chains and export levels), travel, employee productivity and other economic activities that may have a destabilizing and negative effect on financial markets, economic activity and customer behavior;
- a reduction in or the termination of the Company’s ability to use the technology-based platform that is critical to the success of the Company’s business model or to develop a next-generation banking platform, including a failure in or a breach of the Company’s operational or security systems or those of its third party service providers;
- changes in financial market conditions, either internationally, nationally or locally in areas in which the Company conducts operations, including reductions in rates of business formation and growth, demand for the Company’s products and services, commercial and residential real estate development and prices, premiums paid in the secondary market for the sale of loans, and valuation of servicing rights;
- changes in accounting principles, policies, and guidelines applicable to bank holding companies and banking;
- fluctuations in markets for equity, fixed-income, commercial paper and other securities, which could affect availability, market liquidity levels, and pricing;

- the effects of competition from other commercial banks, non-bank lenders, consumer finance companies, credit unions, securities brokerage firms, insurance companies, money market and mutual funds, and other financial institutions operating in the Company's market area and elsewhere, including institutions operating regionally, nationally and internationally, together with such competitors offering banking products and services by mail, telephone and the Internet;
- the Company's ability to attract and retain key personnel;
- changes in governmental monetary and fiscal policies as well as other legislative and regulatory changes, including with respect to SBA or USDA lending programs and investment tax credits;
- a deterioration of the credit rating for U.S. long-term sovereign debt, actions that the U.S. government may take to avoid exceeding the debt ceiling, and uncertainties surrounding the debt ceiling and the federal budget;
- changes in political and economic conditions;
- the impact of heightened regulatory scrutiny of financial products and services, primarily led by the Consumer Financial Protection Bureau and various state agencies;
- the Company's ability to comply with any requirements imposed on it by regulators, and the potential negative consequences that may result;
- operational, compliance and other factors, including conditions in local areas in which the Company conducts business such as inclement weather or a reduction in the availability of services or products for which loan proceeds will be used, that could prevent or delay closing and funding loans before they can be sold in the secondary market;
- the effect of any mergers, acquisitions or other transactions, to which the Company or the Bank may from time to time be a party, including management's ability to successfully integrate any businesses acquired;
- adverse results, including related fees and expenses, from pending or future lawsuits, government investigations or private actions;
- other risk factors listed from time to time in reports that the Company files with the SEC, including those described under "Risk Factors" in this Report; and
- the Company's success at managing the risks involved in the foregoing.

Except as otherwise disclosed, forward-looking statements do not reflect: (i) the effect of any acquisitions, divestitures or similar transactions that have not been previously disclosed; (ii) any changes in laws, regulations or regulatory interpretations; or (iii) any change in current dividend or repurchase strategies, in each case after the date as of which such statements are made. All forward-looking statements speak only as of the date on which such statements are made, and the Company undertakes no obligation to update any statement, to reflect events or circumstances after the date on which such statement is made or to reflect the occurrence of unanticipated events.

PART I

Item 1. BUSINESS

General

Live Oak Bancshares, Inc. (individually, “Bancshares” and collectively with its subsidiaries including Live Oak Banking Company, the “Company,” also referred to as “our” and “we”), headquartered in Wilmington, North Carolina, is the bank holding company for Live Oak Banking Company (the “Bank” or “Live Oak Bank”). The Bank was incorporated in February 2008 as a North Carolina-chartered commercial bank and operates an established national online platform for small business lending and deposit gathering. Bancshares was incorporated under the laws of the state of North Carolina on December 18, 2008, for the purpose of serving as the bank holding company of Live Oak Bank. Bancshares completed its initial public offering (“IPO”) in July 2015.

The Company

The Company predominantly originates loans partially guaranteed by the U.S. Small Business Administration (the “SBA”) and to a lesser extent by the United States Department of Agriculture (“USDA”) Rural Energy for America Program (“REAP”), Water and Environmental Program (“WEP”), Business & Industry (“B&I”) and Community Facilities loan programs. These loans are to small businesses and professionals with what the Company believes are lower risk characteristics. Industries, or “verticals,” on which the Company focuses its lending efforts are carefully selected. The Company also lends more broadly to select borrowers outside of those verticals.

In addition to focusing on industry verticals, the Company emphasizes developing detailed knowledge of its customers’ businesses. This knowledge is developed, in part, through virtual and/or regular visits with customers, wherever they are located. These regular visits are designed to foster, both for the Company and for the customer, a deep and personalized experience throughout the lending relationship. The Company has developed, and continues to refine, a technology-based platform to facilitate providing financial services to the small business community on a national scale and has leveraged this technology to optimize the Company’s loan origination process, customer experience, reporting metrics, and servicing activity. The Company services customers efficiently throughout the loan process and monitors their performance by means of the technology-based platform without maintaining traditional branch locations.

For additional information on the Company’s business, financial performance and results of operations, see “Overview” and “Executive Summary” in Part II, Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations of this Report. For a discussion of the Company’s reportable segments see Note 16. Segments in Part II, Item 8. Financial Statements and Supplementary Data of this report.

The Company’s voting common stock trades on the New York Stock Exchange LLC (the “NYSE”) under the symbol “LOB.” As of January 31, 2023, there were 226 holders of record of the Company’s voting common stock. The Company’s principal executive office is located at 1741 Tiburon Drive, Wilmington, North Carolina 28403, telephone number (910) 790-5867. The Company maintains a website at www.liveoakbank.com. Documents available on the website include: (i) the Company’s Code of Ethics and Conflict of Interest Policy; and (ii) charters for the Audit and Risk, Compensation, and Nominating and Corporate Governance Committees of the Board of Directors. These documents also are available in print to any shareholder who requests a copy.

In addition, available free of charge through the Company’s website is the Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports as soon as reasonably practicable after electronically filing or furnishing such material to the U.S. Securities and Exchange Commission (“SEC”). These filings are also accessible on the SEC’s website at www.sec.gov.

The Company also will provide without charge a copy of this Report, as well as any documents available on the Company’s website, to any shareholder by mail. Requests should be sent to Live Oak Bancshares, Inc., Attention: Corporate Secretary, 1741 Tiburon Drive, Wilmington, NC 28403.

Employees and Human Capital Resource Management

The Company operates on the fundamental philosophy that people are our most valuable asset, because every person who works for us has the potential to impact our success as well as the success of our customers. The Company's employees are the source of our deep industry and product expertise and the embodiment of our culture. It is this industry vertical expertise, product knowledge and our culture that differentiate the Company and allow us to provide an unprecedented customer experience and live our mission to fuel the growth of small business across the country and be America's Small Business Bank.

As a financial institution, our ability to attract, develop and retain highly qualified employees is critical to our success. The Company's core values of innovation, dedication, ownership, respect and teamwork are pillars of our culture and represent the expectations we have of each and every one of our employees. We believe our people provide significant value to our Company and its shareholders.

Demographics

As of December 31, 2022, the Company had 955 full-time employees, 19 part-time employees and 30 independent contractors. None of the Company's employees are covered by a collective bargaining agreement, and management considers relations with employees to be good.

Diversity and Inclusion

The Company strives to foster a welcoming, supportive, and equitable environment for diverse employees. To accomplish this, the Company focuses on engagement, awareness, training, accountability, education, and communication. During 2022, the Company launched six Employee Resource Groups and nine interest groups to create community and connection through shared interests and experiences. In addition, leaders engaged in development opportunities such as bias, advocacy, and systemic inclusion training, with 100% of Company recruiters completing DEI and hiring bias training. The Company also updated its maternity/paternity leave policy to offer more time for new parents. Juneteenth National Independence Day and Veterans Day were expanded with sponsored, on-campus events to celebrate and support local, diversely owned small businesses. The Company's diversity, equity and inclusion initiatives are both internally and externally focused. Its commitment to providing and enhancing a support infrastructure for people with underrepresented backgrounds remains a strategic initiative in 2023 and beyond. The Company intends to continue to identify, monitor and measure meaningful diversity and inclusion goals, to continue to foster a welcoming environment through education, communication and recruiting efforts, and to provide support so that diverse employees have the resources and relationships they need to be successful and thrive.

Compensation

We believe that creating an unprecedented banking experience for small business owners nationwide through service and technology will build long-term shareholder value. To accomplish this, we endeavor to identify, recruit, retain and incentivize exceptional employees. Our compensation program is based on the premise that employees should receive fair and equitable treatment based on their individual contributions to the Company's profitability and success. We use a combination of fixed and incentive pay, including base salary, cash bonus and equity compensation. We also offer a 401(k) savings plan to qualifying employees.

Our compensation program is intended to motivate employees to successfully execute our mission. The Company believes that the most effective incentive compensation programs strive to achieve the following objectives:

- align compensation with responsibilities and performance;
- align employees' interests with those of our shareholders;
- motivate performance toward the achievement of business objectives;
- clearly communicate compensation policies and structures to employees;
- motivate behaviors to increase long-term profitability while maintaining the Company's primary commitment to safety and soundness; and
- attract and retain talent and build leadership succession within business units.

Benefits and Wellness

As the success of our business is fundamentally connected to the well-being of our people, we offer benefits that support their physical, financial, and emotional well-being. We provide our employees with access to flexible and convenient insurance programs intended to meet their needs and the needs of their families. In addition to robust medical, dental and vision coverage, we offer eligible employees dependent care flexible spending accounts, paid time off, employee assistance programs, short-term and long-term disability insurance, and term life insurance.

Our focus on employee wellness extends beyond just insurance benefits. The Company provides access to an intranet site focused on physical, mental, emotional, and financial wellness, and at its Wilmington headquarters facility, provides an on-site health clinic for employees, on-site physical therapy appointments, and an on-site wellness facility staffed with certified physical trainers and regularly scheduled live and virtual wellness classes. The Company's main campus in Wilmington also offers two on-site restaurants that provide healthy options and which can cater to specific dietary needs.

We continue to lean on lessons learned while navigating the COVID-19 pandemic. Flexibility remains an important component of our commitment to overall employee well-being. Our 100% cloud-based operations allow our people to transition freely between remote working and in-person as personal circumstances require with no material effect on our operations or customer experience.

Commitment to Values and Ethics

Along with our core values, we have adopted a Code of Ethics and Conflict of Interest Policy, which sets forth expectations and guidance for employees to make appropriate decisions. Our Code of Ethics and Conflict of Interest Policy covers topics such as conflicts of interest, compliance with laws, appropriate use of company assets, protecting confidential information, and reporting of violations. Our Code of Ethics and Conflict of Interest Policy reflects our commitment to operating in a fair, honest, responsible, and ethical manner and also provide direction for reporting complaints in the event of alleged violations of our policies.

Professional Development and Training

We believe training and professional development for our employees has a positive impact on employee retention, customer experience and, ultimately, shareholder value. The Company has certain training programs and resources in place to meet the needs of various roles, skill sets and departments across the Company, including:

- Internally and externally led manager training and professional development;
- Internally led "lunch and learn" meetings for role-specific skills;
- Web-based learning modules and training for personal and professional development, skill-based learning, leadership development and management functions;
- Formal cross-department teams tasked with technology, initiative roll-outs and change management; and
- Tuition reimbursement for job-specific certifications and required continuing education.

Communication and Engagement

We believe that the Company's success and the ultimate creation of long-term value for shareholders begins with employees understanding how their work contributes to the Company's overall strategy. To this end, we communicate with our workforce through a variety of channels and encourage open and direct communication, including:

- An annual company-wide "all hands" meeting;
- Regularly scheduled town hall meetings that are led by our key executives and held quarterly or more often as needed;
- Periodic posts from the Bank's president via our internal enterprise social media network; and
- An open-door environment that encourages communication, collaboration and the free-flow of information.

Collaboration, both within and between business units, is a hallmark of our approach to service delivery and value creation for our customers and stakeholders.

Competition

Commercial banking in the United States is extremely competitive. The Company competes with national banking organizations, including the largest commercial banks headquartered in the country, all of which have small business lending divisions. The Company also competes with other federally and state-chartered financial institutions such as community banks and credit unions, finance and business development companies, peer-to-peer and marketplace lenders and other non-bank lenders. Many of the Company's competitors have higher legal lending limits and are also able to provide a wider array of services and make greater use of media advertising given their size and resources.

Despite the intense level of competition among small business lenders, the Company believes that it occupies a lending category distinct from its competitors. One of the Company's principal advantages is the technology-based platform it uses, which management believes has accelerated the Company's ability to issue proposals, complete credit due diligence, finalize commitments and improve the overall customer experience. The Company believes that its personnel also provide a competitive advantage because they include industry participants with relevant experience in the Company's identified verticals.

Subsidiaries

In addition to the Bank, Bancshares directly or indirectly held the following wholly owned material subsidiaries as of December 31, 2022:

- Canapi Advisors, LLC (“Canapi Advisors”), formed in September 2018 for the purpose of providing investment advisory services to a series of funds focused on investing venture capital in new and emerging financial technology companies;
- Live Oak Ventures, Inc., formed in August 2016 for the purpose of investing in businesses that align with the Company's strategic initiative to be a leader in financial technology;
- Live Oak Grove, LLC, formed in February 2015 for the purpose of providing Company employees and business visitors an on-site restaurant location at the Company's Wilmington, North Carolina headquarters; and
- Government Loan Solutions, Inc. (“GLS”), a management and technology consulting firm that specializes in the settlement, accounting, and securitization processes for government guaranteed loans, including loans originated under the SBA 7(a) loan program and USDA-guaranteed loans.

In 2010, the Bank formed Live Oak Number One, Inc., a wholly owned subsidiary, to hold properties foreclosed on by the Bank.

In 2018, the Bank formed Live Oak Private Wealth, LLC (“LOPW”), a registered investment advisor that provides high-net-worth individuals and families with strategic wealth and investment management services. During the first quarter of 2022, Jolley Asset Management, LLC (“JAM”) was merged into LOPW. JAM was previously a wholly owned subsidiary of LOPW.

In 2019, Live Oak Clean Energy Financing LLC (“LOCEF”) became a subsidiary of the Bank. LOCEF was formed in November 2016 as a subsidiary of Bancshares for the purpose of providing financing to entities for renewable energy applications.

Tiburon Land Holdings, LLC was formed in the third quarter of 2022 as a subsidiary of the Bank to hold land adjacent to the Bank's headquarters consisting of wetlands and other protected property for the use and enjoyment of the Bank's employees and customers.

Operating Segments

The Company's operations are managed along two reportable operating segments consisting of Banking and Fintech. See the sections captioned “Results of Segment Operations” in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Note 16. Segments in the notes to consolidated financial statements included in Item 8. Financial Statements and Supplementary Data elsewhere in this report.

SUPERVISION AND REGULATION

General

The Company is subject to extensive regulation in connection with its respective activities and operations. The framework under which the Company is supervised and examined is complex. This framework includes federal and state laws, regulations, policy statements, guidance, and other interpretative materials that define the obligations and requirements for financial institutions.

Regulations of banks and their holding companies is subject to continual revision, through legislative changes, regulatory revisions, and the evolving supervisory objectives of federal and state banking agency examiners and supervisory staff. It is not possible to predict the content or timing of changes to the laws and regulations that may impact the business of the Company. Any changes to the regulatory framework applicable to the Company could have a material adverse impact on its operations.

In addition to the regulation and supervision summarized below, Bancshares is a reporting company under the Securities Exchange Act of 1934 (the “Exchange Act”) and is required to file reports with the SEC and otherwise comply with federal securities laws. Bancshares’ voting common stock is listed on the NYSE. Consequently, in addition to the rules promulgated by the SEC, Bancshares must also comply with the listing standards applicable to NYSE-listed companies. The NYSE listing standards applicable to Bancshares include corporate governance standards related to director independence; requirements for audit, nominating and compensation committee charters, membership qualifications and procedures; and shareholder approval of equity compensation arrangements, among others.

The following discussion is not intended to be a complete description of all the activities regulated by U.S. banking laws and regulations or of the impact of such laws and regulations on the Company. Rather, it is intended to briefly summarize the legal and regulatory framework in which the Company operates and describes certain legal requirements that impact its businesses and operations. The information set forth below is subject to change.

Federal Bank Holding Company Regulation and Structure

As a registered bank holding company, Bancshares is subject to regulation under the Bank Holding Company Act of 1956, as amended (“BHCA”), and to the supervision, examination and reporting requirements of the Board of Governors of the Federal Reserve System (the “Federal Reserve”). The Bank is a North Carolina-chartered commercial bank and is subject to regulation, supervision and examination by the Federal Deposit Insurance Corporation (“FDIC”) and the North Carolina Commissioner of Banks (“NCCOB”).

The BHCA requires every bank holding company to obtain the prior approval of the Federal Reserve before:

- it may acquire direct or indirect ownership or control of any voting shares of any bank if, after the acquisition, the bank holding company will directly or indirectly own or control more than 5% of the voting shares of the bank;
- it or any of its subsidiaries, other than a bank, may acquire all or substantially all of the assets of any bank; or
- it may merge or consolidate with any other bank holding company.

The BHCA further provides that the Federal Reserve may not approve any transaction that would result in a monopoly or that would substantially lessen competition in the banking business, unless the public interest in meeting the needs of the communities to be served outweighs the anti-competitive effects. The Federal Reserve is also required to consider the financial and managerial resources and future prospects of the bank holding companies and banks involved and the convenience and needs of the communities to be served. Consideration of financial resources generally focuses on capital adequacy, and consideration of convenience and needs issues focuses, in part, on the performance under the Community Reinvestment Act of 1977, both of which are discussed elsewhere in more detail.

Subject to various exceptions, the BHCA and the Change in Bank Control Act, together with related regulations, require Federal Reserve approval prior to any person or company acquiring “control” of a bank holding company. Control is conclusively presumed to exist if a person or company acquires 25% or more of any class of voting securities of a bank holding company. Control is also presumed to exist, although rebuttable, if a person or company acquires 10% or more, but less than 25%, of any class of voting securities and either:

- the bank holding company has securities registered under Section 12 of the Exchange Act; or
- no other person owns a greater percentage of that class of voting securities immediately after the transaction.

Bancshares’s voting common stock is registered under Section 12 of the Exchange Act. The regulations provide a procedure for challenging rebuttable presumptions of control.

The BHCA generally prohibits a bank holding company from retaining direct or indirect ownership or control of any voting shares of any company which is not a bank or bank holding company or engaging in activities other than banking, managing or controlling banks or other permissible subsidiaries and acquiring or retaining direct or indirect control of any company engaged in any activities other than activities closely related to banking or managing or controlling banks. In determining whether a particular activity is permissible, the Federal Reserve considers whether performing the activity can be expected to produce benefits to the public that outweigh possible adverse effects, such as undue concentration of resources, decreased or unfair competition, conflicts of interest or unsound banking practices. The Federal Reserve has the power to order a bank holding company or its subsidiaries to terminate any activity or control of any subsidiary when the continuation of the activity or control constitutes a serious risk to the financial safety, soundness or stability of any bank subsidiary of that bank holding company.

Under the BHCA, a bank holding company may file an election with the Federal Reserve to be treated as a financial holding company and engage in an expanded list of financial activities. The election must be accompanied by a certification that all of the company’s insured depository institution subsidiaries are “well capitalized” and “well managed.” Additionally, the Community Reinvestment Act of 1977 rating of each subsidiary bank must be satisfactory or better. If, after becoming a financial holding company and undertaking activities not permissible for a bank holding company, the company fails to continue to meet any of the prerequisites for financial holding company status, the company must enter into an agreement with the Federal Reserve to comply with all applicable capital and management requirements. If the company does not return to compliance within 180 days, the Federal Reserve may order the company to divest its subsidiary banks or the company may discontinue or divest investments in companies engaged in activities permissible only for a bank holding company that has elected to be treated as a financial holding company. Bancshares filed an election and became a financial holding company in 2016.

Under Federal Reserve policy and as codified by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the “Dodd-Frank Act”), Bancshares is expected to act as a source of financial strength for Live Oak Bank and to commit resources to support Live Oak Bank. This support may be required at times when Bancshares might not be inclined to provide it or it might not be in Bancshares’ best interests or the best interests of its shareholders. In addition, any capital loans made by Bancshares to Live Oak Bank will be repaid only after Live Oak Bank’s deposits and various other obligations are repaid in full.

Live Oak Bank is also subject to numerous state and federal statutes and regulations that affect its business, activities and operations and it is supervised and examined by state and federal bank regulatory agencies. The FDIC and the NCCOB regularly examine the operations of Live Oak Bank and are given the authority to approve or disapprove mergers, consolidations, the establishment of branches and similar corporate actions. These agencies also have the power to prevent the continuance or development of unsafe or unsound banking practices or other violations of law.

Bank Merger Act

Section 18(c) of the Federal Deposit Insurance Act, popularly known as the “Bank Merger Act,” requires the prior written approval of appropriate federal bank regulatory agencies before any bank may (i) merge or consolidate with, (ii) purchase or otherwise acquire the assets of, or (iii) assume the deposit liabilities of, another bank if the resulting institution is to be a state nonmember bank.

The Bank Merger Act prohibits the applicable federal bank regulatory agency from approving any proposed merger transaction that would result in a monopoly, or would further a combination or conspiracy to monopolize or to attempt to monopolize the business of banking in any part of the United States. Similarly, the Bank Merger Act prohibits the applicable federal bank regulatory agency from approving a proposed merger transaction whose effect in any section of the country may be substantially to lessen competition, or to tend to create a monopoly, or which in any other manner would be in restraint of trade. An exception may be made in the case of a merger transaction whose effect would be to substantially lessen competition, tend to create a monopoly, or otherwise restrain trade, if the applicable federal bank regulatory agency finds that the anticompetitive effects of the proposed transaction are clearly outweighed in the public interest by the probable effect of the transaction in meeting the convenience and needs of the community to be served.

In every proposed merger transaction, the applicable federal bank regulatory agency must also consider the financial and managerial resources and future prospects of the existing and proposed institutions, the convenience and needs of the community to be served, and the effectiveness of each insured depository institution involved in the proposed merger transaction in combating money-laundering activities, including in overseas branches.

State Law

Live Oak Bank is subject to extensive supervision and regulation by the NCCOB. The NCCOB oversees state laws that set specific requirements for bank capital and that regulate deposits in, and loans and investments by, banks, including the amounts, types, and in some cases, rates. The NCCOB supervises and performs periodic examinations of North Carolina-chartered banks to assure compliance with state banking statutes and regulations, and banks are required to make regular reports to the NCCOB describing in detail their resources, assets, liabilities, and financial condition. Among other things, the NCCOB regulates mergers and consolidations of North Carolina state-chartered banks, capital requirements for banks, loans to officers and directors, payment of dividends, record keeping, types and amounts of loans and investments, and the establishment, relocation, and closing of branches.

The NCCOB has extensive enforcement authority over North Carolina banks. Such authority includes the ability to issue cease-and-desist orders and to seek civil money penalties. The NCCOB may also take possession of a North Carolina bank in various circumstances, including for a violation of its charter or of applicable laws, operating in an unsafe and unsound manner, or as a result of an impairment of its capital, and may appoint a receiver.

Bancshares is also required to maintain registration as a bank holding company with the NCCOB. Subject to certain exceptions, Bancshares may not acquire control over another bank or bank holding company or consummate a merger or other combination transaction with another company without the prior approval of the NCCOB. The NCCOB also has authority to assert civil money penalties against a holding company if the NCCOB determines such holding company to be in violation of any banking laws and the holding company fails to comply with an NCCOB order to cease and desist from such violations of law.

The primary state banking laws to which Bancshares and the Bank are subject are set forth in Chapters 53 and 53C of the North Carolina General Statutes. The North Carolina Business Corporation Act is also applicable to Bancshares as a North Carolina business corporation and to the Bank as a North Carolina banking corporation.

Payment of Dividends and Other Restrictions

Bancshares is a legal entity separate and distinct from the Bank. While there are various legal and regulatory limitations under federal and state law on the extent to which banks can pay dividends or otherwise supply funds to holding companies, a principal source of cash revenues for Bancshares is dividends from the Bank. The relevant federal and state regulatory agencies have authority to prohibit a state bank or bank holding company, which would include the Bank and Bancshares, from engaging in what, in the opinion of such regulatory body, constitutes an unsafe or unsound practice in conducting its business. The payment of dividends could, depending upon the financial condition of a bank, be deemed to constitute an unsafe or unsound practice in conducting its business.

North Carolina commercial banks, such as Live Oak Bank, are subject to legal limitations on the amounts of dividends they are permitted to pay. Specifically, an insured depository institution, such as Live Oak Bank, is prohibited from making capital distributions, including the payment of dividends, if, after making such distribution, the institution would become “undercapitalized” (as such term is defined in the applicable law and regulations).

The Federal Reserve has issued a policy statement on the payment of cash dividends by bank holding companies, which expresses the Federal Reserve's view that a bank holding company should pay cash dividends only to the extent that the holding company's net income for the past four quarters is sufficient to cover both the cash dividends and a rate of earnings retention that is consistent with the holding company's capital needs, asset quality and overall financial condition. The Federal Reserve has also indicated that it would be inappropriate for a holding company experiencing serious financial problems to borrow funds to pay dividends. Furthermore, under the prompt corrective action regulations adopted by the Federal Reserve, the Federal Reserve may prohibit a bank holding company from paying any dividends if any of the holding company's bank subsidiaries are classified as undercapitalized.

A bank holding company is required to give the Federal Reserve prior written notice of any purchase or redemption of its outstanding equity securities if the gross consideration for the purchase or redemption, when combined with the net consideration paid for all such purchases or redemptions during the preceding 12 months, is equal to 10% or more of its consolidated net worth. The Federal Reserve may disapprove such a purchase or redemption if it determines that the proposal would constitute an unsafe or unsound practice or would violate any law, regulation, Federal Reserve order or any condition imposed by, or written agreement with, the Federal Reserve.

In August 2022, the Inflation Reduction Act of 2022 (the "IRA") was enacted. Among other things, the IRA imposes a new 1% excise tax on the fair market value of stock repurchased after December 31, 2022, by publicly traded U.S. corporations. With certain exceptions, the value of stock repurchased is determined net of stock issued in the year, including shares issues pursuant to compensatory arrangements.

Capital Adequacy

General. Bancshares must comply with the Federal Reserve's established capital adequacy standards, and Live Oak Bank is required to comply with the capital adequacy standards established by the FDIC. The Federal Reserve has promulgated two basic measures of capital adequacy for bank holding companies: a risk-based measure and a leverage measure. A bank holding company must satisfy all applicable capital standards to be considered in compliance.

The risk-based capital standards are designed to make regulatory capital requirements sensitive to differences in risk profiles among banks and bank holding companies, account for off-balance-sheet exposure and minimize disincentives for holding liquid assets.

Assets and off-balance-sheet items are assigned to broad risk categories, each with appropriate weights. The resulting capital ratios represent capital as a percentage of total risk-weighted assets and off-balance-sheet items. Under applicable capital standards, the minimum risk-based capital ratios are a common equity Tier 1 capital to risk-weighted assets ratio of 4.5%, a Tier 1 capital to risk-weighted assets ratio of 6%, and a total capital to risk-weighted assets ratio of 8%. In addition, to avoid restrictions on capital distributions and discretionary bonus payments, Bancshares and the Bank are required to meet a capital conservation buffer of common equity Tier 1 capital in addition to the minimum common equity Tier 1 capital ratio. The capital conservation buffer is set at a ratio of 2.5% common equity Tier 1 capital to risk-weighted assets, which sits "on top" of the 4.5% minimum common equity Tier 1 to risk-weighted assets ratio. Common equity Tier 1 capital is predominantly composed of retained earnings and common stock instruments (that meet strict delineated criteria), net of treasury stock, and after making necessary capital deductions and adjustments. Tier 1 capital is composed of common equity Tier 1 capital plus Additional Tier 1 capital, which consists of noncumulative perpetual preferred stock and similar instruments meeting specified eligibility criteria. Total capital is composed of Tier 1 capital plus Tier 2 capital, which consists of subordinated debt with a minimum original maturity of at least five years and a limited amount of loan loss reserves.

At December 31, 2022, the Company's risk-based capital ratios, as calculated under applicable capital standards were 12.47% common equity Tier 1 capital to risk weighted assets, 12.47% Tier 1 capital to risk weighted assets, and 13.73% total capital to risk weighted assets.

In addition, the Federal Reserve has established minimum leverage ratio guidelines for bank holding companies. These guidelines provide for a minimum ratio of Tier 1 capital to average total on-balance sheet assets, less goodwill and certain other intangible assets, of 4% for bank holding companies. Bancshares' ratio at December 31, 2022 was 9.26% compared to 8.87% at December 31, 2021. The guidelines also provide that bank holding companies experiencing internal growth or making acquisitions will be expected to maintain strong capital positions substantially above the minimum supervisory levels without significant reliance on intangible assets. Furthermore, the Federal Reserve has indicated that it will consider a "tangible Tier 1 Capital leverage ratio" and other indications of capital strength in evaluating proposals for expansion or new activities.

Failure to meet capital guidelines could subject a bank to a variety of enforcement remedies, including issuance of a capital directive, the termination of deposit insurance by the FDIC, a prohibition on taking brokered deposits and certain other restrictions on its business. As described below, the FDIC can impose substantial additional restrictions upon FDIC-insured depository institutions that fail to meet applicable capital requirements.

Prompt Corrective Action. The Federal Deposit Insurance Act (the "FDI Act") requires the federal bank regulatory agencies to take "prompt corrective action" if a depository institution does not meet minimum capital requirements. The FDI Act establishes five capital tiers: "well capitalized," "adequately capitalized," "undercapitalized," "significantly undercapitalized" and "critically undercapitalized." A depository institution's capital tier will depend upon how its capital levels compare to various relevant capital measures and certain other factors, as established by regulation.

An institution may be downgraded to, or deemed to be in, a capital category that is lower than is indicated by its capital ratios if it is determined to be in an unsafe or unsound condition or if it receives an unsatisfactory examination rating with respect to certain matters. As of December 31, 2022, Live Oak Bank had capital levels that qualify as "well capitalized" under the applicable regulations.

The FDI Act generally prohibits an FDIC-insured bank from making a capital distribution (including payment of a dividend) or paying any management fee to its holding company if the bank is or would thereafter be "undercapitalized." "Undercapitalized" banks are subject to growth limitations and are required to submit a capital restoration plan. The federal regulators may not accept a capital restoration plan without determining, among other things, that the plan is based on realistic assumptions and is likely to succeed in restoring the bank's capital. In addition, for a capital restoration plan to be acceptable, the bank's parent holding company must guarantee that the institution will comply with such capital restoration plan until the institution has been adequately capitalized on average during each of four consecutive calendar quarters. The aggregate liability of the parent holding company under such guaranty is limited to the lesser of: (i) an amount equal to 5% of the bank's total assets at the time it became "undercapitalized"; and (ii) the amount which is necessary (or would have been necessary) to bring the institution into compliance with all capital standards applicable with respect to such institution as of the time it fails to comply with the plan. If a bank fails to submit an acceptable plan, it is treated as if it is "significantly undercapitalized."

"Significantly undercapitalized" insured banks may be subject to a number of requirements and restrictions, including orders to sell sufficient voting stock to become "adequately capitalized," requirements to reduce total assets, cease receipt of deposits from correspondent banks, or dismiss directors or officers, and restrictions on interest rates paid on deposits, compensation of executive officers, and capital distributions by the parent holding company. "Critically undercapitalized" institutions are subject to the appointment of a receiver or conservator, may not make any payment of principal or interest on certain subordinated debt, extend credit for a highly leveraged transaction, or enter into any material transaction outside the ordinary course of business.

A bank that is not "well capitalized" is also subject to certain limitations relating to brokered deposits. If a bank is not well-capitalized, it cannot accept brokered deposits without prior FDIC approval. Even if approved, rate restrictions will govern the rate the institution may pay on the brokered deposits. At December 31, 2022, Live Oak Bank was "well capitalized" and therefore not subject to any limitations with respect to its brokered deposits.

Basel III. The regulatory capital framework under which Bancshares and Live Oak Bank operate changed in significant respects as a result of the Dodd-Frank Act and other regulations, including the separate regulatory capital requirements put forth by the Basel Committee on Banking Supervision, commonly known "Basel III."

The Federal Reserve, FDIC and Office of the Comptroller of the Currency approved final rules that established an integrated regulatory capital framework that implements the Basel III regulatory capital requirements and certain provisions of the Dodd-Frank Act. Compliance by Bancshares and the Bank with these capital requirements affects their respective operations by increasing the amount of capital required to conduct operations.

Community Bank Leverage Ratio. As discussed below, in 2018, the Economic Growth, Regulatory Relief, and Consumer Protection Act (“EGRRCPA”) became law, which directed the federal banking agencies to develop a community bank leverage ratio (“CBLR”) of not less than 8 percent and not more than 10 percent for qualifying community banking organizations. EGRRCPA defines a qualifying community banking organization as a depository institution or depository institution holding company with total consolidated assets of less than \$10 billion, which would include Bancshares and the Bank. A qualifying community banking organization that exceeds the CBLR level established by the agencies is considered to have met: (i) the generally applicable leverage and risk-based capital requirements under the agencies’ capital rule; (ii) the capital ratio requirements in order to be considered well capitalized under the agencies’ prompt corrective action framework (in the case of insured depository institutions); and (iii) any other applicable capital or leverage requirements. Section 201 of EGRRCPA defines the CBLR as the ratio of a banking organization’s CBLR tangible equity to its average total consolidated assets, both as reported on the banking organization’s applicable regulatory filing.

The FDIC has set the minimum required CBLR at 9 percent. A qualifying community banking organization may elect to use the CBLR framework if its CBLR is greater than 9 percent. A qualifying community banking organization that has chosen the proposed framework is not required to calculate the existing risk-based and leverage capital requirements. A bank is also considered to have met the capital ratio requirements to be well capitalized for the agencies’ prompt corrective action rules provided it has a CBLR greater than 9 percent. The Company has not elected to implement the CBLR framework at this time.

Acquisitions

The Company must comply with numerous laws related to any potential acquisition activity. Under the BHCA, a bank holding company may not directly or indirectly acquire ownership or control of more than 5% of the voting shares or substantially all of the assets of any bank or merge or consolidate with another bank holding company without the prior approval of the Federal Reserve. The acquisition of non-banking companies is also regulated by the Federal Reserve. Current federal law authorizes interstate acquisitions of banks and bank holding companies without geographic limitation. Furthermore, a bank headquartered in one state is authorized to merge with a bank headquartered in another state, as long as neither of the states has opted out of such interstate merger authority prior to such date, and subject to any state requirement that the target bank shall have been in existence and operating for a minimum period of time, not to exceed five years, and to certain deposit market-share limitations. After a bank has established branches in a state through an interstate merger transaction, the bank may establish and acquire additional branches at any location in the state where a bank headquartered in that state could have established or acquired branches under applicable federal or state law. Additionally, under the Dodd-Frank Act, banks are permitted to open a de novo branch in any state if that state would permit a bank organized in that state to open a branch.

Restrictions on Affiliate Transactions

Sections 23A and 23B of the Federal Reserve Act establish parameters for a bank to conduct “covered transactions” with its affiliates, with the objective of limiting risk to the insured bank. Generally, Sections 23A and 23B (i) limit the extent to which the bank or its subsidiaries may engage in “covered transactions” with any one affiliate to an amount equal to 10% of such bank’s capital stock and surplus, and limit the aggregate of all such transactions with all affiliates to an amount equal to 20% of such capital stock and surplus and (ii) require that all such transactions be on terms substantially the same, or at least as favorable, to the bank or subsidiary as those that would be provided to a non-affiliate. The term “covered transaction” includes the making of loans to the affiliate, purchase of assets from the affiliate, issuance of a guaranty on behalf of the affiliate and several other types of transactions.

Under the Dodd-Frank Act, restrictions on transactions with affiliates are enhanced by (i) including among “covered transactions” transactions between bank and affiliate-advised investment funds; (ii) including among “covered transactions” transactions between a bank and an affiliate with respect to securities repurchase agreements and derivatives transactions; (iii) adopting stricter collateral rules; and (iv) imposing tighter restrictions on transactions between banks and their financial subsidiaries.

FDIC Insurance Assessments

The Bank's deposits are insured by the FDIC. The standard FDIC insurance coverage amount is \$250,000 per depositor. The FDIC maintains its Deposit Insurance Fund (the "DIF") for the purposes of (1) insuring the deposits and protecting the depositors of insured banks and (2) resolving failed banks. The DIF is funded mainly through quarterly assessments on insured banks, but also receives interest income on securities. The DIF is reduced by loss provisions associated with failed banks and by FDIC operating expenses.

The FDIC imposes a risk-based deposit insurance premium assessment on member institutions in order to maintain the DIF. Assessments are based on the average consolidated total assets less tangible equity of a financial institution. The assessment rates for an insured depository institution vary according to the level of risk incurred in its activities, which for established small institutions like the Bank (i.e., those institutions with less than \$10 billion in assets and insured for five years or more), is generally determined by reference to the institution's supervisory ratings. The assessment rate schedule can change from time to time, at the discretion of the FDIC, subject to certain limits. In October 2022, the FDIC adopted a final rule to increase the initial base deposit insurance assessment rate schedules uniformly by 2 basis points beginning with the first quarterly assessment period of 2023. The increased assessment is expected to improve the likelihood that the DIF reserve ratio would reach the statutory minimum of 1.35% by the statutory deadline prescribed under the FDIC's amended restoration plan.

Live Oak Bank's insurance assessments during 2022 and 2021 were \$9.8 million and \$7.1 million, respectively. The FDIC may terminate insurance of deposits upon a finding that an institution has engaged in unsafe and unsound practices, is in an unsafe or unsound condition to continue operations, or has violated any applicable law, regulation, rule, order or condition imposed by the FDIC.

The law also gives the FDIC enhanced discretion to set assessment rate levels. A significant increase in insurance premiums would likely have an adverse effect on the operating expenses and results of operations of the Company and the Bank. Management cannot predict what insurance assessment rates will be in the future.

Privacy and Cybersecurity

We are subject to complex and evolving laws and regulations governing the privacy and security of personal information associated with consumers, prospective, current and former customers, employees and contractors, and other individuals. For example, financial institutions are required by the Gramm-Leach-Bliley Financial Services Modernization Act of 1999 to disclose their policies for collecting and protecting consumer information. Consumers generally may prevent financial institutions from sharing personal financial information with nonaffiliated third parties except for service providers. Additionally, financial institutions generally may not disclose consumer account numbers to any nonaffiliated third party for use in telemarketing, direct mail marketing or other marketing through electronic mail to consumers. The Bank has established a privacy policy that it believes promotes compliance with these federal requirements. In addition, certain state laws could potentially impact the Bank's operations, including those related to the privacy and security of consumer information and notification requirements when unauthorized access to customers' nonpublic personal information has occurred.

The U.S. federal bank regulatory agencies have established computer-security incident notification requirements for banking organizations and bank service providers. A bank holding company, such as Bancshares, and an FDIC-supervised depository institution, such as the Bank, are required to notify the Federal Reserve or FDIC, respectively, as soon as possible and no later than 36 hours after a determination that a computer-security incident that rises to the level of a notification incident has occurred. A computer-security incident is an occurrence that results in actual harm to the confidentiality, integrity, or availability of an information system or the information that the system processes, stores, or transmits. A notification incident is defined as a computer-security incident that has materially disrupted or degraded, or is reasonably likely to materially disrupt or degrade, a banking organization's: (i) ability to carry out banking operations, activities, or processes, or deliver banking products and services to a material portion of its customer base, in the ordinary course of business; (ii) business line(s), including associated operations, services, functions, and support, that upon failure would result in a material loss of revenue, profit, or franchise value; or (iii) operations, including associated services, functions and support, as applicable, the failure or discontinuance of which would pose a threat to the financial stability of the United States. For example, a notification incident may include a major computer-system failure; a cyber-related interruption, such as a distributed denial of service or ransomware attack; or another type of significant operational interruption.

In March 2022, the SEC proposed rules that would require disclosure of material cybersecurity incidents, as well as cybersecurity risk management, strategy, and governance.

The application, interpretation and enforcement of these laws and regulations are often uncertain, particularly in light of new and rapidly evolving data-driven technologies and significant increases in computing power. These laws and regulations are constantly evolving, remain a focus of regulators, and will continue to have a significant impact on our businesses and operations. Violations of these laws and regulations can give rise to enforcement actions by governmental agencies and to private lawsuits for damages and other forms of relief.

Federal Home Loan Bank System

The Federal Home Loan Bank (the “FHLB”) System consists of 12 district FHLBs subject to supervision and regulation by the Federal Housing Finance Agency (the “FHFA”). The FHLBs provide a central credit facility primarily for member institutions. As a member of the FHLB of Atlanta, the Bank is required to acquire and hold shares of capital stock in the FHLB of Atlanta. The Bank was in compliance with this requirement with investment in FHLB of Atlanta stock of \$4.1 million at December 31, 2022. The FHLB of Atlanta serves as a reserve or central bank for its member institutions within its assigned district. It is funded primarily from proceeds derived from the sale of consolidated obligations of the FHLB System. It offers advances to members in accordance with policies and procedures established by the FHFA and the Board of Directors of the FHLB of Atlanta. Long-term advances may only be made for the purpose of providing funds for residential housing finance, small businesses, small farms and small agribusinesses.

Community Reinvestment Act

The Community Reinvestment Act requires federal bank regulatory agencies to encourage financial institutions to meet the credit needs of low and moderate-income borrowers in their local communities. An institution’s size and business strategy determines the type of examination that it will receive. Large, retail-oriented institutions are examined using a performance-based lending, investment and service test. Small institutions are examined using a streamlined approach. All institutions may opt to be evaluated under a strategic plan formulated with community input and pre-approved by the bank regulatory agency.

The Community Reinvestment Act regulations provide for certain disclosure obligations. Each institution must post a notice advising the public of its right to comment to the institution and its regulator on the institution’s Community Reinvestment Act performance and to review the institution’s Community Reinvestment Act public file. Each lending institution must maintain for public inspection a file that includes a listing of branch locations and services, a summary of lending activity, a map of its communities and any written comments from the public on its performance in meeting community credit needs. The Community Reinvestment Act requires public disclosure of the regulators’ written Community Reinvestment Act evaluations of financial institutions. This promotes enforcement of Community Reinvestment Act requirements by providing the public with the status of a particular institution’s community reinvestment record.

The Community Reinvestment Act agreements with private parties must be disclosed and annual Community Reinvestment Act reports relating to such agreements must be made available to a bank’s primary federal regulator. A bank holding company will not be permitted to become a financial holding company and no new activities authorized under the Gramm-Leach-Bliley Act may be commenced by a holding company or by a bank financial subsidiary if any of its bank subsidiaries received less than a satisfactory Community Reinvestment Act rating in its latest Community Reinvestment Act examination.

The Volcker Rule

Under provisions of the Dodd-Frank Act referred to as the “Volcker Rule,” certain limitations are placed on the ability of insured depository institutions and their affiliates to engage in sponsoring, investing in and transacting with certain investment funds, including hedge funds and private equity funds. The Volcker Rule also places restrictions on proprietary trading, which could impact certain hedging activities. Community banks are excluded from the restrictions of the Volcker Rule if (i) the community bank, and every entity that controls it, has total consolidated assets equal to or less than \$10 billion and (ii) trading assets and liabilities of the community bank, and every entity that controls it, are equal to or less than five percent of its total consolidated assets. Bancshares and Live Oak Bank are currently below these thresholds and thus exempt from the Volcker Rule.

USA PATRIOT Act

The Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (the “USA PATRIOT Act”) required each financial institution: (i) to establish an anti-money laundering program; (ii) to establish due diligence policies, procedures and controls with respect to its private banking accounts involving foreign individuals and certain foreign banks; and (iii) to avoid establishing, maintaining, administering or managing correspondent accounts in the United States for, or on behalf of, foreign banks that do not have a physical presence in any country. The USA PATRIOT Act also required the Secretary of the Treasury to prescribe by regulation minimum standards that financial institutions must follow to verify the identity of customers, both foreign and domestic, when a customer opens an account. In addition, the USA PATRIOT Act encouraged cooperation among financial institutions, regulatory authorities and law enforcement authorities with respect to individuals, entities and organizations engaged in, or reasonably suspected of engaging in, terrorist acts or money laundering activities.

Sarbanes-Oxley Act of 2002

The Sarbanes-Oxley Act of 2002 (“Sarbanes-Oxley”) mandated for public companies, such as Bancshares, a variety of reforms intended to address corporate and accounting fraud and provided for the establishment of the Public Company Accounting Oversight Board (“PCAOB”), which enforces auditing, quality control and independence standards for firms that audit SEC-reporting companies. Sarbanes-Oxley imposed higher standards for auditor independence and restricted the provision of consulting services by auditing firms to companies they audit and requires that certain audit partners be rotated periodically. It also requires chief executive officers and chief financial officers, or their equivalents, to certify the accuracy of periodic reports filed with the SEC, subject to civil and criminal penalties if they knowingly or willfully violate this certification requirement, and increases the oversight and authority of audit committees of publicly traded companies.

Fiscal and Monetary Policy

Banking is a business which depends on interest rate differentials for success. In general, the difference between the interest paid by a bank on its deposits and its other borrowings, and the interest received by a bank on its loans and securities holdings, constitutes a significant portion of a bank’s earnings. Thus, the Company's earnings and growth will be subject to the influence of economic conditions generally, both domestic and foreign, and also to the monetary and fiscal policies of the United States and its agencies, particularly the Federal Reserve. The Federal Reserve regulates the supply of money through various means, including open market dealings in United States government securities, the discount rate at which banks may borrow from the Federal Reserve and the reserve requirements on deposits. The nature and timing of any changes in such policies and their effect on the Company's business and results of operations cannot be predicted.

Current and future legislation and the policies established by federal and state regulatory authorities will affect the Company's future operations. Banking legislation and regulations may limit the Company's growth and the return to its investors by restricting certain of its activities.

In addition, capital requirements could be changed and have the effect of restricting the activities of the Company or requiring additional capital to be maintained. The Company cannot predict with certainty what changes, if any, will be made to existing federal and state legislation and regulations or the effect that such changes may have on the Company's business and results of operations.

Real Estate Lending Evaluations

The federal regulators have adopted uniform standards for evaluations of loans secured by real estate or made to finance improvements to real estate. Banks are required to establish and maintain written internal real estate lending policies consistent with safe and sound banking practices and appropriate to the size of the institution and the nature and scope of its operations. The regulations establish loan-to-value ratio limitations on real estate loans. Live Oak Bank’s respective loan policies establish limits on loan to value ratios that are equal to or less than those established in such regulations.

Commercial Real Estate Concentrations

Lending operations of commercial banks may be subject to enhanced scrutiny by federal banking regulators based on a bank's concentration of commercial real estate ("CRE") loans. The federal banking regulators have issued guidance to remind financial institutions of the risk posed by CRE lending concentrations. CRE loans generally include land development, construction loans, and loans secured by multifamily property, and nonfarm, nonresidential real property where the primary source of repayment is derived from rental income associated with the property. The guidance prescribes the following guidelines for bank examiners to help identify institutions that are potentially exposed to significant CRE risk and may warrant greater supervisory scrutiny:

- total reported loans for construction, land development and other land ("C&D") represent 100% or more of the institution's total capital; or
- total CRE loans represent 300% or more of the institution's total capital, and the outstanding balance of the institution's CRE loan portfolio has increased over 50% or more during the prior 36 months.

As of December 31, 2022, the Bank's C&D concentration as a percentage of bank capital totaled 80.8% and the Bank's CRE concentration, excluding owner-occupied loans, as a percentage of capital totaled 178.1%.

Limitations on Incentive Compensation

The Federal Reserve reviews incentive compensation arrangements of bank holding companies such as Bancshares as part of its regular, risk-focused supervisory process.

The federal banking agencies have also issued guidance designed to help ensure that incentive compensation policies at banking organizations do not encourage excessive risk-taking or undermine the safety and soundness of the banking organization. The guidance, which covers all employees that have the ability to materially affect the risk profile of an organization, either individually or as part of a group, is based upon the key principles that a banking organization's incentive compensation arrangements should (i) provide employees incentives that appropriately balance risk and reward and, thus, do not encourage risk-taking beyond the organization's ability to effectively identify and manage risks, (ii) be compatible with effective internal controls and risk management, and (iii) be supported by strong corporate governance, including active and effective oversight by the organization's board of directors. Any deficiencies in compensation practices that are identified may be incorporated into the organization's supervisory ratings, which can affect its ability to make acquisitions or perform other actions. The guidance provides that enforcement actions may be taken against a banking organization if its incentive compensation arrangements or related risk-management control or governance processes pose a risk to the organization's safety and soundness and the organization is not taking prompt and effective measures to correct the deficiencies.

In October 2022, the SEC adopted a final rule directing national securities exchanges and associations, including the NYSE, to implement listing standards that require listed companies to adopt policies mandating the recovery or "clawback" of excess incentive-based compensation earned by a current or former executive officer during the three fiscal years preceding the date the listed company is required to prepare an accounting restatement, including to correct an error that would result in a material restatement if the error were corrected in the current period or left uncorrected in the current period. The final rule requires us to adopt a clawback policy within 60 days after such listing standard becomes effective.

Registered Investment Adviser Regulation

LOPW and JAM are registered investment advisers under the Investment Advisers Act of 1940 and the SEC's regulations promulgated thereunder. The Investment Advisers Act imposes numerous obligations on registered investment advisers, including fiduciary, recordkeeping, operational, and disclosure obligations. Supervisory agencies have the power to limit or restrict LOPW and JAM from conducting their business in the event they fail to comply with such laws and regulations. Possible sanctions that may be imposed in the event of such noncompliance include the suspension of individual employees, limitations on business activities for specified periods of time, revocation of registration as an investment adviser and/or other registrations, and other censures and fines. Changes in these laws or regulations could have a material adverse impact on the profitability and mode of operations of LOPW and JAM.

Economic Environment

The policies of regulatory authorities, including the monetary policy of the Federal Reserve, have a significant effect on the operating results of bank holding companies and their subsidiaries. Among the means available to the Federal Reserve to affect the money supply are open market operations in U.S. government securities, changes in the discount rate on member bank borrowings and changes in reserve requirements against member bank deposits. These means are used in varying combinations to influence overall growth and distribution of bank loans, investments and deposits, and their use may affect interest rates charged on loans or paid on deposits. The Federal Reserve's monetary policies have materially affected the operating results of commercial banks in the past and are expected to continue to do so in the future. The nature of future monetary policies and the effect of these policies on the Company's business and earnings cannot be predicted.

Dodd-Frank Act

The Dodd-Frank Act was signed into law in 2010 and implemented many changes in the way financial and banking operations are regulated in the United States, including through the creation of a new resolution authority, mandating higher capital and liquidity requirements, requiring banks to pay increased fees to regulatory agencies and numerous other provisions intended to strengthen the financial services sector. Pursuant to the Dodd-Frank Act, the Financial Stability Oversight Council (the "FSOC") was created and is charged with overseeing and coordinating the efforts of the primary U.S. financial regulatory agencies (including the Federal Reserve, the FDIC and the SEC) in establishing regulations to address systemic financial stability concerns. Under the Dodd-Frank Act, the Consumer Financial Protection Bureau (the "CFPB") was also created as a new consumer financial services regulator. The CFPB is authorized to prevent unfair, deceptive and abusive practices and ensure that consumers have access to markets for consumer financial products and services and that such markets are fair, transparent and competitive.

Federal and State Taxation

Bancshares and its subsidiaries file a consolidated federal income tax return and separate state income tax returns in North Carolina. All the returns are filed on a calendar year basis. Consolidated income tax returns have the effect of eliminating intercompany income and expense, including dividends, from the computation of consolidated taxable income for the taxable year in which the items occur. In accordance with an income tax sharing agreement, income tax charges or credits are allocated among Bancshares and its subsidiaries on the basis of their respective taxable income or taxable loss that is included in the consolidated income tax return.

Banks and bank holding companies are subject to federal and state income taxes in essentially the same manner as other corporations. Taxable income is generally calculated under applicable sections of the Internal Revenue Code of 1986, as amended (the "Code"), with some modifications required by state law and the 2017 tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). Although the Company's federal income tax liability is determined under provisions of the Code, which is applicable to all taxpayers, Sections 581 through 597 of the Code apply specifically to financial institutions.

Among other things, the Tax Act (i) established a new, flat corporate federal statutory income tax rate of 21%, (ii) eliminates the corporate alternative minimum tax and allowed the use of any such carryforwards to offset regular tax liability for any taxable year, (iii) limited the deduction for net interest expense incurred by U.S. corporations, (iv) allowed businesses to immediately expense, for tax purposes, the cost of new investments in certain qualified depreciable assets, (v) eliminated or reduced certain deductions related to meals and entertainment expenses, (vi) modified the limitation on excessive employee remuneration to eliminate the exception for performance-based compensation and clarified the definition of a covered employee and (vii) limited the deductibility of deposit insurance premiums. The Tax Act also significantly changed U.S. tax law related to foreign operations, however, such changes do not currently impact the Company. Management continues to explore investments which generate investment tax credits and as a result there can be no assurance as to the actual effective rate because it will be dependent upon the nature and amount of future income and expenses as well as actual investments generating investment tax credits and transactions with discrete tax effects.

Economic Growth, Regulatory Relief, and Consumer Protection Act

In 2018, the Economic Growth, Regulatory Relief, and Consumer Protection Act (“EGRRCPA”) was signed into law, which amended provisions of the Dodd-Frank Act and was intended to ease, and better tailor, regulation, particularly with respect to smaller-sized institutions such as the Company. EGRRCPA’s highlights included, among other things: (i) exempting banks with less than \$10 billion in assets from the ability-to-repay requirements for certain qualified residential mortgage loans held in portfolio; (ii) not requiring appraisals for certain transactions valued at less than \$400,000 in rural areas; (iii) clarifying that, subject to various conditions, reciprocal deposits of another depository institution obtained using a deposit broker through a deposit placement network for purposes of obtaining maximum deposit insurance would not be considered brokered deposits subject to the FDIC’s brokered-deposit regulations; (iv) raising eligibility for the 18-month exam cycle from \$1 billion to banks with \$3 billion in assets; and (v) simplifying capital calculations by requiring regulators to establish for institutions under \$10 billion in assets a CBLR (tangible equity to average consolidated assets) at a percentage not less than 8% and not greater than 10% that such institutions may elect to replace the general applicable risk-based capital requirements for determining well capitalized status. In 2019, the FDIC passed a final rule on the CBLR, setting the minimum required CBLR at 9 percent. The rule went into effect in 2020. In addition, the Federal Reserve was required to raise the asset threshold under its Small Bank Holding Company Policy Statement from \$1 billion to \$3 billion for bank or savings and loan holding companies that are exempt from consolidated capital requirements, provided that such companies meet certain other conditions such as not engaging in significant nonbanking activities and not having a material amount of debt or equity securities outstanding (other than trust preferred securities) that are registered with the SEC. Consistent with EGRRCPA, the Federal Reserve passed an interim final rule that became effective in 2018 to increase the asset threshold to \$3 billion for qualifying for such policy statement.

The Coronavirus Aid, Relief, and Economic Security Act

In response to the COVID-19 pandemic, the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) was signed into law in March 2020, to provide national emergency economic relief measures. Many of the CARES Act’s programs are dependent upon the direct involvement of U.S. financial institutions, such as the Company and the Bank, and have been implemented through rules and guidance adopted by federal departments and agencies, including the U.S. Department of Treasury, the Federal Reserve and other federal banking agencies, including those with direct supervisory jurisdiction over the Company and the Bank. Furthermore, as the COVID-19 pandemic evolved, federal regulatory authorities continue to issue additional guidance with respect to the implementation, lifecycle, and eligibility requirements for the various CARES Act programs as well as industry-specific recovery procedures for COVID-19. The Economic Aid to Hard-Hit Small Businesses, Nonprofits and Venues Act (the Economic Aid Act) passed on December 27, 2020, allocated additional funding to the PPP, which funds can be used not only by small businesses who have yet to receive a PPP loan but also by some small businesses who may be eligible to receive a second PPP loan. The Economic Aid Act also significantly revised various aspects of the PPP terms and conditions, including certain aspects of the forgiveness process. In March 2021, the American Rescue Plan Act was enabled to provide additional financial relief and economic stimulus.

Paycheck Protection Program. The CARES Act amended the SBA’s loan program, in which the Bank participates, to create a guaranteed, unsecured loan program, the Paycheck Protection Program (“PPP”), to fund operational costs of eligible businesses, organizations and self-employed persons during the COVID-19 pandemic. As a participating lender in the PPP, the Bank continues to monitor legislative, regulatory, and supervisory developments related thereto.

Troubled Debt Restructuring and Loan Modifications for Affected Borrowers. The CARES Act, as amended, permits banks to suspend requirements under U.S. generally accepted accounting principles (“GAAP”) for loan modifications to borrowers affected by COVID-19 that would otherwise be characterized as troubled debt restructurings and suspend any determination related thereto if certain conditions are met. In order to be eligible for this treatment, the applicable loan must have been no more than 30 days past due as of December 31, 2019 and the loan modification must be made between March 1, 2020 and the earlier of (i) 60 days after the date of termination of the national emergency related to COVID-19 declared by the president of the United States, or (ii) January 11, 2022. The federal banking agencies also issued guidance to encourage banks to make loan modifications for borrowers affected by COVID-19 and to assure banks that they will not be criticized by examiners for doing so.

Evolving Legislation and Regulatory Action

New laws or regulations or changes to existing laws and regulations, including changes in interpretation or enforcement, could materially adversely affect the Company’s financial condition or results of operations.

Item 1A. RISK FACTORS

An investment in Live Oak Bancshares, Inc.'s common stock involves certain risks. The following discussion highlights the risks that management believes are material for the Company, but do not necessarily include all the risks that we may face. Additional risks and uncertainties that are not currently known or that management does not currently deem material could also have a material adverse impact on our business, results of our operations and financial condition. You should carefully consider the risk factors and uncertainties described below and elsewhere in this Report in evaluating an investment in Live Oak Bancshares, Inc.'s common stock.

Summary of Risk Factors

The following is a summary of the most significant risks and uncertainties that we believe could adversely affect our business, financial condition or results of operations. In addition to the following summary, you should consider the other information set forth in this "Risk Factors" section and the other information contained in this Report before investing in our securities.

Risks Related to Our Business

- Increased delinquencies and credit losses could have a material adverse effect on our business, results of operations, and financial condition.
- Changes to the SBA or other government-guaranteed lending programs by the federal government, or the loss of our status as an SBA Preferred Lender, could have a material adverse effect on our business.
- Global health crises and pandemics, such as the COVID-19 pandemic, could have a material adverse effect on our business, results of operations, and financial condition.
- We face risks, including credit risk and litigation risk, in connection with our participation in government programs enacted in response to the COVID-19 pandemic.
- Changes in our ability to use, or the terms of our use of, intellectual property owned by other third parties could have a material adverse effect on our business.
- We must effectively manage risks in connection with our information systems and those of our third-party service providers, which may experience disruption, failure, or security breaches, including those caused by cyber-attacks.
- The valuation of our investment securities, loans, and servicing rights is subject to change based on market conditions and various factors that are beyond our control.
- We must maintain an appropriate allowance for credit losses.
- We must effectively manage our liquidity risk.
- We must effectively manage our interest rate risks.
- We are subject to environmental liability risk associated with our lending activities.
- We must effectively manage our counterparty risk.
- Our expansion strategy, including new lines of business, new products, acquisitions, and investments, exposes us to risks.
- Our investments in tax-advantaged projects may not generate returns as anticipated and may have an adverse effect on our financial results.
- We are less able to diversify our lending risks than larger financial institutions.

- Our directors and executive officers own a significant amount of our outstanding common stock, which could limit other shareholders' ability to influence corporate matters and may hinder a third party from acquiring control of the Company.

Risks Related to Our Regulatory Environment

- We are subject to extensive government regulation and supervision.
- We must maintain adequate regulatory capital to support our business.
- We will be subject to heightened regulatory requirements if our total assets grow and exceed \$10 billion.
- We may incur increased costs to comply with privacy and data security laws.

Risks Related to Our Common Stock

- The trading volume in our common stock is less than that of larger financial institutions.
- There can be no assurance that we will continue to pay cash dividends.
- Federal laws and regulations impose restrictions on the ownership of our common stock.
- Anti-takeover provisions in our governing documents could adversely affect our shareholders.
- An investment in our common stock is not an insured deposit.

General Risk Factors

- We compete with larger financial institutions and other financial service providers.
- We must attract, retain, and develop key personnel.
- Our risk management framework may not effectively mitigate risks or losses to us.
- Hurricanes or other adverse weather events could disrupt our operations.
- Our failure to maintain an effective system of internal control over financial reporting could harm our business.
- Damage to our business reputation could adversely impact our business and results of operations.

Risks Related to Our Business

We may experience increased delinquencies and credit losses, which could have a material adverse effect on our capital, financial condition, and results of operations.

Like other lenders, we face the risk that our customers will not repay their loans. A customer's failure to repay us is usually preceded by missed monthly payments. In some instances, however, a customer may declare bankruptcy prior to missing payments, and, following a borrower filing bankruptcy, a lender's recovery of the credit extended is often limited. Since many of our loans are secured by collateral, we may attempt to seize the collateral if and when a customer defaults on a loan. However, the value of the collateral might not equal the amount of the unpaid loan, and we may be unsuccessful in recovering the remaining balance from our customer. Any deterioration or downturn in real estate values in the markets we serve could have a material adverse effect on the value of the real property securing those loans. Our ability to recover on defaulted loans would then be diminished, and we would be more likely to suffer losses on defaulted loans. The resolution of nonperforming assets, including the initiation of foreclosure proceedings, requires significant commitments of time from management, which can be detrimental to the performance of their other responsibilities, and which expose us to additional legal costs. Elevated levels of loan delinquencies and bankruptcies in our market areas, generally, and among our customers specifically, can be precursors of future charge-offs and may require us to increase our allowance for credit losses, or ACL, on loans and leases. Higher charge-off rates, delays in the foreclosure process or in obtaining judgments against defaulting borrowers or an increase in our ACL may negatively impact our overall financial performance, may increase our cost of funds, and could materially adversely affect our business, results of operations and financial condition.

SBA lending and other government guaranteed lending is an important part of our business. These lending programs are dependent upon the federal government, and we face specific risks associated with originating SBA and other government guaranteed loans.

Our SBA lending program is dependent upon the federal government. As an SBA Preferred Lender, we enable our clients to obtain SBA loans without being subject to the potentially lengthy SBA approval process necessary for lenders that are not SBA Preferred Lenders. The SBA periodically reviews the lending operations of participating lenders to assess, among other things, whether the lender exhibits prudent risk management. When weaknesses are identified, the SBA may request corrective actions or impose enforcement actions, including revocation of the lender's Preferred Lender status. If we lose our status as a Preferred Lender, we may lose some or all of our customers to lenders who are SBA Preferred Lenders, and as a result we could experience a material adverse effect to our financial results. Any changes to the SBA program, including changes to the level of guarantee provided by the federal government on SBA loans, may also have a material adverse effect on our business.

We anticipate that gains on the sale of loans will comprise a meaningful component of our revenue in 2023. We sell the guaranteed portion of some of our SBA 7(a) loans in the secondary market. These sales have resulted in premium income for us at the time of sale and created a stream of future servicing income. We may not be able to continue originating these loans or selling them in the secondary market. Furthermore, even if we are able to continue originating and selling SBA 7(a) loans in the secondary market, we might not continue to realize premiums upon the sale of the guaranteed portion of these loans. When we sell the guaranteed portion of our SBA 7(a) loans, we incur credit risk on the non-guaranteed portion of the loans, and if a customer defaults on the non-guaranteed portion of a loan, we share any loss and recovery related to the loan pro-rata with the SBA. If the SBA establishes that a loss on an SBA guaranteed loan is attributable to significant technical deficiencies in the manner in which the loan was originated, funded or serviced by us, the SBA may seek recovery of the principal loss related to the deficiency from us, which could materially adversely affect our business, results of operations and financial condition.

In addition, we make loans through various programs of the United States Department of Agriculture ("USDA"). A typical SBA 7(a) loan carries a 75% guarantee while USDA guarantees range from 60% to 80% depending on loan size and type. We expect to continue to sell a large proportion of the USDA loans that we originate in the secondary market as they become eligible for sale. The origination and sale of these loans are subject to similar risks associated with the origination and sale of SBA 7(a) loans as described above. The laws, regulations and standard operating procedures that are applicable to SBA and USDA loan products may change at any time. Because government regulation greatly affects the business and financial results of our organization, changes in the laws, regulations and procedures applicable to SBA and USDA loans could adversely affect our ability to operate profitably.

A prolonged U.S. government shutdown or default by the U.S. on government obligations would harm our results of operations.

Our results of operations, including revenue, non-interest income, expenses and net interest income, would be adversely affected in the event of widespread financial and business disruption on account of a default by the United States on U.S. government obligations or a prolonged failure to maintain significant U.S. government operations, particularly those pertaining to the SBA, the USDA or the FDIC. Any such failure to maintain such U.S. government operations would impede our ability to originate SBA loans and our ability to sell such loans in the secondary market, which would materially adversely affect our business, results of operations and financial condition.

Global health crises and pandemics could have a material adverse effect on our business, results of operations, and financial condition.

Global health crises and pandemics, such as the COVID-19 pandemic, could lead to the implementation of various responses, such as travel bans and restrictions, quarantines, shelter-in-place or total lockdown orders, as well as business limitations and shutdowns. These measures, among others, were implemented in response to COVID-19. Although COVID-19-related restrictions have largely been lifted, they may be reimposed at any time in response to new coronavirus variants or in response to other diseases or public health concerns. Any such restrictions could adversely affect our operations and the operations of our borrowers, customers, and business partners. A number of factors impacting us or our borrowers, customers or business partners could materially adversely affect our business, results of operations, and financial condition, including but not limited to:

- elevated levels of unemployment may lead to increases in loan delinquencies, losses, and charge-offs;
- disruptions in the supply chains upon which our borrowers depend may have an adverse impact on their financial condition and ability to repay our loans;
- collateral for loans, including real estate, may decline in value, which could cause loan losses to increase;
- demand for our products and services may decline, making it difficult to grow or maintain assets and income;
- noninterest income from premiums paid in the secondary market for the sale of loans may be reduced due to deteriorating market conditions and a decrease in the number of potential buyers;
- the net worth and liquidity of loan guarantors may decline, impairing their ability to honor commitments to us;
- we may experience operational failures due to changes in our normal business practices necessitated by the outbreak and related governmental actions;
- third-party vendors on which we rely may not be able to provide us critical services;
- our risk management policies and practices may be negatively impacted in general, including, but not limited to, the effectiveness and accuracy of our models given the lack of data and comparable precedent; and
- cyber and payment fraud risk may increase as cybercriminals attempt to profit from the disruption given increased online and remote activity.

In response to a resurgence of COVID-19 or a similar public health event, we may take further actions as may be required by government authorities or as we determine are in the best interests of our employees, customers, and business partners. There is no certainty that such measures would be sufficient to mitigate the risks posed by the public health event or would otherwise be satisfactory to government authorities.

We face risks in connection with our participation in government programs in response to the COVID-19 pandemic.

Federal, state and local governmental authorities enacted, and may enact in the future, legislation, regulations, and protocols in response to the COVID-19 pandemic, including governmental programs intended to provide economic relief to businesses and individuals. Our participation in and execution of any such programs may cause operational, compliance, reputational, and credit risks, which could result in litigation, governmental action or other forms of loss.

There remains significant uncertainty regarding the measures that authorities will enact in the future and the ultimate impact of the legislation, regulations, and protocols that have been and will be enacted. For example, the CARES Act temporarily added a new program titled the Paycheck Protection Program (the “PPP”) to the SBA’s 7(a) loan program. The PPP was intended to provide economic relief to small businesses nationwide. Under the PPP, small businesses and other entities and individuals could apply for loans from existing SBA lenders and other approved lenders that enrolled in the program, subject to numerous limitations and eligibility criteria. After the PPP launched in 2020, we were an active participant in the program originating a substantial number and principal amount of PPP loans.

In addition, the CARES Act provided regulatory relief on deferrals offered to certain borrowers and provided six months of payment relief through the first quarter of 2021 from the SBA for certain loans guaranteed by that agency. We face the risk that payment deferrals and those subsidy payments made by the SBA for borrowers under its programs may skew actual indications of ability to repay. The Economic Aid Act, passed in December 2020, allocated additional funding to the PPP, which funds were used not only by small businesses who had yet to receive a PPP loan but also by some small businesses who were eligible to receive a second PPP loan. The Economic Aid Act also significantly revised various aspects of the PPP terms and conditions, including certain aspects of the forgiveness process. Rules and guidance regarding the PPP were not readily available at the start of the program, and the SBA and other government agencies continued to release additional rules and guidance that changed or updated the requirements and expectations of the regulatory agencies administering the PPP and regulating participating lenders.

Banks participating in the PPP have been subject to litigation regarding the process and procedures that such banks used in processing applications for the PPP and regarding claims for fees to be paid to purported agents and other third parties, and we are exposed to the risk of litigation regarding the PPP. If any such litigation is not resolved in a manner favorable to us, it may result in significant financial liability or adversely affect our reputation. In addition, litigation can be costly, regardless of outcome. We also face credit risk on PPP loans if a determination is made by the SBA that there is a deficiency in the manner in which the loan was originated, funded, or serviced by the Bank, such as an issue with the eligibility of a borrower to receive a PPP loan. In the event of a loss resulting from a default on a PPP loan and a determination by the SBA that there was a deficiency in the manner in which the PPP loan was originated, funded, or serviced by the Bank, the SBA may deny its liability under the guaranty, reduce the amount of the guaranty, or, if it has already paid under the guaranty, seek recovery of any loss related to the deficiency from the Bank.

We are dependent upon the use of intellectual property owned by third parties, and any change in our ability to use, or the terms upon which we may use, this intellectual property could have a material adverse effect on our business.

The technology-based lending platform that is pivotal to our success is dependent on the use of the nCino Bank Operating System and Salesforce.com, Inc.’s Force.com cloud computing infrastructure platform. We rely on a non-exclusive license to use nCino’s platform. Because our license is non-exclusive, the nCino Bank Operating System is available to other lenders and nothing would prevent our competitors from developing, licensing or using similar technology. Our license currently expires on November 14, 2024. Notwithstanding the term of our agreement, our license may be terminated if we are in material breach of the license and do not cure the breach within 30 days. In addition, nCino relies on a license to use the Salesforce.com platform, and if nCino were unable to maintain its rights under that license, our ability to rely on the nCino license could be adversely affected. We can offer no assurance that we will be able to renew or maintain our license to use the nCino Bank Operating System on terms that are acceptable. Termination of either of these licenses or the reduction or elimination of our licensed rights may result in our having to negotiate new licenses with less favorable terms, or the inability to obtain access to such licensed technology at all.

Similarly, Apiture, Inc. (“Apiture”) has provided the Bank significant engineering, development, professional and other services under an agreement to deliver the products and services that comprise our next-generation banking platform that we believe will be important for our future strategy and success. This banking platform enables us to offer checking and other transactional accounts to our customers. Offering these types of banking products to our customers presents greater and more complex operational, compliance and other risks than the risks associated with the deposit products we have offered in the past. There can be no assurance that Apiture will be able to develop and support the implementation of our new banking platform in a timely and cost-effective manner or that Apiture will continue to provide any services on which we rely at appropriate service levels or at prices that would be market competitive. We also rely on numerous other vendors and third parties to provide software and solutions comprising our new banking platform. If this technology is not successfully developed and implemented at our Bank, if we were to lose access to any of this technology, or if we were only able to access the technology on less favorable terms, we would not be able to offer our customers the next-generation banking platform services that we intend to offer, and our business, financial condition, results of operations and prospects could be materially and adversely affected.

A failure in or breach of our operational or security systems, or those of our third-party service providers, including as a result of cyber-attacks, could disrupt our business, result in unintentional disclosure or misuse of confidential or proprietary information, damage our reputation, increase our costs and cause losses.

As a financial institution, our operations rely heavily on the secure data processing, storage and transmission of confidential and other information on our computer systems and networks. This may include sensitive business and personal information about our customers. Maintaining the confidentiality of this information is critical to our business. We also maintain important internal company data such as personal information about our employees and information regarding our operations. Our collection of such customer and company data is subject to extensive regulation and oversight.

Cloud technologies, including third-party cloud infrastructure, are also critical to the operation of our systems, and our reliance on cloud technologies is growing. Any failure, interruption or breach in security or operational integrity of these systems could result in failures or disruptions in our online banking system, customer relationship management, general ledger, deposit and loan servicing and other systems. The security and integrity of our systems and the technology we use, including services and solutions provided by third-party vendors, could be threatened by a variety of interruptions or information security breaches, including those caused by computer hacking, cyber-attacks, electronic fraudulent activity or attempted theft of financial assets or information. The increased use of mobile and cloud technologies, as well as the increase in remote work due to the COVID-19 pandemic, can heighten these and other operational risks. We may fail to promptly identify or adequately address any such failures, interruptions or security breaches if they do occur. While we have certain protective policies and procedures in place, the nature and sophistication of the threats continue to evolve. The increasing sophistication of cyber criminals and their evolving attempts to breach networks present increasing risk of a security breach. We may be required to expend significant additional resources in the future to modify and enhance our protective measures.

The nature of our business may make it an attractive target and potentially vulnerable to cyber-attacks, computer viruses, physical or electronic break-ins or similar disruptions. The technology-based platform we use processes sensitive data from our borrowers, depositors and other customers. While we have taken steps to protect confidential information that we have access to, our security measures and the security measures employed by the owners of the technology in the platform that we use could be breached. Any accidental or willful security breaches or other unauthorized access to our systems could cause confidential customer, borrower, employee, vendor, partner or investor information to be stolen and used for criminal purposes. Security breaches or unauthorized access to confidential information could also expose us to liability related to the loss of the information, time-consuming and expensive litigation, and negative publicity. If security measures are breached because of third-party action, employee error, malfeasance or otherwise, or if design flaws in the technology-based platform that we use are exposed and exploited, our relationships with customers, borrowers, employees, vendors, partners and investors could be severely damaged, and we could incur significant liability.

Because techniques used to sabotage or obtain unauthorized access to systems change frequently and generally are not recognized until they are launched against a target, we and our partners and collaborators may be unable to anticipate these techniques or to implement adequate preventative measures. In addition, federal regulators and many federal and state laws and regulations require companies to notify individuals of data security breaches involving their personal information. Certain security breaches also require notice to regulators, the media, and/or other parties. These mandatory disclosures regarding a security breach are costly to implement and often lead to widespread negative publicity, which may cause customers, borrowers, employees, vendors, partners or investors to lose confidence in the effectiveness of our data security measures. Any security breach, whether actual or perceived, would harm our reputation and could cause us to lose customers, borrowers, employees, vendors, partners, or investors, and could adversely affect our business and operations.

Additionally, we face the risk of operational disruption, failure, termination or capacity constraints of any of the third parties that facilitate our business activities, including exchanges, clearing agents, clearing houses or other financial intermediaries. Such parties could also be the source of an attack on, or breach of, our operational systems. Any failures, interruptions or security breaches, including with respect to our information systems or our vendors' information systems, or any perception that our security measures are inadequate, could negatively impact our operations, damage our reputation, result in a loss of customer business, result in a violation of privacy or other laws, and expose us to civil litigation, enforcement actions by governmental agencies, regulatory fines or other damages or losses, including those not covered by insurance.

Our business is dependent on the successful and uninterrupted functioning of our information technology and telecommunications systems and third-party providers. The failure of these systems, or the termination of a third-party software license or service agreement on which any of these systems is based, could interrupt our operations. Because our information technology and telecommunications systems interface with and depend on third-party systems, we could experience service denials if demand for such services exceeds capacity or such third-party systems fail or experience interruptions. If significant, sustained or repeated, a system failure or service denial could compromise our ability to operate effectively, damage our reputation, result in a loss of customer business, and/or subject us to additional regulatory scrutiny and possible financial liability, any of which could materially adversely affect our business, financial condition, results of operations and prospects, as well as the value of our common stock.

The fair value of our investment securities can fluctuate due to factors outside of our control.

As of December 31, 2022, the fair value of our available for sale securities portfolio was approximately \$1.0 billion. Factors beyond our control can significantly influence the fair value of securities in our portfolio and can cause potential adverse changes to the fair value of these securities. These factors include, but are not limited to, rating agency actions in respect of the securities, defaults by the issuer or with respect to the underlying securities, monetary tapering actions by the Federal Reserve, and changes in market interest rates and potential instability in the capital markets. Any of these factors, among others, could cause impairments and realized or unrealized losses in future periods and declines in other comprehensive income, which could materially and adversely affect our business, results of operations, financial condition and prospects, as well as the value of our common stock. The process for determining whether a security is reported at the proper carrying amount usually requires complex, subjective judgments about the future financial performance and liquidity of the issuer and any collateral underlying the security in order to assess the probability of receiving all contractual principal and interest payments on the security. Our inability to accurately predict the future performance of an issuer or to efficiently respond to changing market conditions could result in a decline in the value of our investment securities portfolio, which could have a material and adverse effect on our business, results of operations and financial condition. In addition, adjustments to the ACL on available-for-sale investment securities would negatively affect the Company's earnings and regulatory capital ratios.

Our ACL may prove to be insufficient to absorb lifetime losses on loans, leases and off-balance sheet credit exposures.

We maintain allowances for credit losses on loans, leases, and off-balance sheet credit exposures. The ACL on loans and leases are contra-asset valuation accounts that are deducted from the amortized cost basis of these assets to present the net amount expected to be collected. In the case of off-balance-sheet credit exposures, the ACL is a liability account reported as an other liability in our consolidated balance sheets. The amount of each allowance account represents management's best estimate of current expected credit losses on these financial instruments considering available information, from internal and external sources, relevant to assessing exposure to credit loss over the contractual term of the instrument. Relevant available information includes historical credit loss experience, current conditions and reasonable and supportable forecasts. As a result, the determination of the appropriate level of ACL inherently involves a high degree of subjectivity and requires us to make significant estimates related to current and expected future credit risks and trends, all of which may undergo material changes. Continuing deterioration in economic conditions affecting borrowers; new information regarding existing loans and loan commitments; and identification of additional problem loans, ratings down-grades and other factors, both within and outside of our control, may require an increase in the allowances for credit losses on loans and off-balance sheet credit exposures. In addition, bank regulatory agencies periodically review our ACL and may require an increase in credit loss expense or the recognition of further loan charge-offs, based on judgments different than those of management. Furthermore, if any charge-offs related to loans or off-balance sheet credit exposures in future periods exceed our allowances for credit losses on loans or off-balance sheet credit exposures, we will need to recognize additional credit loss expense to increase the applicable allowance. Any increase in the ACL on loans and/or off-balance sheet credit exposures will result in a decrease in net income and, possibly, capital, and may have a material adverse effect on our business, financial condition and results of operations. See Note 1. Organization and Summary of Significant Accounting Policies to the Consolidated Financial Statements for further discussion related to our process for determining the appropriate level of the ACL.

The valuation of our loans measured at fair value is based on estimates and subject to fluctuation based on market conditions and other factors that are beyond our control.

We have a large portfolio of loans measured at fair value. We determine fair value based on applicable accounting guidance which requires an entity to base fair value on exit price and to maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The fair value of these loans includes adjustments for historical credit losses, market liquidity, and economic conditions at the measurement date. This is an inherently uncertain process, and the fair value of our loans may be adversely impacted by factors that are beyond our control, which may in turn have a material adverse effect on our business, results of operations and financial condition. See Note 1. Organization and Summary of Significant Accounting Policies to the Consolidated Financial Statements for further discussion related to our process for determining the fair value of loans.

The valuation of our servicing rights is based on estimates and subject to fluctuation based on market conditions and other factors that are beyond our control.

The fair value of our servicing rights is estimated based upon projections of expected future cash flows generated by the loans we service, historical prepayment rates, future prepayment estimates, portfolio characteristics, interest rates based on interest rate yield curves, volatility, market demand for servicing rights and other factors. While this evaluation process uses historical and other objective information, the valuation of our servicing rights is ultimately an estimate based on our experience, judgment and expectations regarding our servicing portfolio and the broader market. This is an inherently uncertain process and the value of our servicing rights may be adversely impacted by factors that are beyond our control, which may in turn have a material adverse effect on our business, results of operations and financial condition.

The recognition of gains on the sale of loans reflects certain assumptions.

We anticipate that gains on the sale of loans will continue to comprise a meaningful component of our revenue in 2023. The determination of noncash gains is based on assumptions regarding the value of unguaranteed loans retained, servicing rights retained and deferred fees and costs. The value of retained unguaranteed loans and servicing rights are determined by our wholly owned subsidiary, GLS, which applies market-derived factors such as prepayment rates, current market conditions and recent loan sales to arrive at valuations. Deferred fees and costs are determined using internal analysis of the cost to originate loans. Significant errors in assumptions used to compute gains on sale of loans could result in material revenue misstatements, which may have a material adverse effect on our business, results of operations and profitability. We believe that the valuations provided by GLS are at arm's length and reflect fair value. In addition, these valuations are reperformed for indications of bias by an independent third party on a biannual basis. However, if such valuations are not reflective of fair market value, then our business, results of operations and financial condition may be materially and adversely affected.

Our rental equipment is subject to residual value risk upon disposition, and may not sell at the prices or in the quantities we expect.

The market value of any given piece of rental equipment could be less than its depreciated value at the time it is sold. The market value of used rental equipment depends on several factors, including:

- the market price for new equipment of a like kind;
- the age of the equipment at the time it is sold, as well as wear and tear on the equipment relative to its age;
- the supply of used equipment on the market;
- technological advances relating to the equipment;
- demand for the used equipment; and
- general economic conditions.

We include in income from operations the difference between the sales price and the depreciated value of an item of equipment sold. Changes in our assumptions regarding depreciation could change our depreciation expense, as well as the gain or loss realized upon disposal of equipment. Sales of our used rental equipment at prices that fall significantly below our projections or in lesser quantities than we anticipate will have a negative impact on our results of operations and cash flows.

We are subject to liquidity risk in our operations.

Liquidity risk includes the possibility of being unable, at a reasonable cost and within acceptable risk tolerances, to pay obligations as they come due, to capitalize on growth opportunities as they arise, or to pay regular dividends because of an inability to liquidate assets or obtain adequate funding on a timely basis. Liquidity is required to fund various obligations, including credit obligations to borrowers, loan originations, withdrawals by depositors, repayment of debt, dividends to shareholders, operating expenses, and capital expenditures. Our liquidity is derived primarily from retail deposit growth and retention, the sale of loans in the secondary market, principal and interest payments on loans and investment securities, net cash provided from operations, and access to other funding sources. A significant portion of our deposit base is gathered through our nationwide direct deposit platform, and we have historically also relied on brokered deposits. If our Bank were to become less than well capitalized, we would be subject to regulatory restrictions that could limit the effective yield we offer on deposits or disrupt our ability to accept brokered deposits. We also could not accept brokered deposits without FDIC approval. See "Capital Adequacy" under the heading "Supervision and Regulation" above for more details on these restrictions. If we became subject to these restrictions, they could have a material adverse effect on our liquidity, results of operations and financial condition.

Our access to funding sources in amounts adequate to finance our activities or at a reasonable cost could be impaired by factors that affect us specifically or the financial services industry in general. Factors that could adversely affect our access to liquidity sources include a decrease in the level of our business activity due to a market downturn, failures of or interruptions to our next-generation banking platform, our lack of access to a traditional branch banking network designed to generate core deposits, and adverse regulatory action against us. Our ability to borrow could also be impaired by factors that are not specific to us, such as a severe disruption in the financial markets or negative views and expectations about the prospects for the financial services industry as a whole. Our access to borrowed funds could become limited in the future, and we may be required to pay above market rates for additional borrowed funds, if we are able to obtain them at all, which may adversely affect our business, results of operations and financial condition.

Changes in the interest rate environment could reduce our net interest income, which could reduce our profitability.

As a financial institution, our earnings depend in part on our net interest income, which is the difference between the interest income that we earn on interest-earning assets, such as investment securities and loans, and the interest expense that we pay on interest-bearing liabilities, such as deposits and borrowings. Additionally, changes in interest rates affect the premiums we may receive in connection with the sale of SBA 7(a) and USDA loans in the secondary market, pre-payment speeds of loans for which we own servicing rights, our ability to fund our operations with customer deposits, and the fair value of securities in our investment portfolio. Therefore, any change in general market interest rates, including changes in federal fiscal and monetary policies, affects us more than non-financial companies and can have a significant effect on our net interest income and results of operations. Our assets and liabilities may react differently to changes in overall market rates or conditions because there may be mismatches between the repricing or maturity characteristics of the assets and liabilities. As a result, an increase or decrease in market interest rates could have material adverse effects on our net interest margin, noninterest income and results of operations. In a rising interest rate environment, potential borrowers could seek to defer loans as they wait for interest rates to settle, and borrowers of variable rate loans may be subject to increased interest rates, which could result in a greater rate of prepayment or default. Changes in interest rates may also present additional challenges to our business that we have not anticipated. Interest rates are highly sensitive to many factors that are beyond our control, including general economic conditions, inflationary trends, changes in government spending and debt issuance and policies of various governmental and regulatory agencies and, in particular, the Federal Open Market Committee.

The amount of other real estate owned, or OREO, may increase significantly, resulting in additional losses, and costs and expenses that will negatively affect our operations.

In connection with our banking business, we take title to real estate collateral from time to time through foreclosure or otherwise in connection with efforts to collect debts previously contracted. Such real estate is referred to as other real estate owned ("OREO"). As the amount of OREO increases, our losses, and the costs and expenses to maintain the real estate, likewise increase. The amount of OREO we hold may increase due to various economic conditions or other factors. Any additional increase in losses and maintenance costs and other expenses due to OREO may have a material adverse effect on our business, results of operations and financial condition. Such effects may be particularly pronounced in a market of reduced real estate values and excess inventory, which may make the disposition of OREO properties more difficult, increase maintenance costs and other expenses, and reduce our ultimate realization from any OREO sales. In addition, at the time of acquisition of the OREO we are required to reflect its fair market value in our financial statements. If the OREO declines in value subsequent to its acquisition, we are required to recognize a loss. As a result, declines in the value of our OREO will have a negative effect on our business, results of operations and financial condition. As of December 31, 2022, we had no OREO properties.

We are subject to environmental liability risk associated with our lending activities.

A significant portion of our loan portfolio is secured by real property. During the ordinary course of business, we may foreclose on and take title to properties securing certain loans. In doing so, there is a risk that hazardous or toxic substances could be found on these properties. If hazardous or toxic substances are found, we may be liable for remediation costs, as well as for personal injury and property damage. Environmental laws may require us to incur substantial expenses and may materially reduce the affected property's value or limit our ability to use or sell the affected property. In addition, future laws or more stringent interpretations or enforcement policies with respect to existing laws may increase our exposure to environmental liability. The remediation costs and any other financial liabilities associated with an environmental hazard could have a material adverse effect on our business, results of operations and financial condition.

Our use of appraisals in deciding whether to make a loan secured by real property or how to value the loan in the future may not accurately reflect the net value of the collateral that we can realize.

In considering whether to make a loan secured by real property, we generally require an appraisal of the property. However, an appraisal is only an estimate of the value of the property at the time the appraisal is made, and, as real estate values may experience changes in value in relatively short periods of time, especially during periods of heightened economic uncertainty, this estimate might not accurately describe the net value of the real property collateral after the loan has been closed. If the appraisal does not reflect the amount that may be obtained upon any sale or foreclosure of the property, we may not realize an amount equal to the indebtedness secured by the property. In addition, we rely on appraisals and other valuation techniques to establish the value of our OREO and to determine certain loan impairments. If any of these valuations are inaccurate, our consolidated financial statements may not reflect the correct value of OREO, and our ACL on loans and leases may not reflect accurate loan impairments. The valuation of the properties securing the loans in our portfolio may negatively impact the continuing value of those loans and could materially adversely affect our business, results of operations and financial condition.

We could be subject to losses, regulatory action or reputational harm due to fraudulent and negligent acts on the part of loan applicants, our borrowers, our employees and vendors.

In deciding whether to extend credit or enter into other transactions with customers and counterparties, we may rely on information furnished by or on behalf of customers and other third parties, including financial statements, property appraisals, title information, employment and income documentation, account information and other financial information which may include information furnished by sellers to our borrowers in connection with business acquisitions that we finance. We may also rely on representations of clients and other third parties as to the accuracy and completeness of such information and, with respect to financial statements, on reports of independent auditors. Any such misrepresentation or incorrect or incomplete information may not be detected prior to funding a loan or during our ongoing monitoring of outstanding loans. In addition, one or more of our employees or vendors could cause a significant operational breakdown or failure, either as a result of human error or where an individual purposefully sabotages or fraudulently manipulates our loan documentation, operations or systems. Any of these developments could have a material adverse effect on our business, results of operations and financial condition.

New lines of business or new products and services may subject us to additional risks.

We are focused on our long-term growth and have undertaken various new business initiatives, many of which involve activities that are new to us, or in some cases, are in the early stages of development. From time to time, we may develop, grow and/or acquire 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 for these products and services are not fully developed. Given our evolving business and product diversification, these and other new initiatives may subject us to, among other risks, increased business, reputational and operational risk, as well as more complex legal, third-party, regulatory and compliance costs and risks.

In developing and marketing new lines of business and/or new products and services, we may invest significant time and resources. Initial timetables for the introduction and development of new lines of business and/or 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 and/or new product or service could have a significant impact on the effectiveness of our system of internal controls. Failure to successfully manage these risks in the development and implementation of new lines of business or new products or services could have a material adverse effect on our business, results of operations and financial condition. All service offerings, including current offerings and those which may be provided in the future, may become more risky due to changes in economic, competitive and market conditions beyond our control.

We are subject to risk in connection with our strategic activities, including acquisitions, joint ventures, partnerships, and investments.

We are engaged, and may in the future engage, in strategic activities, including acquisitions, joint ventures, partnerships, investments or other business growth initiatives or undertakings. There can be no assurance that we will successfully identify appropriate opportunities, that we will be able to negotiate or finance such activities or that such activities, if undertaken, will be successful.

Our ability to execute strategic activities and new business initiatives successfully will depend on a variety of factors. These factors likely will vary based on the nature of the activity but may include our success in integrating an acquired company or a new internally developed growth initiative into our business, operations, services, products, personnel and systems, operating effectively with any partner with whom we elect to do business, meeting applicable regulatory requirements and obtaining applicable regulatory licenses or other approvals, hiring or retaining key employees, achieving anticipated synergies, meeting management's expectations, actually realizing the anticipated benefits of the activities, and overall general market conditions. Our ability to address these matters successfully cannot be assured. In addition, our strategic efforts may divert resources or management's attention from ongoing business operations and may subject us to additional regulatory scrutiny and potential liability. If we do not successfully execute a strategic undertaking, it could adversely affect our business, financial condition, results of operations, reputation or growth prospects. In addition, if we were to conclude that the value of an acquired business had decreased and that the related goodwill had been impaired, that conclusion would result in an impairment of goodwill charge to us, which would adversely affect our results of operations.

In addition, in order to finance future strategic undertakings, we might require additional financing, which might not be available on terms favorable to us, or at all. If obtained, equity financing could be dilutive and the incurrence of debt and contingent liabilities could have a material adverse effect on our business, results of operations or financial condition.

Our investments in financial technology companies and initiatives, including our investment in Apiture and the activities of our subsidiary Canapi Advisors, subject us to material financial, reputational and strategic risks.

Our investments in various financial technology companies have had a significant impact on our results of operations, and we anticipate they will continue to have a significant impact on our results of operations in the future. Investments where we have the ability to exercise significant influence but not control over the operating and financial policies of the investee are accounted for using the equity method of accounting. For investments accounted for under the equity method, we increase or decrease our investment by our proportionate share of the investee's net income or loss. Those investments where we are not able to exercise significant influence over the investee are accounted for under the equity security accounting method, where changes in fair value resulting from observable price changes arising from orderly transactions are recognized in net income. We also periodically evaluate our investments for impairment. The results of this testing of our investments for potential impairment may be adversely affected by a variety of factors, including market conditions, general economic conditions and unfavorable changes in the businesses underlying the investments. Impairments or write-downs of these assets may result in charges that adversely affect our results of operations. See Note 1. Organization and Summary of Significant Accounting Policies under the subheading entitled "Investments" for more information.

Any earnings from our financial technology investments can be volatile and difficult to predict. Furthermore, we invest in many of these financial technology companies for strategic purposes. Where we are a minority shareholder, we may be unable to influence the activities of these organizations which could have an adverse impact on our ability to execute our strategic initiatives and successfully develop and implement the banking platform we are developing with these and other partners.

As of December 31, 2022, the carrying amount of our investment in Apiture was \$60.3 million. Apiture's future success will depend on its ability to develop, sell and deliver new or enhanced solutions to financial institution clients; however, these solutions and related services may not be attractive to existing or prospective clients. In addition, promoting, selling and delivering these new and enhanced solutions may require increasingly costly sales, marketing and implementation efforts. We also anticipate that Apiture will face challenges from its current competitors, which in many cases are more established and enjoy greater resources than it does, as well as by new entrants into the industry. If Apiture is not able to successfully execute its business plan, then the value of our investment in Apiture could decrease, which could have a material adverse effect on our business, financial condition and results of operations. Apiture's digital banking solution requires sophisticated software and computing systems that may encounter development delays or software defects. Defects in Apiture's software offerings or delays in the development of such software could result in unforeseen costs, diversion of technical and other resources, loss of credibility with existing and potential clients or reputational harm, any of which could materially adversely affect our business, results of operations and financial condition.

Our subsidiary Canapi Advisors is an investment advisor to Canapi Ventures, a series of funds focused on providing venture capital to new and emerging financial technology companies. Canapi Ventures invests in early to growth-stage companies that may include companies that utilize advanced science, technology, engineering and/or mathematics to innovate in the financial technology market. Investments in these companies involve a high degree of business and financial risk that can result in substantial losses. These companies may be unseasoned, unprofitable or have no established operating histories or earnings and may lack technical, marketing, financial and other resources. These companies often have the need for substantial additional capital to support expansion or to achieve or maintain a competitive position. Less established companies tend to have lower capitalization and fewer resources and, therefore, are often more vulnerable to financial failure. These companies may be dependent upon the success of one product or service, a unique distribution channel, or the effectiveness of a manager or management team. The failure of this one product, service or distribution channel, or the loss or ineffectiveness of a key executive or executives within the management team may have a materially adverse impact on such companies. Such companies may face intense competition, including competition from companies with greater financial resources, more extensive development, manufacturing, marketing and service capabilities and a larger number of qualified managerial and technical personnel. If Canapi Advisors is unable to successfully identify investment opportunities, it will likely lose the capital that it invests on behalf of the fund's investors, including the capital that we invest, and will not generate any carried interest for the benefit of the Company, which would have a materially adverse effect on our results of operations, our reputation and our ability to raise successive funds for similar purposes.

Many of the financial technology companies in which we invest directly present risks similar to those in which Canapi Ventures invests. The possibility that the companies in which we and Canapi Ventures invest will not be able to commercialize their technology or product concept presents significant risk to our business operations and financial results. These companies tend to lack management depth, to have limited or no history of operations and to not have attained profitability. Additionally, although some of these companies may already have a commercially successful product or product line at the time of investment, technology products and services often have a more limited market or life span than products in other industries. Thus, the ultimate success of these companies may depend on their ability to continually innovate in increasingly competitive markets. Most of the companies in which we and Canapi Ventures invest will require substantial additional equity financing to satisfy their continuing growth and working capital requirements. Each round of venture financing is typically intended to provide a company with enough capital to reach the next stage of development. The circumstances or market conditions under which such companies will seek additional capital is unpredictable. It is possible that one or more of such companies will not be able to raise additional financing or may be able to do so only at a price or on terms which are unfavorable.

Our investments in other companies may be illiquid.

The equity securities of the companies in which we and Canapi Ventures invest are at the time of acquisition unmarketable and illiquid, and there can be no assurance that a ready market for these securities will ever exist. Such securities generally cannot be sold publicly without prior agreement with the issuer to register the securities under the Securities Act or by selling such securities under Rule 144 or other provisions of the Securities Act which permit only limited sales under specified conditions. We generally will realize the value of such securities only if the issuer is able to make an initial public offering of its shares or enters into a business combination with another company which purchases our equity securities for cash or exchanges them for publicly traded securities of the acquirer. The feasibility of such transactions depends upon the company's financial results as well as general economic and equity market conditions. Furthermore, even if the equity securities owned become publicly traded, our ability to sell such securities may be limited by the lack of or limited nature of a trading market for such securities. There can be no assurance that the value at which we carry these assets will necessarily reflect the amount which could be realized upon a sale or other liquidity event.

Our investments and/or financings in certain tax-advantaged projects may not generate returns as anticipated and may have an adverse impact on our financial results.

We invest in and/or finance certain tax-advantaged projects promoting renewable energy sources. Our investments in these projects are designed to generate a return primarily through the realization of federal and state income tax credits, and other tax benefits, over specified time periods. We utilize an investment tax credit for the installation of certain solar power facilities. We are subject to the risk that previously recorded tax credits, which remain subject to recapture by taxing authorities based on compliance features required to be met at the project level, will fail to meet certain government compliance requirements and will not be able to be fully realized. The possible inability to realize these tax credits and other tax benefits can have a negative impact on our financial results. The risk of not being able to realize the tax credits and other tax benefits depends on many factors outside of our control, including changes in the applicable provisions of the tax code and the ability of the projects to be completed and properly managed. In addition, we make loans through the REAP of the USDA, which provides guaranteed loan financing and grant funding to agricultural producers and rural small businesses for renewable energy systems or to make energy-efficient improvements. Any changes to applicable provisions of the tax code or other developments could adversely impact demand for these loans even where we are not utilizing an investment tax credit.

Our loan portfolio may be affected by deterioration in real estate markets, including declines in the performance of loans.

Deterioration in real estate markets could result in declining prices and excess inventories. As a result, developers may experience financial deterioration and banking institutions may experience declines in the performance of construction, development and commercial loans. We make credit and reserve decisions based on the current conditions of borrowers or projects combined with our expectations for the future. If conditions are worse than forecast, we could experience higher charge-offs and delinquencies than is provided in the ACL on loans and leases, which could materially adversely affect our business, results of operations and financial condition.

Deterioration in the commercial soundness of our counterparties could adversely affect us.

Our ability to engage in routine funding transactions could be adversely affected by the actions and commercial soundness of other financial institutions. Financial services institutions are interrelated as a result of trading, clearing, counterparty or other relationships, and we routinely execute transactions with counterparties in the financial industry. As a result, defaults by, or even rumors or questions about, one or more financial services institutions, or the financial services industry generally, could create a market-wide liquidity crisis and could lead to losses or defaults by us or by other institutions. The deterioration or failure of our counterparties would have a material adverse effect on our business, results of operations and financial condition.

We have different lending risks than larger, more diversified banks.

Our ability to diversify our economic risks is limited. We lend primarily to small businesses in selected industries, which may expose us to greater lending risks than those of banks lending to larger, better-capitalized businesses with longer operating histories. Small businesses generally have fewer financial resources in terms of capital or borrowing capacity than larger entities and may have limited operating histories. If economic conditions negatively impact the verticals in which we operate, our business, results of operations and financial condition may be adversely affected.

We attempt to manage our credit exposure through careful monitoring of loan applicants and through loan approval and review procedures. We have established an evaluation process designed to determine the adequacy of our ACL on loans and leases. While this evaluation process uses historical and other objective information, the classification of loans and the establishment of loan losses is an estimate based on experience, judgment and expectations regarding our borrowers, and the economies in which we and our borrowers operate, as well as the judgment of our regulators. This is an inherently uncertain process, and our loan loss reserves may not be sufficient to absorb future loan losses or prevent a material adverse effect on our business, results of operations and financial condition.

Insiders have substantial control over us, and this control may limit our shareholders' ability to influence corporate matters and may delay or prevent a third party from acquiring control over us.

As of January 31, 2023, our directors and executive officers and their related entities own, in the aggregate, approximately 24.7% of our outstanding common stock. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise. In addition, these shareholders will be able to exercise influence over all matters requiring shareholder approval, including the election of directors and approval of corporate transactions, such as a merger or other sale of our company or its assets. This concentration of ownership could limit the ability of other shareholders to influence corporate matters and may have the effect of delaying or preventing a change in control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control, even if that change in control would benefit our other shareholders. For information regarding the ownership of our outstanding stock by our executive officers and directors and related entities, see "Security Ownership of Certain Beneficial Owners and Management and Related Shareholder Matters" in this Report.

Risks Related to Our Regulatory Environment

We are subject to extensive regulation that could limit or restrict our activities.

We operate in a highly regulated industry and are subject to examination, supervision, and comprehensive regulation by various federal and state regulatory agencies. Our compliance with these regulations is costly and restricts certain of our activities, including the declaration and payment of cash dividends to shareholders, mergers and acquisitions, investments, loans and interest rates charged, interest rates paid on deposits, and locations of offices. We are also subject to capitalization guidelines established by our regulators, which require us to maintain adequate capital to support our growth and operations. See "Supervision and Regulation" above for more information on the federal and state laws, rules and regulations that apply to our business activities. Should we fail to comply with these regulatory requirements, federal and state regulators could impose additional restrictions on the activities of the Company and the Bank, which could materially and adversely affect our business, results of operations and financial condition.

The laws and regulations applicable to the banking industry have changed in recent years and may continue to change, and we cannot predict the effects of these changes on our business and profitability. Because government regulation greatly affects the business and financial results of all commercial banks and bank holding companies, our cost of compliance could adversely affect our business, results of operations and financial condition.

Our financial condition and results of operations are affected by credit policies of monetary authorities, particularly the Federal Reserve. Actions by monetary and fiscal authorities, including the Federal Reserve, could have an adverse effect on our deposit levels, loan demand, or business and earnings, as well as the value of our common stock.

We are required to maintain capital to meet regulatory requirements, and, if we fail to maintain sufficient capital, whether due to growth opportunities, losses or an inability to raise additional capital or otherwise, our financial condition, liquidity and results of operations, as well as our compliance with regulatory requirements, would be adversely affected.

Both we and the Bank are required to meet regulatory capital requirements and otherwise need to maintain sufficient liquidity to support recent and future growth. We have continued to experience considerable growth recently. Asset growth, diversification of our business, expansion of our financial product offerings and other changes in our asset mix continue to require higher levels of capital. Our ability to raise additional capital, when and if needed in the future, to meet such regulatory capital requirements and liquidity needs will depend on conditions in the capital markets, general economic conditions, the performance and prospects of our business and a number of other factors, many of which are outside of our control. We cannot assure you that we will be able to raise additional capital if needed or raise additional capital on terms acceptable to us. If we fail to meet these capital and other regulatory requirements, our financial condition, liquidity and results of operations could be materially and adversely affected.

Although we comply with all current applicable capital requirements, we may be subject to more stringent regulatory capital requirements in the future, and we may need additional capital in order to meet those requirements. If we or the Bank fail to meet applicable minimum capital requirements or cease to be well capitalized, such failure would cause us and the Bank to be subject to regulatory restrictions and could adversely affect customer confidence, our ability to grow, our costs of funds and FDIC insurance costs, our ability to pay dividends on common stock and/or repurchase shares, our ability to make acquisitions, and our business, results of operations and financial condition, generally.

We will be subject to heightened regulatory requirements if our total assets grow and exceed \$10 billion.

As of December 31, 2022, our total assets were \$9.86 billion. We anticipate that our total assets may exceed \$10 billion sometime in 2023. In addition to our current regulatory requirements, banks and bank holding companies with \$10 billion or more in total assets are examined directly by the CFPB with respect to various federal consumer protection laws, subject to enhanced prudential regulation, and subject to additional regulatory requirements. Compliance with these additional ongoing requirements may necessitate additional personnel, the design and implementation of additional internal controls, or the incurrence of significant expenses, any of which could have a material adverse effect on our business, financial condition and results of operations.

Our deposit operations are subject to extensive regulation, and we expect additional regulatory requirements to be implemented in the future.

We are subject to significant anti-money laundering, “know your customer” and other regulations under applicable law, including the Bank Secrecy Act and the USA PATRIOT Act, and we could become subject in the future to additional regulatory requirements beyond those that are currently adopted, proposed or contemplated. We expect that federal and state bank regulators will increase their oversight, inspection and investigatory role over our deposit operations and the financial services industry generally. Furthermore, we intend to increase our deposit product offerings and grow our customer deposit portfolio in the future and, as a result, we are, and will continue to be, subject to heightened compliance and operating costs that could adversely affect our business, results of operations and financial condition. In addition, legal and regulatory proceedings and other contingencies will arise from time to time that may have an adverse effect on our business practices and results of operations.

Our FDIC deposit insurance premiums and assessments may increase.

The deposits of our Bank are insured by the FDIC up to legal limits and, accordingly, subject our Bank to the payment of FDIC deposit insurance assessments. The Bank’s regular assessments are based on its average consolidated total assets minus average tangible equity as well as by risk classification, which includes regulatory capital levels and the level of supervisory concern. In order to maintain a strong funding position and restore the reserve ratios of the DIF, the FDIC has, in the past, increased deposit insurance assessment rates and charged a special assessment to all FDIC-insured financial institutions. Further increases in assessment rates or special assessments may occur in the future, especially if there are significant financial institution failures. Any future special assessments, increases in assessment rates or required prepayments in FDIC insurance premiums could reduce our profitability or limit our ability to pursue certain business opportunities, which could have an adverse effect on our business, financial condition and results of operations.

We may incur increased costs to comply with privacy and data security laws and regulations and, to the extent we fail to comply, we could be subject to government enforcement actions, private claims and litigation, adverse publicity, loss of customers, and other negative outcomes.

We are subject to complex and evolving laws and regulations governing the privacy and security of personal information associated with consumers, prospective, current, and former customers, employees and contractors, and other individuals. For example, the Gramm-Leach-Bliley Financial Services Modernization Act of 1999 and state financial services laws and regulations impose restrictions on our collection, use, and disclosure of personal information, as well as requirements for protecting personal information. There are federal and state laws and regulations governing our obligations in the event of data security breaches, computer-security incidents, and similar occurrences. States legislatures have also been actively debating and passing new privacy laws, such as the California Privacy Rights Act. We expect that the body of privacy and data security laws and regulations that may apply to us will continue to grow.

These laws and regulations are continually evolving and are subject to potentially differing interpretations, including as to their scope and applicability to our business. The interpretation of these laws and regulations can be uncertain, and they may be applied inconsistently from one jurisdiction to another or may conflict with other laws and regulations or our practices. As a result, our practices may not have complied or may not comply in the future with all such laws and regulations. Any failure, or perceived failure, by us to comply with these laws or regulations could have a materially adverse impact to our reputation and brand, and may result in government investigations and enforcement actions, as well as claims for damages and other forms of relief by affected individuals, business partners, and other parties. Any such investigations, enforcement actions, or claims could require us to change our operations, incur substantial costs and expenses in an effort to comply, force us to incur significant expenses in defense of such proceedings, distract our management, increase our costs of doing business, result in a loss of customers and vendors, result in the imposition of monetary penalties, and otherwise adversely affect our business, financial condition, and results of operations.

Efforts intended to ensure that our collection, use, disclosure, maintenance, and protection of personal information complies with all applicable laws and regulations in all relevant jurisdictions, including where the laws of different jurisdictions are in conflict, may pose a variety of challenges, including the following:

- Our compliance and operating costs may increase.
- The development of new products or services may be hindered, our ability to offer existing products or services may be curtailed, and the manner in which we offer products and services to customers may be impacted.
- Our efforts may require significant time, attention, and oversight of management, which may result in reduced focus on other operations.
- We may be required to structure our business, operations, and systems in less efficient ways.

Risks Related to Our Common Stock

The low trading volume in our common stock may adversely affect your ability to resell shares at prices that you find attractive or at all.

Our common stock is listed for quotation on the NYSE under the ticker symbol “LOB”. The average daily trading volume for our common stock is less than that of larger financial institutions. Due to its relatively low trading volume, sales of our common stock may place significant downward pressure on the market price of our common stock. Furthermore, it may be difficult for holders to resell their shares at prices they find attractive, or at all.

Future sales of shares of our common stock by existing shareholders could depress the market price of our common stock.

Live Oak Bancshares, Inc. had 44,066,517 shares of common stock outstanding at January 31, 2023. In addition, as of January 31, 2023, there were outstanding options to purchase 821,029 shares of our common stock that, if exercised, will result in these additional shares becoming available for sale. Also, as of January 31, 2023, there were 2,400,363 outstanding restricted stock units that vest over time that, when vested, will result in additional shares becoming available for sale. A large portion of these shares, options and restricted stock units are held by a relatively small number of persons. Sales by these holders of a substantial number of shares could significantly reduce the market price of our common stock.

There can be no assurance that we will continue to pay cash dividends.

Although we have historically paid cash dividends, there is no assurance that we will continue to pay cash dividends. Future payment of cash dividends, if any, will be at the discretion of our board of directors and will be dependent upon our financial condition, results of operations, capital requirements, economic conditions, and such other factors as the board may deem relevant.

Live Oak Bancshares, Inc. is subject to extensive regulation, and ownership of our common stock may have regulatory implications for its holders.

The Company is subject to extensive federal and state banking laws, including the BHCA and federal and state banking regulations, that impact the rights and obligations of owners of our common stock, including, for example, its ability to declare and pay dividends on its common stock.

Shares of Live Oak Bancshares, Inc.'s common stock are voting securities for purposes of the BHCA. The BHCA generally requires regulatory approval before any individual or company may acquire 25% or more of any class of Live Oak Bancshares Inc.'s common stock, and such regulatory approval may be required under certain circumstances if a person, company or group acting in concert acquires 10% or more, but less than 25% of Live Oak Bancshares Inc.'s common stock. Holders of our common stock should consult their own counsel with regard to regulatory implications.

Anti-takeover provisions could adversely affect Live Oak Bancshares, Inc. shareholders.

In some cases, shareholders would receive a premium for their shares if Live Oak Bancshares Inc. were acquired by another company. However, state and federal law and Live Oak Bancshares Inc.'s articles of incorporation and bylaws make it difficult for anyone to acquire the Company without approval of the Live Oak Bancshares Inc.'s board of directors. For example, Live Oak Bancshares Inc.'s articles of incorporation require a supermajority vote of two-thirds of our outstanding common stock in order to effect a sale or merger of the Company in certain circumstances. Consequently, a takeover attempt may prove difficult, and shareholders may not realize the highest possible price for their securities.

Shares of Live Oak Bancshares, Inc.'s common stock are not insured deposits and may lose value.

Shares of Live Oak Bancshares, Inc.'s common stock are not savings accounts, deposits or other obligations of any depository institution and are not insured or guaranteed by the FDIC or any other governmental agency or instrumentality, any other deposit insurance fund or by any other public or private entity. An investment in our common stock is inherently risky for the reasons described in this "Risk Factors" section. As a result, if you acquire shares of our common stock, you may lose some or all of your investment.

General Risk Factors

We face strong competition from a diverse group of competitors.

The banking business is highly competitive, and we experience strong competition from many other financial institutions, including some of the largest commercial banks headquartered in the country, as well as other federally and state chartered financial institutions such as community banks and credit unions, finance and business development companies, commercial and consumer finance companies, peer-to-peer and marketplace lenders, securities brokerage firms, insurance companies, money market and mutual funds and other non-bank lenders.

We compete with these institutions both in attracting deposits and in making loans, primarily on the basis of the interest rates we pay and yield on these products. We also compete with these institutions in our other business lines, including wealth management. Many of our competitors are well-established, much larger financial institutions. While we believe we can successfully compete with these other lenders in our industry verticals, we may face a competitive disadvantage as a result of our smaller size. Furthermore, nothing would prevent our competitors from developing or licensing a technology-based platform similar to the technology-based platform we currently use in our business. In addition, many of our non-bank competitors have fewer regulatory constraints and may have lower cost structures. We expect competition to continue to intensify due to financial institution consolidation, legislative, regulatory and technological changes, and the emergence of alternative banking sources.

Our ability to compete successfully will depend on a number of factors, including, among other things:

- our ability to build and maintain long-term customer relationships while ensuring high ethical standards and safe and sound banking practices;
- the scope, relevance and pricing of products and services that we offer;
- customer satisfaction with our products and services;

- industry and general economic trends; and
- our ability to keep pace with technological advances and to invest in new technology.

Increased competition could require us to increase the rates we pay on deposits or lower the rates we offer on loans, which could reduce our profitability. Our failure to compete effectively in our primary markets could cause us to lose market share and could have a material adverse effect on our business, results of operations and financial condition.

We rely heavily on our management team and depend on our ability to attract and retain key personnel, and the unexpected loss of any of those personnel could adversely affect our operations.

We are a customer-focused and relationship-driven organization. We expect our future growth to be driven in a large part by the relationships maintained with our customers and partners by our chief executive officer, president, and other senior officers. The unexpected loss of any of our key employees could have an adverse effect on our business, results of operations and financial condition. The implementation of our business strategy will also require us to continue to attract, hire, motivate and retain skilled personnel to develop new customer relationships as well as new financial products and services. We are not party to non-compete or non-solicitation agreements with any of our officers or employees. The market for qualified employees in the businesses in which we operate is competitive, and we may not be successful in attracting, hiring or retaining key personnel. Our inability to attract, hire or retain key personnel could have a material adverse effect on our business, results of operations and financial condition.

Our risk management framework may not be effective in mitigating risks and/or losses to us.

We have implemented a risk management framework to manage our risk exposure. This framework is comprised of various processes, systems and strategies, and is designed to manage the types of risk to which we are subject, including, among others, credit, market, liquidity, interest rate and compliance risks. Our framework also includes financial and other modeling methodologies which involve management assumptions and judgment. Our risk management framework may not be effective under all circumstances and it may fail to adequately identify or mitigate risk or loss to us. If our framework is not effective, we could suffer unexpected losses and be subject to potentially adverse regulatory consequences, and our business, results of operations and financial condition could be materially and adversely affected.

Hurricanes or other adverse weather events could disrupt our operations, which could have an adverse effect on our business or results of operations.

North Carolina's coastal region is affected, from time to time, by adverse weather events, particularly hurricanes, the nature and severity of which may be impacted by climate change. We cannot predict whether, or to what extent, damage caused by future hurricanes or other weather events will affect our operations. Weather events could cause a disruption in our day-to-day business activities and could have a material adverse effect on our business, results of operations and financial condition.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results. As a result, current and potential shareholders could lose confidence in our financial reporting which would harm our business and the trading price of our securities.

If we identify material weaknesses in our internal control over financial reporting or are otherwise required to restate our financial statements, we could be required to implement expensive and time-consuming remedial measures and could lose investor confidence in the accuracy and completeness of our financial reports. We may also face regulatory enforcement or other actions, including the potential delisting of our securities from the NYSE. This could have a material adverse effect on our business, financial condition and results of operations, and could subject us to litigation.

Changes in accounting standards and management's selection of accounting methods, including assumptions and estimates, could materially impact our financial statements.

From time to time, the SEC and the Financial Accounting Standards Board ("FASB") update accounting principles generally accepted in the United States ("GAAP") that govern the preparation of our financial statements. In addition, the FASB, SEC, bank regulators and the outside independent auditors may revise their previous interpretations regarding existing accounting regulations and the application of these accounting standards. These changes can be hard to predict and can materially impact how we record and report our financial condition and results of operations. In some cases, we could be required to apply a new or revised standard retroactively, resulting in changes to previously reported financial results, or a cumulative charge to retained earnings. In addition, management is required to use certain assumptions and estimates in preparing our financial statements, including determining the fair value of certain assets and liabilities, among other items. If the assumptions or estimates are incorrect, we may experience unexpected material adverse consequences that could negatively affect our business, results of operations and financial condition.

Our business reputation is important and any damage to it could have a material adverse effect on our business.

Our reputation is very important to sustain our business, as we rely on our relationships with our current, former and potential customers, our technology and other strategic partners, our shareholders, and the industries that we serve. Any damage to our reputation, whether arising from legal, regulatory, supervisory or enforcement actions, matters affecting our financial reporting or compliance with SEC and exchange listing requirements, negative publicity, the conduct of our business or otherwise could have a material adverse effect on our business, results of operations and financial condition.

Item 1B. UNRESOLVED STAFF COMMENTS

There were no unresolved comments received from the SEC regarding the Company's periodic or current reports.

Item 2. PROPERTIES

The following table sets forth the location of the Company's main offices, as well as additional administrative offices and certain information relating to the facilities.

Office	Address	Year Opened	Approximate Square Footage	Owned or Leased	Operating Segment
Wilmington, NC Main Offices	1741 Tiburon Dr	2013	36,000	Owned	Banking
	1757 Tiburon Dr	2015	55,000		Fintech
	1805 Tiburon Dr	2019	80,972		
	1811 Tiburon Dr	2019	24,329		
Santa Rosa, CA Office	100 B St Ste. 100	2015	2,386	Leased	Banking
Roseville, CA Office	1223 Pleasant Grove Blvd Ste. 120	2016	1,416	Leased	Banking
Wilmington Flight Operations	1890 Trask Dr	2017	25,500	Owned	Banking Fintech
Raleigh, NC Office	1017 Main Campus Dr, Ste. 3200	2019	3,889	Leased	Banking
Rocky Mount, NC Office	210 Bryant St, Ste. A	2020	1,698	Leased	Banking
Wilmington, NC Office	106 Market Street, Ste. 200	2021	5,110	Leased	Banking
Dallas, TX Office	14675 N. Dallas Parkway, Ste. 525	2022	5,241	Leased	Banking
Charlotte, NC Office	1018 Jay Street, Ste. 300	2023	7,645	Leased	Banking

The Company believes that its properties are maintained in good operating condition and are suitable and adequate for its operational needs.

Item 3. LEGAL PROCEEDINGS

In the ordinary course of operations, the Company is at times involved in legal proceedings. In the opinion of management, as of December 31, 2022, there are no material pending legal proceedings to which the Company or any of its subsidiaries is a party or of which any of their property is the subject. In addition, the Company is not aware of any threatened litigation, unasserted claims or assessments that could have a material adverse effect on its business, operating results or financial condition.

On March 12, 2021, a purported class action was filed against the Company in the United States District Court for the Eastern District of North Carolina, *Joseph McAlear, individually and on behalf of all others similarly situated v. Live Oak Bancshares, Inc. et al.* The complaint alleged the existence of an agreement between the Company, nCino, Inc. and Apiture, LLC in which those companies purportedly sought to restrain the mobility of employees in violation of antitrust laws by agreeing not to solicit or hire each other's employees. The complaint alleged violations of Section 1 of the federal Sherman Act (15 U.S.C. § 1) and violations of Sections 75-1 and 75-2 of the North Carolina General Statutes. The plaintiff sought monetary damages, including treble damages, entitlement to restitution, disgorgement, attorneys' fees, and pre- and post-judgment interest. On October 12, 2021, the Company reached an agreement to settle the case with a proposed class of all persons (with certain exclusions) employed by the Company or its wholly-owned subsidiary, Live Oak Banking Company, Apiture, Inc. or nCino, Inc. in North Carolina at any time from January 27, 2017, through March 31, 2021. In the agreement, the Company agreed to pay \$3.9 million. On October 13, 2021, the plaintiff filed a motion for preliminary approval of the settlement, which the court granted by order entered on November 23, 2021. After class-wide noticing, the plaintiff filed a motion for final approval on March 28, 2022, which the court granted by order entered on April 28, 2022. Pursuant to the terms of the settlement, the settlement became effective on June 11, 2022.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Market Information

Bancshares' voting common stock is traded on the NYSE under the symbol "LOB." Quotations of the sales volume and the closing sales prices of the voting common stock of Bancshares are listed daily in the NYSE listings. Bancshares' non-voting common stock is not listed for trading on any exchange.

Holders

As of January 31, 2023, there were 44,066,517 voting shares outstanding and 226 holders of record for Bancshares' common stock.

Dividend Policy

The timing and amount of cash dividends paid depends on Bancshares' earnings, capital requirements, financial condition and other relevant factors. Although Bancshares has historically paid quarterly cash dividends to its shareholders in the past, and currently expects to pay comparable quarterly cash dividends in the future, shareholders are not entitled to receive dividends. Downturns in domestic and global economies and other factors could cause Bancshares board of directors to consider, among other things, the elimination of or reduction in the amount and/or frequency of cash dividends paid on Bancshares' common stock. See "Supervision and Regulation" under Item 1 of this Report for more information on restrictions on Bancshares' ability to declare and pay dividends. Bancshares can offer no assurance that the board of directors will continue to declare or pay cash dividends in any future period.

Recent Sales of Unregistered Securities

None.

Securities Authorized for Issuance under Equity Compensation Plans

See Item 12 of this Report for disclosure regarding securities authorized for issuance under equity compensation plans required by Item 201(d) of Regulation S-K.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Stock Performance Graph

The stock performance graph required by Item 201(e) of Regulation S-K is incorporated into this Report by reference from Bancshares annual report to shareholders for the year ended December 31, 2022, which will be posted on the Company's website subsequent to the date of this Report. The stock performance graph shall not be deemed to be "filed" for purposes of Section 18 of the Exchange Act, nor shall it be deemed to be "soliciting material" subject to Regulation 14A or incorporated by reference in any filing under the Securities Act or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

Item 6. [RESERVED]

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

Overview

The following presents management's discussion and analysis ("MD&A") of the more significant factors that affected the Company's financial condition and results of operations for the year ended December 31, 2022 as compared to December 31, 2021. For a comparison of 2021 results to 2020 and other 2020 information not included herein, refer to "Management's Discussion and Analysis of Financial Condition and Results of Operations" under Part II, Item 7 of the 2021 Form 10-K filed with the SEC on February 24, 2022. This discussion should be read in conjunction with the financial statements and related notes included elsewhere in this Report on Form 10-K. Results of operations for the periods included in this review are not necessarily indicative of results to be obtained during any future period.

Dollar amounts in tables are stated in thousands, except for per share amounts.

Nature of Operations

Live Oak Bancshares, Inc. (collectively with its subsidiaries including Live Oak Banking Company, the "Company") is a financial holding company and a bank holding company headquartered in Wilmington, North Carolina, incorporated under the laws of North Carolina in December 2008. The Company conducts business operations primarily through its commercial bank subsidiary, Live Oak Banking Company (the "Bank"). The Bank was incorporated in February 2008 as a North Carolina-chartered commercial bank. The Bank specializes in providing lending and deposit related services to small businesses nationwide. The Bank identifies and extends lending to credit-worthy borrowers both within specific industries, also called verticals, through expertise within those industries, and more broadly to select borrowers outside of those industries. A significant portion of the loans originated by the Bank are partially guaranteed by the U.S. Small Business Administration ("SBA") under the 7(a) Loan program and the U.S. Department of Agriculture ("USDA") Rural Energy for America Program ("REAP"), Water and Environmental Program ("WEP"), Business & Industry ("B&I") and Community Facilities loan programs.

The Company's wholly owned material subsidiaries are the Bank, Government Loan Solutions ("GLS"), Live Oak Grove, LLC ("Grove"), Live Oak Ventures, Inc. ("Live Oak Ventures"), and Canapi Advisors, LLC ("Canapi Advisors"). GLS is a management and technology consulting firm that advises and offers solutions and services to participants in the government guaranteed lending sector. GLS primarily provides services in connection with the settlement, accounting, and securitization processes for government guaranteed loans, including loans originated under the SBA 7(a) loan programs and USDA guaranteed loans. The Grove provides Company employees and business visitors an on-site restaurant location. Live Oak Ventures' purpose is investing in businesses that align with the Company's strategic initiative to be a leader in financial technology. Canapi Advisors provides investment advisory services to a series of funds (the "Canapi Funds") focused on providing venture capital to new and emerging financial technology companies.

The Bank's wholly owned subsidiaries are Live Oak Number One, Inc., Live Oak Clean Energy Financing LLC ("LOCEF"), Live Oak Private Wealth, LLC ("Live Oak Private Wealth") and Tiburon Land Holdings, LLC ("TLH"). Live Oak Number One, Inc. holds properties foreclosed on by the Bank. LOCEF provides financing to entities for renewable energy applications. Live Oak Private Wealth provides high-net-worth individuals and families with strategic wealth and investment management services. During the first quarter of 2022, Jolley Asset Management, LLC ("JAM") was merged into Live Oak Private Wealth. JAM was previously a wholly owned subsidiary of Live Oak Private Wealth. TLH was formed in the third quarter of 2022 to hold land adjacent to the Bank's headquarters consisting of wetlands and other protected property for the use and enjoyment of the Bank's employees and customers.

The Company generates revenue primarily from net interest income and secondarily through origination and sale of government guaranteed loans. Income from the retention of loans is comprised principally of interest income. Income from the sale of loans is comprised of loan servicing revenue and revaluation of related servicing assets along with net gains on sales of loans. Offsetting these revenues are the cost of funding sources, provision for loan and lease credit losses, any costs related to foreclosed assets and other operating costs such as salaries and employee benefits, travel, professional services, advertising and marketing and tax expense. The Company also has less routinely generated gains and losses arising from its financial technology investments predominantly in its fintech segment, as discussed more fully later in this section under the caption "Results of Segment Operations."

Executive Summary

The table below sets forth selected consolidated financial data as of the dates or for the periods indicated.

	As of and for the Year Ended December 31,		
	2022	2021	2020
Income Statement Data			
Net income	\$ 176,208	\$ 166,995	\$ 59,543
Per Common Share			
Net income, diluted	\$ 3.92	\$ 3.71	\$ 1.43
Dividends declared	0.12	0.12	0.12
Book value	18.41	16.39	13.38
Tangible book value (1)	18.32	16.31	13.28
Performance Ratios			
Return on average assets	1.96 %	2.03 %	0.85 %
Return on average equity	21.92	25.58	10.49
Net interest margin	3.87	3.86	3.03
Efficiency ratio (1)	55.57	50.55	69.10
Noninterest income to total revenue	42.09	35.06	30.17
Dividend payout ratio	2.99	3.10	8.20
Selected Loan Metrics			
Loans and leases originated	\$ 4,007,621	\$ 4,480,725	\$ 4,450,198
Outstanding balance of sold loans serviced	3,481,885	3,298,828	3,205,623
Asset Quality Ratios			
Allowance for credit losses to loans and leases held for investment (2)	1.41 %	1.30 %	1.21 %
Net charge-offs (2)	\$ 7,961	\$ 3,932	\$ 15,265
Net charge-offs to average loans and leases held for investment (2) (3)	0.14 %	0.08 %	0.44 %
Nonperforming loans and leases at historical cost (2) (4)			
Unguaranteed	\$ 18,784	\$ 15,987	\$ 20,078
Guaranteed	54,608	26,546	26,032
Total	73,392	42,533	46,110
Unguaranteed nonperforming historical cost loans and leases, to loans and leases held for investment (2) (4)	0.27 %	0.33 %	0.46 %
Nonperforming loans at fair value (5)			
Unguaranteed	\$ 6,678	\$ 4,791	\$ 5,387
Guaranteed	38,212	33,471	30,112
Total	44,890	38,262	35,499
Unguaranteed nonperforming fair value loans to loans held for investment (5)	1.35 %	0.74 %	0.66 %
Consolidated Capital Ratios			
Common equity tier 1 capital (to risk-weighted assets)	12.47 %	12.38 %	12.15 %
Tier 1 leverage capital (to average assets)	9.26	8.87	8.40

- (1) See "Non-GAAP Measures" presented at the conclusion of this Item 7 for more information and a reconciliation to the most closely related GAAP measure.
- (2) Loans and leases at historical cost only (excludes loans measured at fair value).
- (3) Annual net charge-offs as a percentage of annual average loans and leases held for investment.
- (4) The year ended December 31, 2020 excludes one \$6.1 million hotel loan classified as held for sale.
- (5) Loans accounted for under the fair value option only (excludes loans and leases carried at historical cost).

The following is a summary of the Company's financial highlights and events for 2022:

- Total assets were \$9.86 billion at December 31, 2022 and \$8.21 billion at December 31, 2021, a 20.0% increase. Asset growth was driven by significant deposit growth combined with gains from the sale of fintech investments, as discussed below, which was bolstered by substantial loan growth, investments and higher cash balances.
- Loans and leases held for sale and investment increased by \$1.26 billion, or 19.0%. Excluding PPP loans, total loans and leases increased \$1.51 billion, or 23.7%, to \$7.89 billion at the end of 2022. Total loan originations in 2022 were \$4.01 billion compared to \$4.48 billion in 2021. Excluding PPP loans, total 2022 originations increased by \$74.4 million, or 1.9%, compared to 2021.
- Total deposits increased by \$1.77 billion, or 24.9%, to \$8.88 billion at the end of 2022.
- Net income increased \$9.2 million, or 5.5%, from \$167.0 million, or \$3.71 per diluted share, to \$176.2 million, or \$3.92 per diluted share, with key drivers of higher levels of reported net income outlined more fully in the opening to the section titled “Results of Operations.”
- In a year of significant Federal Reserve rate increases, net interest margin remained resilient at 3.87% for 2022 as compared to 3.86% for 2021, with net interest income increasing by \$30.7 million, or 10.3%.
- Income from equity method and equity security investments increased \$104.6 million. This increase was driven by equity method investment income of \$149.2 million arising from gains related to the 2022 sales of the Company’s investments in Finxact, Inc. (“Finxact”) and Payrailz, LLC (“Payrailz”). Partially offsetting the increase in equity method income was a decrease in equity security investment gains related principally to the 2021 Greenlight Financial Technologies, Inc. (“Greenlight”) gain of \$44.1 million.
- Net gains on sales of loans decreased \$24.0 million, or 35.7%. This decrease was the result of weaker overall market conditions in 2022 making the sale of loans less profitable than retaining them for a longer period of time. The volume of guaranteed loans sold decreased \$87.6 million, or 13.1%, in 2022 as compared to 2021 while the average net gain on loan sale premium decreased from 110% to 105% in the same comparative periods, respectively.
- The provision for loan and lease losses increased \$25.7 million, largely the result of significant held for investment loan growth combined with charge-off experience impacts and changes in the macroeconomic outlook. Total nonperforming unguaranteed loans and leases as a percentage of total loans and leases held for investment decreased from 0.33% at the end of 2021 to 0.27% at the end of 2022. Net charge-offs as a percentage of average held for investment loans and leases carried at historical cost, for the years ended December 31, 2022 and 2021, were 0.14% and 0.08%, respectively.
- Salaries and employee benefits increased by \$45.9 million, or 36.7%, during 2022. Excluding special bonus accruals for fintech investment gains in 2022 and 2021, as discussed above, the year-over-year increase was \$39.4 million, or 32.6%. This increase was principally related to continued investment in human resources to support strategic and long term growth initiatives.

Business Outlook

Below is a discussion of management’s current expectations regarding Company performance over the near-term based on market conditions, the regulatory environment and business strategies as of the time the Company filed this Report. Actual outcomes and results may differ materially from what is expressed or forecasted in these forward-looking statements. See “Important Note Regarding Forward-Looking Statements” in this Report for more information on forward-looking statements.

The Company's results for 2022 demonstrated a continuation of solid growth momentum in building predictable long-term earnings, proactive credit risk management and continued investment into growth initiatives. In 2022, the Company recognized \$149.2 million in cash gains from fintech investments and \$95.9 million in additional capital to support future growth. Management continues to focus on building recurring revenue streams, promoting change within the financial technology industry, and building out selected existing verticals while adding new verticals to the Company's business model. Management anticipates that the Company's held-for-sale and held-for-investment loan portfolios will continue to grow as a result of healthy origination volumes and higher levels of loan retention that are intended to continue to promote long-term recurring revenue and profitability, including the continued pursuit of potential opportunities in conventional lending outside of SBA or other government guarantee programs.

Non-GAAP Financial Measures

Statements included in this management's discussion and analysis include non-GAAP financial measures and should be read along with the accompanying tables, which provide a reconciliation of non-GAAP financial measures to GAAP financial measures. The reconciliation of non-GAAP measures is presented at the conclusion of this Item 7.

Management believes that non-GAAP financial measures provide additional useful information that allows readers to evaluate the ongoing performance of the Company without regard to certain transactional activities. Non-GAAP financial measures should not be considered as an alternative to any measure of performance or financial condition as reported under GAAP, and investors should consider the Company's performance and financial condition as reported under GAAP and all other relevant information when assessing the performance or financial condition of the Company. Non-GAAP financial measures have limitations as analytical tools, and investors should not consider them in isolation or as a substitute for analysis of the Company's results or financial condition as reported under GAAP. Management's non-GAAP measures are not necessarily comparable to similar named measures represented by other companies, as they may be calculated differently.

Results of Operations

The Company reported net income of \$176.2 million, or \$3.92 per diluted share, for 2022 compared to \$167.0 million, or \$3.71 per diluted share, for 2021.

This increase in net income was primarily attributable to the following items:

- Equity method investments income increased \$146.0 million, due to a \$120.8 million gain related to the Company's sale of its investment in Finxact combined with a \$28.4 million gain related to the Company's sale of its investment in Payrailz in the second and third quarters of 2022, respectively;
- Increase in net interest income of \$30.7 million, or 10.3%, largely from increases in volume for the held for investment loan and lease portfolio. The growth in net interest income was mitigated by rising average cost of funds outpacing the average yield on interest earning assets combined with growth in interest bearing liabilities.
- A decrease in income tax expense of \$9.7 million, or 22.1%, primarily related to a higher level of tax credits in 2022.

Key factors partially offsetting the year-over-year increase in net income were:

- Decreased equity security investment gains of \$41.4 million, largely due to the Company's \$44.1 million second quarter of 2021 fair value gain from its investment in Greenlight;
- Provision for loan and lease credit losses increased \$25.7 million, or 169.2%, to \$40.9 million for 2022, compared to \$15.2 million for 2021. The level of provision expense in 2022 was primarily the result of loan growth, charge-off experience impacts, increased levels of loans classified as held for investment and changes in the macroeconomic outlook;
- Decreased net gains on sales of loans of \$24.0 million, or 35.7%, principally the result of weaker overall market conditions in 2022;

- An increase in noninterest expense of \$83.2 million, or 36.0%, comprised principally of increased salaries and employee benefits up \$45.9 million, or 36.7%, advertising and marketing expense up \$5.5 million, or 110.8%, technology expense up \$5.8 million, or 25.5%, contributions and donations up \$4.1 million, or 177.2%; and increased impairment charges \$13.0 million related to renewable energy tax credits.

Net Interest Income and Margin

Net interest income represents the difference between the income that the Company earns on interest-earning assets and the cost of interest-bearing liabilities. The Company's net interest income depends upon the volume of interest-earning assets and interest-bearing liabilities and the interest rates that the Company earns or pays on them, respectively. Net interest income is affected by changes in the amount and mix of interest-earning assets and interest-bearing liabilities, referred to as "volume changes." It is also affected by changes in yields earned on interest-earning assets and rates paid on interest-bearing deposits and other borrowed funds, referred to as "rate changes." As a bank without a branch network, the Bank gathers deposits over the Internet and in the community in which it is headquartered. Due to the nature of a branchless bank and the relatively low overhead required for deposit gathering, the rates the Bank offers are generally above the industry average.

For 2022, net interest income increased \$30.7 million, or 10.3%, to \$327.5 million compared to \$296.8 million for 2021. This increase was principally due to the significant growth in the held for investment loan and lease portfolio outpacing moderate growth in interest-bearing liabilities combined with an increase in average cost of funds which exceeded the increase in average yield on interest-earning assets. Excluding PPP loan impacts of \$7.0 million, comprised of amortization of net deferred fees combined with a 1% annualized interest rate less the related interest expense from funding activity, net interest income increased by \$75.1 million. Average interest-earning assets increased by \$776.3 million, or 10.1%, to \$8.46 billion for 2022, compared to \$7.68 billion for 2021, while the yield on average interest-earning assets increased fifty-five basis points to 5.25%. The cost of funds on interest-bearing liabilities for 2022 increased sixty basis points to 1.47%, and the average balance of interest-bearing liabilities increased by \$529.1 million, or 7.1%, over 2021. The increase in average interest-bearing liabilities was also largely driven by funding for significant loan originations and growth. This increase was muted by a \$884.7 million reduction in average borrowings largely related to Paycheck Protection Program Liquidity Facility, or PPPLF, repayments in 2022. As indicated in the rate/volume table below, the overall increase discussed above is reflected in increased interest income of \$83.2 million as compared to an increase in interest expense of \$52.5 million for 2022 compared to 2021. For 2021 compared to 2022, net interest margin increased from 3.86% to 3.87%.

During 2022 and through February of 2023, the Federal Reserve increased the federal funds upper target rate by 425 basis points and 25 basis points, respectively, to 4.75%. In the Federal Reserve's February 2023 press release it stated that it anticipates that ongoing increases to target range will be appropriate. In December 2022, the Federal Reserve released its most current federal funds target rate midpoint projections which implied an increase of the median Federal Funds rate to 5.1% by the end of 2023 and a decrease of approximately 100 basis points to 4.1% by the end of 2024. There can be no assurance that any further increases in the federal funds rate will occur, and if they do, the amount and timing of actual increases are subject to change. See Item 7A. Quantitative and Qualitative Disclosures About Market Risk for information about the Company's sensitivity to interest rates.

Average Balances and Yields. The following table presents information regarding average balances for assets and liabilities, the total dollar amounts of interest income and dividends from average interest-earning assets, the total dollar amount of interest expense on average interest-bearing liabilities, and the resulting average yields and costs. The yields and costs for the periods indicated are derived by dividing the income or expense by the average balances for assets or liabilities, respectively, for the periods presented. Loan fees are included in interest income on loans.

	2022			2021			2020		
	Average Balance	Interest	Average Yield/Rate	Average Balance	Interest	Average Yield/Rate	Average Balance	Interest	Average Yield/Rate
Interest-earning assets:									
Interest-earning balances in other banks	\$ 228,866	\$ 3,465	1.51 %	\$ 407,474	\$ 920	0.23 %	\$ 453,260	\$ 2,346	0.52 %
Federal funds sold	109,473	2,796	2.55	18,714	22	0.12	68,873	276	0.40
Investment securities	995,481	19,667	1.98	797,426	12,533	1.57	643,023	15,016	2.34
Loans held for sale	952,606	58,943	6.19	1,111,216	60,044	5.40	1,064,731	58,793	5.52
Loans and leases held for investment ⁽¹⁾	6,174,763	359,602	5.82	5,350,055	287,694	5.38	4,206,539	211,977	5.04
Total interest-earning assets	8,461,189	444,473	5.25	7,684,885	361,213	4.70	6,436,426	288,408	4.48
Less: Allowance for credit losses on loans and leases	(67,234)			(54,975)			(37,839)		
Noninterest-earning assets	576,524			592,237			615,455		
Total assets	<u>\$ 8,970,479</u>			<u>\$ 8,222,147</u>			<u>\$ 7,014,042</u>		
Interest-bearing liabilities:									
Interest-bearing checking	\$ —	\$ —	— %	\$ 76,714	\$ 442	0.58 %	\$ 318,667	\$ 1,853	0.58 %
Savings	3,903,151	57,740	1.48	3,077,933	16,667	0.54	1,531,680	16,558	1.08
Money market accounts	100,684	303	0.30	103,078	300	0.29	87,050	345	0.40
Certificates of deposit	3,849,203	56,992	1.48	3,181,591	42,331	1.33	3,373,012	70,970	2.10
Total deposits	7,853,038	115,035	1.46	6,439,316	59,740	0.92	5,310,409	89,726	1.67
Other borrowings	122,946	1,937	1.58	1,007,596	4,688	0.47	1,033,744	3,959	0.38
Total interest-bearing liabilities	7,975,984	116,972	1.47	7,446,912	64,428	0.87	6,344,153	93,685	1.48
Noninterest-bearing deposits	125,062			77,104			47,655		
Noninterest-bearing liabilities	65,619			45,424			54,604		
Shareholders' equity	803,814			652,707			567,630		
Total liabilities and shareholders' equity	<u>\$ 8,970,479</u>			<u>\$ 8,222,147</u>			<u>\$ 7,014,042</u>		
Net interest income and interest rate spread		<u>\$ 327,501</u>	<u>3.78 %</u>		<u>\$ 296,785</u>	<u>3.83 %</u>		<u>\$ 194,723</u>	<u>3.00 %</u>
Net interest margin			<u>3.87 %</u>			<u>3.86 %</u>			<u>3.03 %</u>
Ratio of average interest-earning assets to average interest-bearing liabilities			<u>106.08 %</u>			<u>103.20 %</u>			<u>101.45 %</u>

(1) Average loan and lease balances include non-accruing loans and leases.

Rate/Volume Analysis. The following table sets forth the effects of changing rates and volumes on net interest income. The rate column shows the effects attributable to changes in rate (changes in rate multiplied by prior period volume). The volume column shows the effects attributable to changes in volume (changes in volume multiplied by prior period rate). The total column represents the sum of the prior columns. For purposes of this table, changes attributable to changes in both rate and volume that cannot be segregated have been allocated proportionally based on the changes due to rate and the changes due to volume.

	2022 vs. 2021			2021 vs. 2020		
	Increase (Decrease) Due to			Increase (Decrease) Due to		
	Rate	Volume	Total	Rate	Volume	Total
Interest income:						
Interest-earning balances in other banks	\$ 4,099	\$ (1,554)	\$ 2,545	\$ (1,256)	\$ (170)	\$ (1,426)
Federal funds sold	1,562	1,212	2,774	(124)	(130)	(254)
Investment securities	3,621	3,513	7,134	(5,499)	3,016	(2,483)
Loans held for sale	8,091	(9,192)	(1,101)	(1,288)	2,539	1,251
Loans and leases held for investment	25,720	46,188	71,908	16,159	59,558	75,717
Total interest income	43,093	40,167	83,260	7,992	64,813	72,805
Interest expense:						
Interest-bearing checking	—	(442)	(442)	(11)	(1,400)	(1,411)
Savings	32,735	8,338	41,073	(12,435)	12,544	109
Money market accounts	10	(7)	3	(100)	55	(45)
Certificates of deposit	5,277	9,384	14,661	(25,352)	(3,287)	(28,639)
Other borrowings	6,276	(9,027)	(2,751)	840	(111)	729
Total interest expense	44,298	8,246	52,544	(37,058)	7,801	(29,257)
Net interest income	\$ (1,205)	\$ 31,921	\$ 30,716	\$ 45,050	\$ 57,012	\$ 102,062

Provision for Loan and Lease Credit Losses

The provision for loan and lease credit losses represents the amount necessary to be charged against the current period's earnings to maintain the allowance for credit losses ("ACL") on loans and leases at a level that the Company believes is appropriate in relation to the estimated losses inherent in the loan and lease portfolio.

Losses inherent in loan relationships are mitigated if a portion of the loan is guaranteed by the SBA or USDA. Typical SBA 7(a) and USDA guarantees range from 50% to 90% depending on loan size and type, which serve to reduce the risk profile of these loans. The Company believes that its focus on compliance with regulations and guidance from the SBA and USDA are key factors to managing this risk.

For 2022, the provision for loan and lease credit losses was \$40.9 million compared to \$15.2 million in 2021, an increase of \$25.7 million. The 2022 increase in provision was primarily the result of loan growth, charge-off experience impacts, increased levels of loans classified as held for investment and changes in the macroeconomic outlook.

Loans and leases held for investment at historical cost were \$6.85 billion as of December 31, 2022, an increase of \$1.97 billion, or 40.5%, compared to December 31, 2021. Excluding PPP loans and net unearned fees on those loans, the balance in loans and leases held for investment at historical cost was \$6.84 billion at December 31, 2022, an increase of \$2.22 billion, or 48.2%, over December 31, 2021.

Net charge-offs for loans and leases carried at historical cost were \$8.0 million, or 0.14% of average loans and leases held for investment, carried at historical cost, for 2022, compared to net charge-offs of \$3.9 million, or 0.08%, for 2021, an increase of \$4.0 million, or 102.5%. The increase in net charge-offs for 2022 was anticipated following the expiration of government subsidies and the return to expected losses consistent with pre-Covid historical experience. Net charge-offs are a key element of historical experience in the Company's estimation of the allowance for credit losses on loans and leases.

In addition, nonperforming loans and leases not guaranteed by the SBA or USDA, excluding \$6.7 million and \$4.8 million accounted for under the fair value option at December 31, 2022 and 2021, respectively, totaled \$18.8 million, which was 0.27% of the held for investment loan and lease portfolio carried at historical cost at December 31, 2022, compared to \$16.0 million, or 0.33% of loans and leases held for investment carried at historical cost at December 31, 2021. Nonperforming loans and leases carried at historical cost which are not guaranteed by the SBA or USDA were 0.27% and 0.35% of the historical cost portion of the held for investment loan and lease portfolio, excluding PPP loans, at December 31, 2022 and 2021, respectively.

Noninterest Income

Noninterest income is principally comprised of net gains from the sale of SBA and USDA-guaranteed loans along with servicing revenue and related revaluation of the servicing asset. Revenue from the sale of loans depends upon the volume, maturity structure and rates of underlying loans as well as the pricing and availability of funds in the secondary markets prevailing in the period between completed loan funding and closing of sale. In addition, the loan servicing revaluation is significantly impacted by changes in market rates and other underlying assumptions such as prepayment speeds and default rates. Net gain (loss) on loans accounted for under the fair value option is also significantly impacted by changes in market rates, prepayment speeds and inherent credit risk. Other less consistent elements of noninterest income include gains and losses on investments.

The following table shows the components of noninterest income and the dollar and percentage changes for the periods presented.

	Years Ended December 31,			2021/2022 Increase (Decrease)		2020/2021 Increase (Decrease)	
	2022	2021	2020	Amount	Percent	Amount	Percent
Noninterest income							
Loan servicing revenue	\$ 25,359	\$ 25,219	\$ 26,600	\$ 140	0.56 %	\$ (1,381)	(5.19) %
Loan servicing asset revaluation	(16,577)	(11,726)	(9,958)	(4,851)	(41.37)	(1,768)	(17.75)
Net gains on sales of loans	43,244	67,280	49,473	(24,036)	(35.73)	17,807	35.99
Net gain (loss) on loans accounted for under the fair value option	1,046	4,257	(13,083)	(3,211)	(75.43)	17,340	132.54
Equity method investments income (loss)	144,250	(1,716)	(14,691)	145,966	8,506.18	12,975	88.32
Equity security investments gains (losses), net	3,355	44,752	14,909	(41,397)	(92.50)	29,843	200.17
Gain on sale of investment securities available-for-sale, net	—	—	1,880	—	—	(1,880)	(100.00)
Lease income	10,084	10,263	10,508	(179)	(1.74)	(245)	(2.33)
Management fee income	10,090	6,378	6,352	3,712	58.20	26	0.41
Other noninterest income	17,141	15,493	14,010	1,648	10.64	1,483	10.59
Total noninterest income	\$ 237,992	\$ 160,200	\$ 86,000	\$ 77,792	48.56 %	\$ 74,200	86.28 %

Years ended December 31, 2022 vs. 2021

For 2022, noninterest income increased by \$77.8 million, or 48.6%, compared to 2021. The increase from the prior year is primarily the result of an increase in equity method investment income of \$146.0 million, due to a \$120.8 million gain related to the Company's sale of its investment in Finxact combined with a \$28.4 million gain related to the Company's sale of its investment in Payrailz in the second and third quarters of 2022, respectively. Partially offsetting this increase is decreased equity security investment gains, largely due to the Company's \$44.1 million second quarter 2021 fair value gain from its investment in Greenlight combined with decreased net gains on sales of loans of \$24.0 million and higher losses on loan servicing asset revaluation of \$4.9 million.

The tables below reflect loan and lease production, sales of guaranteed loans and the aggregate balance in guaranteed loans sold that are being serviced. These components are key drivers of the Company's noninterest income.

	Three months ended December 31,		Three months ended September 30,		Three months ended June 30,		Three months ended March 31,	
	2022	2021	2022	2021	2022	2021	2022	2021
Amount of loans and leases originated	\$1,177,688	\$1,083,623	\$1,005,235	\$1,063,190	\$ 959,635	\$1,153,693	\$ 865,063	\$1,180,219
Guaranteed portions of loans sold	144,258	198,954	148,110	201,903	68,818	130,858	219,703	136,747
Outstanding balance of guaranteed loans sold ⁽¹⁾	2,668,110	2,756,915	2,671,705	2,731,031	2,681,079	2,694,931	2,786,403	2,843,963

	Years ended December 31,				
	2022	2021	2020	2019	2018
Amount of loans and leases originated	\$ 4,007,621	\$ 4,480,725	\$ 4,450,198	\$ 2,001,886	\$ 1,765,680
Guaranteed portions of loans sold	580,889	668,462	542,596	340,374	945,178
Outstanding balance of guaranteed loans sold ⁽¹⁾	2,668,110	2,756,915	2,819,625	2,746,480	3,045,460

- (1) This represents the outstanding principal balance of guaranteed loans serviced, as of the last day of the applicable period, which have been sold into the secondary market.

Changes in various components of noninterest income are discussed in more detail below.

Loan Servicing Asset Revaluation: The Company revalues its serviced loan portfolio at least quarterly. The valuation model incorporates assumptions that market participants would use in estimating future net servicing income, such as adequate compensation for servicing, the discount rate, the custodial earnings rate, an inflation rate, ancillary income, prepayment speeds and default rates and losses. For 2022, there was a negative loan servicing revaluation adjustment of \$16.6 million compared to \$11.7 million for 2021, an increase in expense of \$4.9 million, or 41.4%. The decrease in the valuation of the servicing asset was principally due to negative market conditions in 2022.

In consideration of the sensitivity of servicing rights as discussed above and in Note 5 to the accompanying audited consolidated financial statements, the following table is provided to reflect the effect on fair value as of December 31, 2022 due to hypothetical changes in yield curve rates.

Change in Yield Curve Assumption	Incremental Increase (Decrease) in Value
+300 basis point	(\$2,649)
+200 basis point	(1,833)
+100 basis point	(954)
- 100 basis point	1,038

Net Gains on Sales of Loans: For 2022, net gains on sales of loans decreased \$24.0 million, or 35.7%, compared to 2021. The volume of guaranteed loans sold decreased \$87.6 million, or 13.1%, to \$580.9 million from \$668.5 million in 2021. The average net gain on loan sale premium decreased from 110% to 105% in 2021 and 2022, respectively. The decrease in net gains on sales of loans was principally the result of lower loan sales volume combined with negative market conditions beginning to materialize in 2022, as discussed above. Accordingly, these market trends influenced the Company's appetite for loan sales during periods of weaker premiums in the current year.

Net Gain (Loss) on Loans Accounted for Under the Fair Value Option: For 2022, the net gain on loans accounted for under the fair value option decreased \$3.2 million, or 75.4%, compared to 2021. The carrying amount of loans accounted for under the fair value option at December 31, 2022 and 2021 was \$494.5 million (all classified as held for investment) and \$670.5 million (\$25.3 million classified as held for sale and \$645.2 million classified as held for investment), respectively, a decrease of \$176.1 million, or 26.3%. The lower net gain on loans accounted for under the fair value option during 2022 was principally the result of the earlier discussed negative market conditions combined with the continued amortization of the underlying loan portfolio.

Noninterest Expense

Noninterest expense comprises all operating costs of the Company, such as employee-related costs, travel, professional services, advertising and marketing expenses, exclusive of interest and income tax expense.

The following table shows the components of noninterest expense and the related dollar and percentage changes for the periods presented.

	Years Ended December 31,			2021/2022 Increase (Decrease)		2020/2021 Increase (Decrease)	
	2022	2021	2020	Amount	Percent	Amount	Percent
Noninterest expense							
Salaries and employee benefits	\$ 170,822	\$ 124,932	\$ 112,525	\$ 45,890	36.73 %	\$ 12,407	11.03 %
Non-employee expenses:							
Travel expense	8,499	5,809	3,451	2,690	46.31	2,358	68.33
Professional services expense	11,737	15,135	6,359	(3,398)	(22.45)	8,776	138.01
Advertising and marketing expense	10,543	5,002	3,510	5,541	110.78	1,492	42.51
Occupancy expense	11,088	8,423	8,757	2,665	31.64	(334)	(3.81)
Technology expense	28,434	22,648	15,681	5,786	25.55	6,967	44.43
Equipment expense	15,120	14,869	15,394	251	1.69	(525)	(3.41)
Other loan origination and maintenance expense	13,168	13,529	10,790	(361)	(2.67)	2,739	25.38
Renewable energy tax credit investment impairment	16,217	3,187	—	13,030	408.85	3,187	100.00
FDIC insurance	9,756	7,070	7,473	2,686	37.99	(403)	(5.39)
Contributions and donations	6,462	2,331	1,238	4,131	177.22	1,093	88.29
Other expense	12,380	8,052	7,498	4,328	53.75	554	7.39
Total non-employee expenses	143,404	106,055	80,151	37,349	35.22	25,904	32.32
Total noninterest expense	\$ 314,226	\$ 230,987	\$ 192,676	\$ 83,239	36.04 %	\$ 38,311	19.88 %

Total noninterest expense for 2022 increased \$83.2 million, or 36.0%, compared to 2021. The increase in noninterest expense was predominately driven by the following items.

Salaries and employee benefits: Total personnel expense for 2022 increased by \$45.9 million, or 36.7%, compared to 2021. The increase in salaries and employee benefits was principally related to continued investment in human resources to support strategic and growth initiatives. Additional bonus accruals of \$7.5 million and \$3.0 million were included in both the second and third quarters of 2022 related to the earlier discussed Finxact and Payrailz gains, respectively, while the second quarter of 2021 included an additional \$4.0 million bonus accrual, related to the earlier mentioned Greenlight gain. Total full-time equivalent employees increased from 794 at December 31, 2021 to 970 at December 31, 2022. Salaries and employee benefits expense included \$20.3 million of stock-based compensation for 2022, compared to \$16.9 million for 2021. Expenses related to the employee stock purchase program, stock grants, stock option compensation and restricted stock expense are all considered stock-based compensation.

Travel expense: Travel expense increased \$2.7 million, or 46.3%. Travel expenses increased primarily to support the growth in loan origination volume and customer base as travel restrictions have eased combined with inflationary impacts on travel related costs.

Professional services expense: Professional services expense decreased \$3.4 million, or 22.5%, compared to 2021. The decrease compared to the prior period was largely driven by lower legal fees.

Advertising and marketing expense: Advertising and marketing expense increased \$5.5 million, or 110.8%, compared to 2021. Increases were largely driven by as a continued investment in the Company's lending and deposit market growth.

Technology expense: Technology expense increased \$5.8 million, or 25.5%, compared to 2021. This increase was primarily related to enhanced investments in the Company's technology resources.

Renewable energy tax credit investment impairment: The Company recognized \$16.1 million in impairment charges related to new renewable energy tax credit investment transactions in 2022 as compared to \$3.1 million in 2021. Investments of this type generate a return primarily through the realization of income tax credits and other benefits; accordingly, impairment of the investment amount is generally recognized in conjunction with the realization of related tax benefits. These investments generated federal investment tax credits in 2022 and 2021 of \$16.4 million and \$3.4 million, respectively, which are included in the Company's effective tax rates.

Contributions and donations: For 2022, contributions and donations expense increased \$4.1 million, or 177.2%, compared to 2021. This increase was related to a special charitable donation during the second quarter of 2022 of \$5.0 million made in connection with the earlier discussed Finxact gain.

Income Tax Expense

Income tax expense and related effective tax rate in 2022 was \$34.1 million and 16.2% compared to \$43.8 million and 20.8% in 2021. The lower effective tax rate of 16.2% for 2022 was principally due to higher levels of tax credits related to renewable energy tax credit transactions, as discussed above.

Results of Segment Operations

The Company's operations are managed along two primary operating segments: Banking and Fintech. A description of each segment and the methodologies used to measure financial performance is described in Note 16. Segments in the accompanying notes to the consolidated financial statements. Net income (loss) by operating segment is presented below:

	Years ended December 31,		
	2022	2021	2020
Banking	\$ 71,937	\$ 145,662	\$ 57,462
Fintech	109,692	27,667	(1,932)
Other	(5,421)	(6,334)	4,013
Consolidated net income	<u>\$ 176,208</u>	<u>\$ 166,995</u>	<u>\$ 59,543</u>

Banking

Net income decreased \$73.7 million, or 50.6%, compared to 2021. Key factors influencing this decrease are discussed below.

The provision for loan and lease credit losses for 2022, increased \$25.7 million, or 169.2%, over 2021. See the analysis of provision for loan and lease credit losses included in the above section captioned "Provision for Loan and Lease Credit Losses" as it is entirely related to the Banking segment.

Noninterest income decreased \$33.8 million, or 29.6%, over 2021. The decrease was principally driven by a decrease in net gains on sales of loans combined with an increase of losses in loan servicing asset revaluation and decrease in net gain arising from loans accounted for under the fair value option. See the analysis of these categories of noninterest income included in the above section captioned "Noninterest Income" for additional discussion.

Noninterest expense increased \$81.1 million, or 37.6%, compared to 2021. See the analysis of these categories of noninterest expense included in the above section captioned "Noninterest Expense" for additional discussion.

Partially offsetting the above elements which reduced income was an increase in net interest income of \$31.1 million, or 10.4%, and lower income tax expense of \$35.8 million, compared to 2021. See the analysis of net interest income included in the above section captioned “Net Interest Income and Margin,” as it is predominantly related to the Banking segment. The decrease in income tax expense relative to the Bank is primarily the result of a lower level of pretax income combined with higher levels of investment tax credits related to renewable energy investment transactions.

Fintech

Net income increased by \$82.0 million over 2021. The increase was principally due to equity method investment gains of \$28.4 million and \$120.8 million from the sale of Payrailz and Finxact, respectively. This increase was partially offset by decreased equity security investment gains of \$41.4 million, largely a result of the 2021 gain of \$44.1 million arising from the Company’s investment in Greenlight.

Income tax expense increased \$25.7 million, compared to 2021. This increase is a product of the above discussed increase in Fintech segment income.

Discussion and Analysis of Financial Condition

Total assets at December 31, 2022 were \$9.86 billion, an increase of \$1.64 billion, or 20.0%, compared to total assets of \$8.21 billion at December 31, 2021. The growth in total assets was principally driven by the following:

- Cash and cash equivalents, comprised of cash and due from banks and federal funds sold, combined with investment securities available-for-sale was \$1.43 billion at December 31, 2022, an increase of \$321.6 million, or 29.0%, compared to \$1.11 billion at December 31, 2021. This increase was primarily due to proceeds arising from the Payrailz and Finxact sales combined with growing deposit levels.
- Growth in total loans and leases held for investment and held for sale of \$1.26 billion resulting from strong origination activity in 2022 and holding loans available for sale for longer periods of time before sale, as discussed more fully below. Total originations during 2022 were \$4.00 billion.

Loans held for sale decreased \$561.9 million, or 50.3%, during 2022, from \$1.12 billion at December 31, 2021, to \$554.6 million at December 31, 2022. This decrease was primarily the result of a \$754.7 million transfer of loans, including \$696.6 million in guaranteed loans, from held for sale to held for investment in the third quarter of 2022. This transfer was largely due to the impact of market conditions in a rising rate environment influencing management's intent and ability to hold these loans for the foreseeable future. See “Results of Operations” discussion of “Net Gains on Sales of Loans” for additional information influencing managements intent to hold more loans for investment.

Loans and leases held for investment increased \$1.82 billion, or 33.0%, during 2022, from \$5.52 billion at December 31, 2021, to \$7.34 billion at December 31, 2022. The increase was primarily the result of the above-mentioned loan originations in 2022 combined with increased levels of loans retained as held for investment. Excluding PPP loans, total loans and leases held for investment increased \$2.07 billion, or 39.4%, during 2022. All PPP loans are classified as held for investment and were \$12.9 million at December 31, 2022.

Total deposits were \$8.88 billion at December 31, 2022, an increase of \$1.77 billion, or 24.9%, from \$7.11 billion at December 31, 2021. The increase in deposits was largely driven by significant loan origination efforts.

Borrowings decreased to \$83.2 million at December 31, 2022 from \$318.3 million at December 31, 2021. This decrease was related principally to net curtailments of borrowings through the PPPLF which was paid off in the third quarter of 2022. These PPPLF borrowings are used to help fund PPP loans.

Shareholders’ equity at December 31, 2022 was \$811.0 million as compared to \$715.1 million at December 31, 2021. The book value per share was \$18.41 at December 31, 2022 compared to \$16.39 at December 31, 2021. Average equity to average assets was 9.0% for the year ended December 31, 2022 compared to 7.9% for the year ended December 31, 2021. The increase in shareholders’ equity for 2022 was principally the result of \$176.2 million in net income and stock-based compensation expense of \$20.3 million, partially offset by other comprehensive loss associated with negative market impacts on the Company’s available-for-sale investment portfolio of \$94.2 million.

Loans Held for Sale & Serviced Portfolio

Any loan or portion of a loan that the Company has the intent and ability to sell is classified as held for sale. The average age of the held for sale portfolio as of December 31, 2022 was 12.1 months from origination date. Approximately 14.8% of the current held for sale portfolio is older than two years. The majority of held for sale loans over one year old are composed of construction loans. Construction loans typically have extended build out periods that inherently result in longer lead times between origination and the ultimate sale date. Approximately 34.7% of the held for sale portfolio is aged between one and two years.

As of December 31, 2022 and 2021, the cumulative total outstanding balance of loans sold since May 2007 totaled \$3.48 billion and \$3.30 billion, respectively. The Company generally continues to service loans after the date of sale. As of December 31, 2022 and 2021, the total outstanding balance of loans and leases, including those serviced for others, was \$11.38 billion and \$9.96 billion, respectively.

Loan and Lease Maturity

As of December 31, 2022, \$9.06 billion, or 79.6%, of the total outstanding balance of loans and leases, including those at fair value and those serviced for others, were variable rate loans that adjust at specified dates based on the prime lending rate or other variable indices. As of December 31, 2022, \$4.82 billion, or 42.3%, of total outstanding balance of loans and leases, including those at fair value and those serviced for others, were variable rate loans that adjust on either a calendar monthly or calendar quarterly basis using the prime lending rate or other variable indices.

At December 31, 2022, 81.6%, or \$6.44 billion, of the combined held for sale and held for investment loan and lease portfolio, including those at fair value, were composed of variable rate loans.

At December 31, 2022, \$1.87 billion, or 25.5%, of loans held for investment, including those at fair value, matures in less than five years. Loans and leases maturing in greater than five years total \$5.48 billion of the total \$7.35 billion. The variable rate portion of the total held for investment loans and leases, excluding PPP loans, is 80.4%, which reflects the Company's strategy to minimize interest rate risk through the use of variable rate products.

At December 31, 2022					
Remaining Contractual Maturity of Total Held for Investment Loans and Leases					
	One Year or Less	After One Year and Through Five Years	After Five Years and Through Fifteen Years	After Fifteen Years	Total ⁽¹⁾
Fixed rate loans and leases:					
Commercial & Industrial					
Small Business Banking	\$ 2,762	\$ 34,113	\$ 222,948	\$ 4,920	\$ 264,743
Specialty Lending	5,031	218,806	85,434	—	309,271
Energy & Infrastructure	—	529	43,030	101,504	145,063
Paycheck Protection Program	96	12,189	849	—	13,134
Total	7,889	265,637	352,261	106,424	732,211
Construction & Development					
Small Business Banking	3,270	5,315	18,309	21,280	48,174
Total	3,270	5,315	18,309	21,280	48,174
Commercial Real Estate					
Small Business Banking	6,188	61,988	42,575	137,082	247,833
Specialty Lending	9,993	58,385	1,168	5,201	74,747
Energy & Infrastructure	—	15,094	11,183	—	26,277
Total	16,181	135,467	54,926	142,283	348,857
Commercial Land					
Small Business Banking	541	174,418	73,452	74,222	322,633
Total	541	174,418	73,452	74,222	322,633
Total fixed rate loans and leases	27,881	580,837	498,948	344,209	1,451,875
Variable rate loans and leases:					
Commercial & Industrial					
Small Business Banking	26,811	101,362	1,447,415	98,992	1,674,580
Specialty Lending	91,982	438,367	207,692	5,052	743,093
Energy & Infrastructure	116,403	15,207	78,896	118,054	328,560
Total	235,196	554,936	1,734,003	222,098	2,746,233
Construction & Development					
Small Business Banking	8,513	8,844	20,859	386,353	424,569
Specialty Lending	—	104,069	—	—	104,069
Energy & Infrastructure	419	13,334	—	—	13,753
Total	8,932	126,247	20,859	386,353	542,391
Commercial Real Estate					
Small Business Banking	37,635	50,598	306,817	1,678,593	2,073,643
Specialty Lending	15,391	212,413	13,871	5,046	246,721
Energy & Infrastructure	7,646	11,778	33,293	82,907	135,624
Total	60,672	274,789	353,981	1,766,546	2,455,988
Commercial Land					
Small Business Banking	15	2,881	53,709	95,520	152,125
Total	15	2,881	53,709	95,520	152,125
Total variable rate loans and leases	304,815	958,853	2,162,552	2,470,517	5,896,737
Total held for investment loans and leases	\$ 332,696	\$ 1,539,690	\$ 2,661,500	\$ 2,814,726	\$ 7,348,612

(1) Excludes net deferred (fees) costs

Asset Quality

Management considers asset quality to be of primary importance. A formal loan review function, independent of loan origination, is used to identify and monitor problem loans. This function reports directly to the Audit & Risk Committee of the Board of Directors.

Nonperforming Assets

The Bank places loans and leases on nonaccrual status when they become 90 days past due as to principal or interest payments, or prior to that if management has determined based upon current information available to them that the timely collection of principal or interest is not probable. When a loan or lease is placed on nonaccrual status, any interest previously accrued as income but not actually collected is reversed and recorded as a reduction of loan or lease interest and fee income. Typically, collections of interest and principal received on a nonaccrual loan or lease are applied to the outstanding principal as determined at the time of collection of the loan or lease.

Troubled debt restructurings (“TDRs”) occur when, because of economic or legal reasons pertaining to the debtor’s financial difficulties, debtors are granted concessions that would not otherwise be considered. Such concessions would include, but are not limited to, the transfer of assets or the issuance of equity interests by the debtor to satisfy all or part of the debt, modification of the terms of debt or the substitution or addition of debtor(s).

Nonperforming assets and TDRs, excluding loans measured at fair value, at December 31, 2022 were \$134.9 million, which represented a \$54.7 million, or 68.2%, increase from December 31, 2021. These nonperforming assets, at December 31, 2022 were comprised of \$73.4 million in nonaccrual loans and leases. At December 31, 2022, there were no foreclosed assets. Of the \$134.9 million of nonperforming assets and TDRs, \$75.1 million carried an SBA guarantee, leaving an unguaranteed exposure of \$59.8 million in total nonperforming assets and TDRs at December 31, 2022. This represents an increase of \$22.8 million, or 61.7%, from an unguaranteed exposure of \$37.0 million at December 31, 2021.

The following table provides information with respect to nonperforming assets and troubled debt restructurings, excluding loans measured at fair value, at the dates indicated.

	2022 ⁽¹⁾	2021 ⁽¹⁾
Nonaccrual loans and leases:		
Total nonperforming loans and leases (all on nonaccrual)	\$ 73,392	\$ 42,533
Total accruing loans and leases past due 90 days or more	—	—
Foreclosed assets	—	620
Total troubled debt restructurings	80,604	55,273
Less nonaccrual troubled debt restructurings	(19,054)	(18,210)
Total performing troubled debt restructuring	61,550	37,063
Total nonperforming assets and troubled debt restructurings	\$ 134,942	\$ 80,216
Allowance for credit losses on loans and leases	\$ 96,566	\$ 63,584
Total nonperforming loans and leases to total loans and leases held for investment	1.07 %	0.87 %
Total nonperforming loans and leases to total assets	0.78 %	0.56 %
Total nonperforming assets and troubled debt restructurings to total assets	1.44 %	1.06 %
Allowance for credit losses on loans and leases to loans and leases held for investment	1.41 %	1.30 %
Allowance for credit losses on loans and leases to total nonperforming loans and leases	131.58 %	149.49 %

(1) Excludes loans measured at fair value.

	2022 ⁽¹⁾	2021 ⁽¹⁾
Nonaccrual loans and leases guaranteed by U.S. government:		
Total nonperforming loans and leases guaranteed by the U.S. government (all on nonaccrual)	\$ 54,608	\$ 26,546
Total accruing loans and leases past due 90 days or more guaranteed by the U.S. government	—	—
Foreclosed assets guaranteed by the U.S. government	—	490
Total troubled debt restructurings guaranteed by the U.S. government	35,465	26,954
Less nonaccrual troubled debt restructurings guaranteed by the U.S. government	(14,944)	(10,770)
Total performing troubled debt restructurings guaranteed by U.S. government	20,521	16,184
Total nonperforming assets and troubled debt restructurings guaranteed by the U.S. government	\$ 75,129	\$ 43,220
Allowance for credit losses on loans and leases	\$ 96,566	\$ 63,584
Total nonperforming loans and leases not guaranteed by the U.S. government to total held for investment loans and leases	0.27 %	0.33 %
Total nonperforming loans and leases not guaranteed by the U.S. government to total assets	0.20 %	0.21 %
Total nonperforming assets and troubled debt restructurings not guaranteed by the U.S. government to total assets	0.64 %	0.49 %
Allowance for credit losses on loans and leases to total nonperforming loans and leases not guaranteed by the U.S. government	514.09 %	397.73 %

(1) Excludes loans measured at fair value.

Total nonperforming assets and troubled debt restructurings, including loans measured at fair value, at December 31, 2022 were \$208.3 million, which represented a \$54.8 million, or 35.7%, increase from December 31, 2021. These nonperforming assets, at December 31, 2022 were comprised of \$120.4 million in nonaccrual loans and leases. Of the \$208.3 million of nonperforming assets and TDRs, \$134.1 million carried an SBA guarantee, leaving an unguaranteed exposure of \$74.2 million in total nonperforming assets and TDRs at December 31, 2022. This represents an increase of \$21.7 million, or 41.4%, from an unguaranteed exposure of \$52.5 million at December 31, 2021.

See the below discussion related to the change in potential problem and impaired loans and leases for management's overall observations regarding the change in total nonperforming loans and leases.

As a percentage of the Bank's total capital, nonperforming loans and leases, excluding loans measured at fair value, represented 9.0% at December 31, 2022, compared to 6.0% at December 31, 2021. Adjusting the ratio to include only the unguaranteed portion of nonperforming loans and leases at historical cost to reflect management's belief that the greater magnitude of risk resides in this portion, the ratio at both December 31, 2022 and December 31, 2021 was 2.3%.

As of December 31, 2022, and December 31, 2021, potential problem (also referred to as criticized) and classified loans and leases, excluding loans measured at fair value, totaled \$424.7 million and \$372.7 million, respectively. The following is a discussion of these loans and leases. Risk Grades 5 through 8 represent the spectrum of criticized and classified loans and leases. For a complete description of the risk grading system, see “Credit Quality Indicators” in Note 3 to the notes to consolidated financial statements. At December 31, 2022, the portion of criticized and classified loans and leases guaranteed by the SBA or USDA totaled \$195.8 million and total portfolio unguaranteed exposure risk was \$228.9 million, or 5.5% of total held for investment unguaranteed exposure carried at historical cost. This compares to the December 31, 2021 portion of criticized and classified loans and leases guaranteed by the SBA or USDA which totaled \$197.2 million and total portfolio unguaranteed exposure risk was \$175.5 million, or 6.3% of total held for investment unguaranteed exposure carried at historical cost. As of December 31, 2022, loans and leases carried at historical cost within the following verticals comprise the largest portion of the total potential problem and classified loans and leases: Wine and Craft Beverage at 11.5%, General Lending at 10.3%, Senior Housing at 10.2%, Sponsor Finance at 7.8%, Healthcare at 6.4%, Hotels at 5.9%, Fitness Centers at 5.1%, Agriculture at 4.5% and Senior Care at 4.0%. As of December 31, 2021, loans and leases carried at historical cost within the following verticals comprise the largest portion of the total potential problem and classified loans and leases: Educational Services at 16.1%, Wine and Craft Beverage at 13.7%, Hotels at 11.8%, Entertainment Centers at 10.4%, Healthcare at 9.0%, Fitness Centers at 5.3%, Self-Storage at 4.8%, Agriculture at 4.5% and Veterinary at 4.4%. Of the above listed verticals, Senior Housing and Sponsor Finance is within the Company’s Specialty Lending division while Hotels are within the Energy & Infrastructure division, the remainder of the above listed verticals are within the Small Business Banking division. The majority of the \$52.0 million increase in potential problem and classified loans and leases in 2022 was comprised of several relationships that did not have a government guarantee, largely related to some of the more recently matured verticals. The Company believes that its underwriting and credit quality standards have remained high and continues to consider changing economic conditions in a rising interest rate environment.

Loans and leases that experience insignificant payment delays and payment shortfalls are generally not individually evaluated for the purpose of estimating the allowance for credit losses. The Bank generally considers an “insignificant period of time” from payment delays to be a period of 90 days or less. The Bank would consider a modification for a customer experiencing what is expected to be a short-term event that has temporarily impacted cash flow. This could be due, among other reasons, to illness, weather, impact from a one-time expense, slower than expected start-up, construction issues or other short-term issues. Credit personnel will review the request to determine if the customer is stressed and how the event has impacted the ability of the customer to repay the loan or lease long term. At December 31, 2022, the Company had a total of \$10.2 million in modified unguaranteed loans and leases on payment deferral with \$346 thousand in accrued interest.

Management endeavors to be proactive in its approach to identify and resolve problem loans and leases and is focused on working with the borrowers and guarantors of these loans and leases to provide loan and lease modifications when warranted. Management implements a proactive approach to identifying and classifying loans and leases as special mention (also referred to as criticized), Risk Grade 5. At December 31, 2022, and December 31, 2021, Risk Grade 5 loans and leases, excluding loans measured at fair value, totaled \$286.5 million and \$267.4 million, respectively. The increase in Risk Grade 5 loans and leases, exclusive of loans measured at fair value, during 2022 was principally confined to five verticals: Senior Housing (\$43.4 million or 227.2%), General Lending (\$20.5 million or 107.1%), Sponsor Finance (\$13.8 million or 72.3%), Broadband (\$12.4 million or 64.7%) and Community Facilities (\$8.9 million or 46.8%). Partially offsetting the above increases were decreases in Risk Grade 5 loans principally concentrated in four verticals: Educational Services (\$46.9 million or 245.5%), Hotels (\$16.4 million or 85.9%), Entertainment Centers (\$14.6 million or 76.5%) and Bioenergy (\$9.4 million or 49.4%). The increase in criticized loans in 2022 was related to a small number of loans within mature verticals. Of the above listed verticals, Senior Housing and Sponsor Finance is within the Company’s Specialty Lending division while Community Facilities, Hotels and Bioenergy are within the Energy & Infrastructure division, the remainder of the above listed verticals are within the Small Business Banking division.

At December 31, 2022, approximately 91.4% of loans and leases classified as Risk Grade 5 are performing with no relationships having payments past due more than 30 days. While the level of nonperforming assets fluctuates in response to changing economic and market conditions, in light of the relative size and composition of the loan and lease portfolio and management’s degree of success in resolving problem assets, management believes that a proactive approach to early identification and intervention is critical to successfully managing a small business loan portfolio. As government payment assistance began to expire toward the end of 2020, borrowers with continuing difficulties arising from the pandemic were provided additional relief through payment deferrals. At December 31, 2022, the Company had \$14.8 million in unguaranteed loans on SBA payment assistance. Management monitors these borrowers closely and has observed financial conditions continuing to improve.

Allowance for Credit Losses on Loans and Leases

The ACL of \$63.6 million at December 31, 2021, increased by \$33.0 million, or 51.9%, to \$96.6 million at December 31, 2022. The ACL as a percentage of loans and leases held for investment at historical cost amounted to 1.4% and 1.3% at December 31, 2022 and 2021, respectively. The increase in the ACL during 2022 was primarily due to significant loan growth, charge-off experience impacts, increased levels of loans classified as held for investment and changes in the macroeconomic outlook, as addressed more fully in the above section captioned “Provision for Loan and Lease Credit Losses” in “Results of Operations.”

Actual past due held for investment loans and leases, inclusive of loans measured at fair value, have increased by \$24.2 million since December 31, 2021. Total loans and leases 90 or more days past due increased \$7.3 million, or 14.8%, compared to December 31, 2021. This increase was comprised of a \$4.2 million decrease in unguaranteed exposure combined with an offsetting \$11.5 million increase in the guaranteed portion of past due loans compared to December 31, 2021. At December 31, 2022 and December 31, 2021, total held for investment unguaranteed loans and leases past due as a percentage of total held for investment unguaranteed loans and leases, inclusive of loans measured at fair value, was 0.7% and 0.6%, respectively. Total unguaranteed loans and leases past due were comprised of \$21.2 million carried at historical cost, an increase of \$4.6 million, and \$9.6 million measured at fair value, an increase of \$4.5 million, as of December 31, 2022 compared to December 31, 2021. The 2022 increase in past dues was largely related to sixteen loans spread across seven mature verticals. Management continues to actively monitor and work to improve asset quality. Management believes the ACL of \$96.6 million at December 31, 2022 is appropriate in light of the risk inherent in the loan and lease portfolio. Management’s judgments are based on numerous assumptions about current and expected events that it believes to be reasonable, but which may or may not be valid. Accordingly, no assurance can be given that management’s ongoing evaluation of the loan and lease portfolio in light of changing economic conditions and other relevant circumstances will not require significant future additions to the ACL, thus adversely affecting the Company’s operating results. Additional information on the ACL is presented in Note 5. Loans and Leases Held for Investment and Credit Quality of the condensed consolidated financial statements in this Report.

The following table sets forth the breakdown of the allowance for credit losses on loans and leases carried at historical cost by category at the dates indicated.

	2022				2021			
	Allowance	Total Loans and Leases ⁽¹⁾	% of Total Allowance	% of Total Loans and Leases ⁽¹⁾	Allowance	Total Loans and Leases ⁽¹⁾	% of Total Allowance	% of Total Loans and Leases ⁽¹⁾
Commercial & Industrial								
Small Business Banking	\$ 29,768	\$ 1,756,975	30.83 %	25.63 %	\$ 23,807	\$ 1,124,406	37.44 %	23.03 %
Specialty Lending	26,261	1,023,279	27.19	14.93	8,310	642,444	13.07	13.16
Energy & Infrastructure	5,934	423,529	6.15	6.18	3,250	232,923	5.11	4.77
Paycheck Protection Program	20	13,134	0.02	0.19	2,403	268,375	3.78	5.50
Total	61,983	3,216,917	64.19	46.93	37,770	2,268,148	59.40	46.46
Construction & Development								
Small Business Banking	3,003	472,743	3.11	6.90	2,437	277,152	3.83	5.68
Specialty Lending	2,038	104,069	2.11	1.52	379	40,805	0.60	0.84
Energy & Infrastructure	202	13,753	0.21	0.20	619	41,209	0.97	0.84
Total	5,243	590,565	5.43	8.62	3,435	359,166	5.40	7.36
Commercial Real Estate								
Small Business Banking	15,422	2,154,881	15.97	31.44	13,074	1,594,328	20.56	32.66
Specialty Lending	5,938	319,419	6.15	4.66	1,436	153,716	2.26	3.15
Energy & Infrastructure	4,404	139,778	4.56	2.04	4,558	133,972	7.17	2.74
Total	25,764	2,614,078	26.68	38.14	19,068	1,882,016	29.99	38.55
Commercial Land								
Small Business Banking	3,576	432,594	3.70	6.31	3,311	372,335	5.21	7.63
Total	3,576	432,594	3.70	6.31	3,311	372,335	5.21	7.63
Total	\$ 96,566	\$ 6,854,154	100.00 %	100.00 %	\$ 63,584	\$ 4,881,665	100.00 %	100.00 %

(1) Excludes loans measured at fair value.

Analysis of Loan and Lease Loss Experience. The following table sets forth an analysis of net charge-offs for loans and leases carried at historical cost to average total loans and leases, carried at historical cost, by category for the years indicated.

	2022			2021			2020		
	Net Charge-offs ⁽¹⁾	Average Total Loans & Leases ⁽¹⁾	% of Total Loans ⁽¹⁾	Net Charge-offs ⁽¹⁾	Average Total Loans & Leases ⁽¹⁾	% of Total Loans ⁽¹⁾	Net Charge-offs ⁽¹⁾	Average Total Loans & Leases ⁽¹⁾	% of Total Loans ⁽¹⁾
Commercial & Industrial									
Small Business Banking	\$ 5,157	\$1,387,283	0.37 %	\$ 2,740	\$ 895,195	0.31 %	\$ 2,669	\$ 463,811	0.58 %
Specialty Lending	1,649	827,731	0.20	—	425,989	—	1,648	165,004	1.00
Energy & Infrastructure	411	350,910	0.12	—	167,521	—	—	61,361	—
Paycheck Protection Program	5	81,250	0.01	—	939,205	—	—	1,271,106	—
Total	7,222	2,647,174	0.27	2,740	2,427,910	0.11	4,317	1,961,282	0.22
Construction & Development									
Small Business Banking	(3)	271,596	—	262	169,530	0.15	—	112,864	—
Specialty Lending	—	72,996	—	—	19,120	—	—	14,446	—
Energy & Infrastructure	—	12,751	—	—	45,639	—	—	43,205	—
Total	(3)	357,343	—	262	234,289	0.11	—	170,515	—
Commercial Real Estate									
Small Business Banking	489	1,889,803	0.03	664	1,392,846	0.05	164	821,241	0.02
Specialty Lending	—	229,833	—	254	103,445	0.25	—	49,924	—
Energy & Infrastructure	(388)	120,783	(0.32)	—	127,456	—	10,155	127,850	7.94
Total	101	2,240,419	—	918	1,623,747	0.06	10,319	999,015	1.03
Commercial Land									
Small Business Banking	641	422,886	0.15	12	377,967	—	629	316,691	0.20
Total	641	422,886	0.15	12	377,967	—	629	316,691	0.20
Total	\$ 7,961	\$5,667,822	0.14 %	\$ 3,932	\$4,663,913	0.08 %	\$ 15,265	\$3,447,503	0.44 %

(1) Excludes loans measured at fair value.

Investment Securities

Investment securities totaled \$1.01 billion at December 31, 2022, an increase of \$108.7 million, or 12.0%, compared to \$906.1 million at December 31, 2021. The increase in the investment portfolio for 2022 was to support earnings through additional yield compared to cash alternatives, continue to provide a contingent funding source, and act as a mechanism to manage the Company's interest rate risk. This also included purchases of \$367.5 million in mortgage-backed securities, including \$49.0 million for purposes of complying with the Community Reinvestment Act, and purchases of \$23.2 million in collateralized mortgage obligations to increase yield and duration.

The investment securities portfolio consists entirely of available-for-sale securities. The Company purchases securities for the investment securities portfolio to manage interest rate risk, ensure a stable source of liquidity and to provide a steady source of income in excess of cost of funds.

At December 31, 2022, the modified duration of the overall available-for-sale securities portfolio was approximately 6.8 years.

The following table sets forth the stated maturities and weighted average yields of investment securities at December 31, 2022. Certain mortgage related securities have adjustable interest rates and will reprice annually within the various maturity ranges. These repricing schedules are not reflected in the tables below.

	Total Amortized Cost	Within One Year		After One to Five Years		After Five to Ten Years		After Ten Years	
		Amortized Cost	Average Yield	Amortized Cost	Average Yield	Amortized Cost	Average Yield	Amortized Cost	Average Yield
US government securities	\$ 16,080	\$ —	— %	\$ 12,948	3.30 %	\$ 3,132	3.11 %	\$ —	— %
Mortgage-backed securities	1,116,387	—	—	113,726	2.73	254,975	2.49	747,686	2.52
Municipal bonds	3,223	—	—	—	—	—	—	3,223	4.52
Other debt securities	500	500	5.00	—	—	—	—	—	—
Total securities	<u>\$1,136,190</u>	<u>\$ 500</u>	<u>5.00 %</u>	<u>\$ 126,674</u>	<u>2.79 %</u>	<u>\$ 258,107</u>	<u>2.50 %</u>	<u>\$ 750,909</u>	<u>2.53 %</u>

At December 31, 2022, the Company had 98.3% of its total investment securities portfolio in mortgage-backed securities, compared with 98.2% at December 31, 2021. The Company has continued to purchase mortgage-backed securities in order to obtain a favorable yield versus cash alternatives while still maintaining a low risk profile within the investment portfolio.

Deposits

The following table sets forth the composition of deposits.

	2022		2021		2020	
	Total	Percent	Total	Percent	Total	Percent
<i>Period end:</i>						
Noninterest-bearing demand deposits	\$ 194,100	2.18 %	\$ 89,279	1.26 %	\$ 75,287	1.32 %
Interest-bearing deposits:						
Interest-bearing checking	—	—	—	—	250,060	4.38
Money market	128,443	1.45	105,628	1.48	117,010	2.05
Savings	4,096,576	46.11	3,507,354	49.32	2,081,561	36.43
Time deposits	4,465,809	50.26	3,409,783	47.94	3,188,910	55.82
Total	8,690,828	97.82	7,022,765	98.74	5,637,541	98.68
Total period end deposits	<u>\$ 8,884,928</u>	<u>100.00 %</u>	<u>\$ 7,112,044</u>	<u>100.00 %</u>	<u>\$ 5,712,828</u>	<u>100.00 %</u>
Total uninsured deposits	<u>\$ 1,563,189</u>	<u>17.59 %</u>	<u>\$ 1,197,057</u>	<u>16.83 %</u>	<u>\$ 580,912</u>	<u>10.17 %</u>

	2022			2021			2020		
	Total	Percent	Average Rate	Total	Percent	Average Rate	Total	Percent	Average Rate
<i>Average:</i>									
Noninterest-bearing demand deposits	\$ 125,062	1.57 %	— %	\$ 77,104	1.18 %	— %	\$ 47,655	0.89 %	— %
Interest-bearing deposits:									
Interest-bearing checking	—	—	—	76,714	1.18	0.58	318,667	5.95	0.58
Money market	100,684	1.26	0.30	103,078	1.58	0.29	87,050	1.62	0.40
Savings	3,903,151	48.92	1.48	3,077,933	47.23	0.54	1,531,680	28.59	1.08
Time deposits	3,849,203	48.25	1.48	3,181,591	48.83	1.33	3,373,012	62.95	2.10
Total average deposits	<u>\$7,978,100</u>	<u>100.00 %</u>	<u>1.46 %</u>	<u>\$6,516,420</u>	<u>100.00 %</u>	<u>0.92 %</u>	<u>\$5,358,064</u>	<u>100.00 %</u>	<u>1.67 %</u>

Deposits increased to \$8.88 billion at December 31, 2022 from \$7.11 billion at December 31, 2021, an increase of \$1.77 billion, or 24.9%. This increase was primarily due to the growth of the Company's customer base in the savings and time deposit products, enhanced by a nationwide marketing campaign with attractive rates and additional wholesale funding, to support the significant loan growth in 2022. Noninterest-bearing deposits increased \$104.8 million, or 117.4%, during 2022, and interest-bearing deposits increased \$1.67 billion, or 23.8%, during the same period.

At December 31, 2022, the aggregate balance of uninsured time deposit accounts totaled \$39.1 million. At December 31, 2022, 81.8% of uninsured time deposit accounts were scheduled to mature within one year. The maturity profile of uninsured time deposits at December 31, 2022 is as follows:

Maturity Period	Three months or less	More than three months to six months	More than six months to twelve months	More than twelve months
Amount of time deposits in uninsured accounts	\$ 17,510	\$ 5,062	\$ 9,391	\$ 7,120

Borrowings

Total borrowings decreased \$235.1 million at December 31, 2022 from December 31, 2021 as a result of the following:

In March 2021, the Company entered into a 60-month term loan agreement of \$50.0 million with a third party correspondent bank. The loan accrues interest at a fixed rate of 2.95% with a monthly payment sufficient to fully amortize the loan, with all remaining unpaid principal and interest due at maturity on March 30, 2026. The Company paid the Lender a non-refundable \$325 thousand loan origination fee upon signing of the Note that is presented as a direct deduction from the carrying amount of the loan and will be amortized into interest expense over the life of the loan.

In April 2020, the Company entered into the Federal Reserve Bank's PPPLF. Under the PPPLF, advances must be secured by pledges of loans to small businesses originated by the Company under the U.S. Small Business Administration's 7(a) loan program titled the Paycheck Protection Program. The PPPLF accrues interest at thirty-five basis points and matures at various dates equal to the maturity date of the PPPLF collateral pledged to secure the advance, and will be accelerated on and to the extent of any 7(a) loan forgiveness reimbursement by the SBA for any PPPLF collateral or the date of purchase by the SBA from the borrower of any PPPLF collateral. On the maturity date of each advance, the Company repays the advance plus accrued interest. This borrowing was paid in full at September 30, 2022.

In September 2020, the Company renewed a \$50.0 million revolving line of credit originally issued in 2017 with a third party correspondent bank. Subsequently on October 20, 2021, the Company renewed and increased the revolving line of credit from \$50.0 million to \$100.0 million and increased the term from 12 months to 36 months. The line of credit is unsecured and accrues interest at 30-day SOFR plus 1.25%, with an interest rate cap of 4.25% and an interest rate floor of 2.75%. Payments are interest only with all principal and accrued interest due at maturity on October 10, 2025. The terms of this loan require the Company to maintain minimum capital and debt service coverage ratios. The Company paid the Lender a non-refundable \$750 thousand loan origination fee upon signing of the Note that will be amortized into interest expense over the life of the loan. The Company made an advance of \$8.0 million on December 20, 2021 and \$12.0 million on March 16, 2022. The Company paid down this balance in full on May 20, 2022 and there is \$100.0 million of available credit remaining at December 31, 2022.

On December 30, 2022, the Company made an advance of \$50.0 million on an overnight Fed Funds line of credit that is unsecured with an interest rate of 4.65% with \$50.0 million of available credit remaining at December 31, 2022.

Liquidity Management

Liquidity management refers to the ability to meet day-to-day cash flow requirements based primarily on activity in loan and deposit accounts of the Company's customers. Liquidity is immediately available from four major sources: (a) cash on hand and on deposit at other banks; (b) the outstanding balance of federal funds sold; (c) the market value of unplugged investment securities; and (d) availability under lines of credit, FHLB advances, and the Federal Reserve Discount Window. A primary tool in the Company's liquidity management process is the utilization of a Volatile Liability Coverage Ratio ("VLCR") model to stress outflows in various scenarios with targeted days of liquidity coverage. The VLCR model output is then used by management to ensure adequate liquidity sources are available during those future periods. At December 31, 2022, the total amount of these four liquidity source items was \$4.01 billion, or 40.7% of total assets, a decrease of 0.9% of total assets from \$3.42 billion, or 41.6% of total assets, at December 31, 2021.

Loans and other assets are funded primarily by loan sales, wholesale deposits and core deposits. To date, an increasing retail deposit base and a stable amount of brokered deposits have been adequate to meet loan obligations, while maintaining the desired level of immediate liquidity. The Company maintains an investment securities portfolio that is available for both immediate and secondary contingent liquidity purposes, whether via pledging to the Federal Home Loan Bank or through liquidation. Additionally, the Company maintains a guaranteed loan portfolio that is also a contingent liquidity source, whether via pledging to the Federal Reserve Discount Window or through liquidation.

At December 31, 2022, none of the investment securities portfolio was pledged to secure public deposits or pledged to retail repurchase agreements, leaving \$1.01 billion available to be pledged as collateral.

Contractual Obligations

The Company has entered into significant fixed and determinable contractual obligations for future payments. See the accompanying notes to the consolidated financial statements for expected timing of payments as of December 31, 2022. These include operating leases (Note 4. Leases), time deposits with stated maturity dates (Note 7. Deposits) and borrowings (Note 8. Borrowings).

Off-Balance Sheet Arrangements

In the normal course of operations, the Company engages in a variety of financial transactions that, in accordance with GAAP, are not recorded in the consolidated financial statements. These transactions involve, to varying degrees, elements of credit, interest rate and liquidity risk. Such transactions are used primarily to manage customers' requests for funding and take the form of commitments to extend credit and standby letters of credit. In 2022, the Company also entered into airplane purchase agreement commitments. For more information, see Note 11. Commitments and Contingencies in the accompanying notes to the consolidated financial statements.

Asset/Liability Management and Interest Rate Sensitivity

One of the primary objectives of asset/liability management is to maximize the net interest margin while minimizing the earnings risk associated with changes in interest rates. One method used to manage interest rate sensitivity is to measure, over various time periods, the interest rate sensitivity positions, or gaps. This method, however, addresses only the magnitude of timing differences and does not address earnings or market value. Therefore, management uses an earnings simulation model to prepare, on a regular basis, earnings projections based on a range of interest rate scenarios to more accurately measure interest rate risk. For more information, see Item 7A of this Report.

Capital

The maintenance of appropriate levels of capital is a management priority and is monitored on a regular basis. The Company's principal goals related to the maintenance of capital are to provide adequate capital to support the Company's risk profile consistent with the risk appetite approved by the Board of Directors; provide financial flexibility to support future growth and client needs; comply with relevant laws, regulations, and supervisory guidance; achieve optimal credit ratings for the Company and its subsidiaries; and provide a competitive return to shareholders. Management regularly monitors the capital position of the Company on both a consolidated and Bank level basis. In this regard, management's goal is to maintain capital at levels that are in excess of the regulatory "well capitalized" levels. Risk-based capital ratios, which include Tier 1 Capital, Total Capital and Common Equity Tier 1 Capital, are calculated based on regulatory guidance related to the measurement of capital and risk-weighted assets.

Capital amounts and ratios as of December 31, 2022, 2021 and 2020 are presented in the table below.

	Actual		Minimum Capital Requirement		Minimum To Be Well Capitalized Under Prompt Corrective Action Provisions ⁽¹⁾	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
Consolidated - December 31, 2022						
Common Equity Tier 1 (to Risk-Weighted Assets)	\$ 888,235	12.47 %	\$ 320,446	4.50 %	N/A	N/A
Total Capital (to Risk-Weighted Assets)	\$ 977,360	13.73 %	\$ 569,681	8.00 %	N/A	N/A
Tier 1 Capital (to Risk-Weighted Assets)	\$ 888,235	12.47 %	\$ 427,261	6.00 %	N/A	N/A
Tier 1 Capital (to Average Assets)	\$ 888,235	9.26 %	\$ 383,499	4.00 %	N/A	N/A
Bank - December 31, 2022						
Common Equity Tier 1 (to Risk-Weighted Assets)	\$ 730,092	10.70 %	\$ 307,179	4.50 %	\$ 443,703	6.50 %
Total Capital (to Risk-Weighted Assets)	\$ 815,577	11.95 %	\$ 546,096	8.00 %	\$ 682,620	10.00 %
Tier 1 Capital (to Risk-Weighted Assets)	\$ 730,092	10.70 %	\$ 409,572	6.00 %	\$ 546,096	8.00 %
Tier 1 Capital (to Average Assets)	\$ 730,092	7.70 %	\$ 379,396	4.00 %	\$ 474,245	5.00 %
Consolidated - December 31, 2021						
Common Equity Tier 1 (to Risk-Weighted Assets)	\$ 689,367	12.38 %	\$ 250,619	4.50 %	N/A	N/A
Total Capital (to Risk-Weighted Assets)	\$ 753,691	13.53 %	\$ 445,544	8.00 %	N/A	N/A
Tier 1 Capital (to Risk-Weighted Assets)	\$ 689,367	12.38 %	\$ 334,158	6.00 %	N/A	N/A
Tier 1 Capital (to Average Assets)	\$ 689,367	8.87 %	\$ 310,902	4.00 %	N/A	N/A
Bank - December 31, 2021						
Common Equity Tier 1 (to Risk-Weighted Assets)	\$ 640,652	12.05 %	\$ 239,201	4.50 %	\$ 345,512	6.50 %
Total Capital (to Risk-Weighted Assets)	\$ 704,976	13.26 %	\$ 425,246	8.00 %	\$ 531,557	10.00 %
Tier 1 Capital (to Risk-Weighted Assets)	\$ 640,652	12.05 %	\$ 318,934	6.00 %	\$ 425,246	8.00 %
Tier 1 Capital (to Average Assets)	\$ 640,652	8.32 %	\$ 307,931	4.00 %	\$ 384,914	5.00 %
Consolidated - December 31, 2020						
Common Equity Tier 1 (to Risk-Weighted Assets)	\$ 521,568	12.15 %	\$ 193,172	4.50 %	N/A	N/A
Total Capital (to Risk-Weighted Assets)	\$ 574,621	13.39 %	\$ 343,417	8.00 %	N/A	N/A
Tier 1 Capital (to Risk-Weighted Assets)	\$ 521,568	12.15 %	\$ 257,563	6.00 %	N/A	N/A
Tier 1 Capital (to Average Assets)	\$ 521,568	8.40 %	\$ 248,417	4.00 %	N/A	N/A
Bank - December 31, 2020						
Common Equity Tier 1 (to Risk-Weighted Assets)	\$ 470,069	11.25 %	\$ 188,012	4.50 %	\$ 271,573	6.50 %
Total Capital (to Risk-Weighted Assets)	\$ 522,305	12.50 %	\$ 334,243	8.00 %	\$ 417,804	10.00 %
Tier 1 Capital (to Risk-Weighted Assets)	\$ 470,069	11.25 %	\$ 250,683	6.00 %	\$ 334,243	8.00 %
Tier 1 Capital (to Average Assets)	\$ 470,069	7.60 %	\$ 247,288	4.00 %	\$ 309,110	5.00 %

(1) Prompt corrective action provisions are not applicable at the bank holding company level.

Critical Accounting Policies and Estimates

The preparation of consolidated financial statements in accordance with GAAP requires the Company to make estimates and judgments that affect reported amounts of assets, liabilities, income and expenses and related disclosure of contingent assets and liabilities. The Company bases estimates on historical experience and on various other assumptions that are believed to be reasonable under current circumstances, results of which form the basis for making judgments about the carrying value of certain assets and liabilities that are not readily available from other sources. Estimates are evaluated on an ongoing basis. Actual results may differ from these estimates under different assumptions or conditions.

The Company's accounting policies, including those for the Company's critical accounting estimates are described in detail in Note 1. Organization and Summary of Significant Accounting Policies in the consolidated financial statements and are an integral part of the Company's consolidated financial statements. A thorough understanding of these accounting policies is essential when reviewing the Company's reported results of operations and financial position. The Company's most critical accounting estimates are listed below. These estimates require the Company to make difficult, subjective or complex judgments about matters that are inherently uncertain.

Allowance for credit losses (ACL)

The Company's policy is to maintain the ACL at a level to absorb expected credit losses. The loan and lease portfolio is periodically reviewed by management to identify trends and to measure asset quality. Accounting policies related to the ACL on financial instruments including loans and off-balance-sheet credit exposures are considered to be critical as these policies involve considerable subjective judgment and estimation by the Company. The ACL is a valuation account that is deducted from the amortized cost basis of loans and leases to present a net amount expected to be collected over the life of the asset.

The Company's ACL on loans and leases is estimated using relevant information, from internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts, and measured on a pooled basis where loans with similar risk characteristics (such as industry and type of collateral) are collectively evaluated for impairment. The ACL is computed using a discounted cash flow ("DCF") methodology that utilizes inputs and assumptions that require significant judgement. The most significant assumptions used are: 1) economic forecast assumptions, 2) prepayment assumptions, and 3) application of qualitative factors, the most significant of which is related to the loan risk grading process. Sensitivities to these three areas are disclosed below to demonstrate how a change in economic forecast, prepayment assumptions and risk grades may impact the ACL. The below sensitivities only consider each variable individually in isolation as compared to the reported total of the ACL and factor in no correlated impacts to other inputs or factors of the ACL model.

Economic forecast

Probability of default ("PD") and loss given default ("LGD") rates within the DCF model are adjusted for national unemployment rates during the reasonable and supportable forecast period. The Company has determined that a reasonable and supportable forecast period is four quarters with loss rates reverting back to a historical loss rate over the subsequent four quarters on a straight-line basis.

The ACL is highly sensitive to the unemployment economic forecast used. Due to the high level of uncertainty regarding significant assumptions, the Company often evaluates various economic scenarios from authoritative industry sources to assess variability of economic outlooks. At December 31, 2022, the Company utilized economic assumptions that management believed were the most likely to occur during the duration of the forecast period which had current unemployment levels remaining relatively stable during the one-year forecast period. Selecting a different forecast in the current environment could result in a significantly different ACL. The following table summarizes the impact of more severe unemployment forecast scenarios if they had been selected at December 31, 2022.

Scenario	Forecasted Unemployment	Approximate increase to ACL	
		\$	%
Severe	Current unemployment levels increase to 5.6% in the first quarter of 2023 and increase to 9.2% by the end of a one-year forecast period. At the end of the forecast period adjusted loss rates revert back to a historical rate over a one-year period.	\$26.7 million	27.6 %
Moderate	Current unemployment levels increase to 4.6% in the first quarter of 2023 and increase to 7.2% by the end of a one-year forecast period. At the end of the forecast period adjusted loss rates revert back to a historical rate over a one-year period.	\$11.5 million	11.9 %
Mild	Current unemployment levels decrease to 4.1% in the first quarter of 2023 before increasing to 5.2% by the end of a one-year forecast period. At the end of the forecast period adjusted loss rates revert back to a historical rate over a one-year period.	\$2.6 million	2.7 %

If facts and circumstances supported the Company's utilization of more severe unemployment scenario other impacts to the model would also be factored in which could result in a materially different estimate than that provided above.

Prepayment assumptions

Expected losses are calculated as the product of PD, LGD, and exposure at default ("EAD"). Expected losses are then discounted using the loan or leases effective interest rate, adjusted for estimated prepayments. Changes to the prepayment assumptions used would result in a different estimated ACL. To illustrate, if the weighted average prepayment assumption were decreased by 25%, the ACL as of December 31, 2022 would increase by approximately \$5.4 million or 5.6%.

Loan risk grade - qualitative adjustments

Historical loss information is adjusted for differences in current risk characteristics that are not considered within the quantitative modeling process of the ACL but are relevant in assessing the expected credit losses. These qualitative adjustments include risk grades, delinquency levels, pool age, portfolio mix & growth rates and the status of servicing efforts that may be impacted by natural disasters or health pandemics. As indicated above, the loan risk grading process generally has the most significant impact on the ACL. Accordingly, the Company's internal risk rating system and resulting loss estimates are highly dependent on the accuracy for the risk rating assigned to each loan and lease. The inherent imprecision in the risk rating system resulting from inaccuracy in assigning and/or entering risk ratings in the loan accounting system is monitored by the Company's internal and external asset quality review functions. Changes to internal risk ratings, would result in a different estimated allowance for credit losses. To illustrate, if all loans in the Company's five largest industry verticals (\$1.7 billion or 40.9% of unguaranteed held for investment loans not accounted for under the fair value option) were adjusted down by one risk grade (e.g., RG 4 to RG 5) across all pools, the ACL as of December 31, 2022 would increase by approximately \$10.0 million, or 10.4%.

Other Considerations

While management utilizes its best judgment and information available, the ultimate adequacy of our ACL is dependent upon a variety of factors beyond our control, including the performance of our portfolios, the economy, changes in interest rates and the view of the regulatory authorities toward classification of assets. See Note 1. Organization and Summary of Significant Accounting Policies and Note 3. Loans and Leases Held for Investment and Credit Quality in the notes to consolidated financial statements for further details of the factors considered by the Company in estimating the necessary level of the ACL.

Valuation of loans accounted for under the fair value option

Loans accounted for under the fair value option involve estimation for credit risk, market liquidity, and economic condition impacts using factors that are beyond management's control.

Credit risk

The credit element of the loan fair value mark is estimated using the same DCF model discussed above relative to ACL calculations with key inputs requiring significant judgement and assumptions being: 1) selection of economic forecast, 2) prepayment assumptions, and 3) application of qualitative factors, the most significant of which is related to the loan risk grading process.

Economic forecast

To illustrate, absent any other changes in the model, if the Company selected the severe, moderate, or mild scenarios as described above, the credit mark for fair value loans at December 31, 2022 would have increased by approximately \$2.3 million or 17.1%, \$1.1 million or 8.3%, and \$409 thousand or 3.0%, respectively. If facts and circumstances supported the Company's utilization of more severe unemployment scenario other impacts to the model would also be factored in which could result in a materially different estimated than that provided above.

Prepayment assumptions

Expected losses are calculated as the product of PD, LGD, and exposure at default ("EAD"). Expected losses are then discounted using the loan or leases effective interest rate, adjusted for estimated prepayments. Changes to the prepayment assumptions used would result in a different estimated fair value mark. To illustrate, if the weighted average prepayment assumption were decreased by 25%, the fair value mark as of December 31, 2022 would increase by approximately \$829 thousand, or 6.0%.

Loan risk grade - qualitative adjustments

To illustrate, if all loans in the Company's five largest industry verticals (\$103.0 million or 23.1% of unguaranteed held for investment loans accounted for under the fair value option) were adjusted down by one risk grade (e.g., RG 4 to RG 5) across all pools, the fair value mark as of December 31, 2022 would increase by \$602 thousand, or 4.4%.

Market risk

Market liquidity and economic condition adjustments are estimated using the sale prices of similar loans based on yield, term and asset size. This evaluation is inherently subjective as it requires estimates that are susceptible to significant revision as more information becomes available.

Other Considerations

See Note 10. Fair Value of Financial Instruments in the notes to consolidated financial statements for further details of the factors considered by management in estimating the fair value of loans. In the first quarter of 2021, the Company chose not to elect the fair value for all retained participating interests arising from new government guaranteed loan sales.

Valuation of servicing assets

The fair value of servicing assets is based on market prices for comparable servicing contracts, when available, or alternatively, is based on a valuation model that calculates the present value of estimated future net servicing income. The valuation model incorporates assumptions that market participants would use in estimating future net servicing income, such as adequate compensation for servicing, the discount rate, the custodial earnings rate, an inflation rate, ancillary income, prepayment speeds and default rates and losses, with the prepayment speed being one of the most sensitive assumptions. Changes to these assumptions can have a material impact on the valuation of the servicing assets.

Yield curve rates are considered a significant assumption in the valuation of servicing rights and an analysis of sensitivity is reflected in the section captioned "Noninterest Income" elsewhere in this discussion. See also Note 5. Servicing Assets in the notes to consolidated financial statements for further details of the factors considered by the Company in estimating the fair value servicing assets.

Non-GAAP Measures

Some of the financial measures included in our selected historical consolidated financial data and elsewhere in this Report are not measures of financial performance recognized by GAAP. These non-GAAP financial measures are: “tangible shareholders’ equity,” “tangible assets,” “tangible shareholders’ equity to tangible assets,” “tangible book value per share,” and “efficiency ratio.” Management uses these non-GAAP financial measures in its analysis of the Company’s performance.

- “Tangible shareholders’ equity” is total shareholders’ equity less goodwill and other intangible assets. Management has not considered loan servicing rights as an intangible asset for purposes of this calculation.
- “Tangible assets” is total assets less goodwill and other intangible assets. Management has not considered loan servicing rights as an intangible asset for purposes of this calculation.
- “Tangible shareholders’ equity to tangible assets” is defined as the ratio of shareholders’ equity less goodwill and other intangible assets, divided by total assets less goodwill and other intangible assets. Management believes this measure is important because it shows relative changes from period to period in equity and total assets, each exclusive of changes in intangible assets. Management has not considered loan servicing rights as an intangible asset for purposes of this calculation.
- “Tangible book value per share” is defined as total equity reduced by goodwill and other intangible assets divided by total common shares outstanding. Management believes this measure is important because it shows changes from period to period in book value per share exclusive of changes in intangible assets. Management has not considered loan servicing rights as an intangible asset for purposes of this calculation.
- “Efficiency ratio” is defined as total noninterest expense divided by the sum of net interest income and noninterest income. Management believes this measure is important as an indicator of productivity because it shows the amount of noninterest expense that was required to generate a dollar of revenue. While the efficiency ratio is a measure of productivity, its value reflects the unique attributes of the “high-touch business model” the Company employs.

The Company believes these non-GAAP financial measures provide useful information to management and investors that is supplementary to the financial condition, results of operations and cash flows computed in accordance with GAAP; however, the Company acknowledges that non-GAAP financial measures have a number of limitations. As such, you should not view these measures as a substitute for results determined in accordance with GAAP, and they are not necessarily comparable to non-GAAP financial measures that other companies use. The following table provides a reconciliation of these non-GAAP financial measures to the most closely related GAAP measure.

	Years Ended December 31,		
	2022	2021	2020
Total shareholders' equity	\$ 811,033	\$ 715,133	\$ 567,850
Less:			
Goodwill	1,797	1,797	1,797
Other intangible assets	1,873	2,026	2,179
Tangible shareholders' equity (a)	<u>\$ 807,363</u>	<u>\$ 711,310</u>	<u>\$ 563,874</u>
Shares outstanding (c)	44,061,244	43,619,070	42,452,446
Total assets	\$ 9,855,498	\$ 8,213,393	\$ 7,872,303
Less:			
Goodwill	1,797	1,797	1,797
Other intangible assets	1,873	2,026	2,179
Tangible assets (b)	<u>\$ 9,851,828</u>	<u>\$ 8,209,570</u>	<u>\$ 7,868,327</u>
Tangible shareholders' equity to tangible assets (a/b)	8.20%	8.66%	7.17%
Tangible book value per share (a/c)	\$ 18.32	\$ 16.31	\$ 13.28
Efficiency ratio:			
Noninterest expense (d)	\$ 314,226	\$ 230,987	\$ 192,676
Net interest income	327,501	296,785	194,723
Noninterest income	237,992	160,200	86,000
Adjusted operating revenue (e)	<u>\$ 565,493</u>	<u>\$ 456,985</u>	<u>\$ 280,723</u>
Efficiency ratio (d/e)	55.57%	50.55%	68.64%

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate risk is a significant market risk and can result from timing and volume differences in the repricing of rate-sensitive assets and liabilities, widening or tightening of credit spreads, changes in the general level of market interest rates and changes in the shape and level of market yield curves. The Company manages the interest rate sensitivity of interest-bearing liabilities and interest-earning assets in an effort to minimize the adverse effects of changes in the interest rate environment. Management of interest rate risk is carried out primarily through strategies involving available-for-sale securities, loan and lease portfolio, and available funding sources.

The Company has an Asset/Liability Committee to communicate, coordinate and control all aspects involving interest rate risk management. The Asset/Liability Committee establishes and monitors the volume, maturities, pricing and mix of assets and funding sources with the objective of managing assets and funding sources to provide results that are consistent with liquidity, growth, risk limits and profitability goals. Adherence to relevant policies is monitored on an ongoing basis by the Asset/Liability Committee.

The Company has a total cumulative gap in interest-earning assets and interest-bearing liabilities of 4.8% as of December 31, 2022, indicating that, overall, assets will reprice before liabilities during the expected life of the instruments. Cumulative gap is a useful measure to monitor balance sheet match-funding, yet economic value of equity and net interest income simulations, discussed below, are more useful in understanding potential impacts to earnings from a change in interest rates. As of December 31, 2021, the Company had a cumulative gap in interest-earning assets and interest-bearing liabilities of 4.55%, indicating that, overall, assets will reprice before liabilities during the expected life of the instruments.

The matching of assets and liabilities may be analyzed by examining the extent to which such assets and liabilities are “interest rate sensitive.” An asset or liability is said to be interest rate sensitive within a specific time period if it will mature or reprice within that time period. The Company analyzes interest rate sensitivity position to manage the risk associated with interest rate movements through the use of two simulation models: economic value of equity (“EVE”) and net interest income (“NII”) simulations. The EVE simulation provides a long-term view of interest rate risk because it analyzes all of the Company’s future cash flows. EVE is defined as the present value of the Company’s assets, less the present value of its liabilities, adjusted for any off-balance sheet items. The results show a theoretical change in the economic value of shareholders’ equity as interest rates change.

EVE and NII simulations are completed routinely and presented to the Asset/Liability Committee. The simulations provide an estimate of the impact of changes in interest rates on equity and net interest income under a range of assumptions, under instantaneous parallel interest rate shocks assuming a static balance sheet. The numerous assumptions used in the simulation process are provided to the Asset/Liability Committee on at least an annual basis. Changes to these assumptions can significantly affect the results of the simulation. The simulation incorporates assumptions regarding the potential timing in the repricing of certain assets and liabilities when market rates change and the changes in spreads between different market rates. The simulation analysis incorporates management’s current assessment of the risk that pricing margins will change adversely over time due to competition or other factors.

The table below sets forth an approximation of the Company's NII sensitivity exposure for the 12-month periods ending December 31, 2023 and 2024 and the Company's EVE sensitivity at December 31, 2022 under instantaneous parallel interest rate shocks assuming a static balance sheet. The simulation uses projected repricing of assets and liabilities at December 31, 2022 on the basis of contractual maturities, anticipated repayments and scheduled rate adjustments. Critical model assumptions such as loan and investment prepayment rates, deposit decay rates, deposit betas and lags and assumed replacement pricing can have a significant impact on interest income simulation. A static balance sheet is maintained to remove volume considerations and to place the focal point on the rate sensitivity of the Company's balance sheet. While management believes such assumptions to be reasonable, approximate actual future activity may differ from the results shown below as it will include growth considerations and management actions to mitigate the impacts of changing interest rates on the balance sheet's earnings profile.

Basis Point ("bp") Change in Interest Rates	Estimated Increase/Decrease in Net Interest Income		Estimated Percentage Change in EVE
	12 Months Ending December 31, 2023	12 Months Ending December 31, 2024	As of December 31, 2022
+400	8.6%	0.3%	(34.3)%
+300	6.6	0.4	(25.8)
+200	4.5	0.4	(17.5)
+100	2.3	0.1	(7.7)
-100	(2.9)	(1.5)	9.6

Rates are increased instantaneously at the beginning of the projection. Under this instantaneous parallel interest rate shock, static balance sheet NII simulation, the Company is modestly asset sensitive in the initial year, as the Company's large variable rate loan portfolio reprices the full amount of the assumed change in interest rates, while the large retail savings and short-term retail certificates of deposits portfolio will reprice with an assumed beta. Annually, the Company's retail certificate of deposits portfolio has a significant maturity event in the first half of the year. The Company is also modestly asset sensitive in the second year of the projection due to interest rates increasing or decreasing for the full year, the Company's loan portfolio continuing to reprice, and also due to the other assumptions used in the analysis as noted previously. Interest rates do not normally move all at once or evenly over time, but management believes that the analysis is useful to understanding the potential direction and magnitude of net interest income changes due to changing interest rates.

The EVE analysis shows that the Company would theoretically lose market value in a rising rate environment. The favorable EVE change resulting from the loan and lease portfolio in a rising rate analysis is more than offset by the devaluation of the interest-bearing liabilities. This is largely driven by the Company's longer asset duration, primarily consisting of investments and loans, versus the shorter duration of its funding portfolio, primarily consisting of retail savings and short-term retail certificates of deposits. Increased fixed rate loan production since 2020 versus prior years, given the historical low market rate environment, has also been a significant driver in the model results.

The NII and EVE simulation analysis shown above is only an estimate of interest rate risk exposure at a particular point in time without growth considerations. The Company regularly models various forecasted rate projections with non-parallel shifts that are reflective of potential current rate environment outcomes using the Company's assumed growth projections. Under these scenarios, the Company's interest rate risk profile may increase in asset sensitivity, decrease in asset sensitivity, or depending on the scenario and timing of anticipated rate changes, may transition to a liability sensitive interest rate risk profile. Regular, robust modeling of various interest rate outcomes allows the Company to properly assess and manage potential risks from various rate shifts.

Item 8.

FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Shareholders, Board of Directors, and Audit and Risk Committee
Live Oak Bancshares, Inc.

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Live Oak Bancshares, Inc. (the “Company”) as of December 31, 2022 and 2021, the related consolidated statements of income, comprehensive income, shareholders’ equity, and cash flows for each of the years in the three-year period ended December 31, 2022, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements referred to above 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 accounting principles generally accepted in the United States of America.

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 23, 2023, expressed an unqualified opinion thereon.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits.

We are a public accounting firm registered with the 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 audits 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 include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the consolidated financial statements that were communicated or required to be communicated to the Audit and Risk Committee and that: (1) relate 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 critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Allowance for Credit Losses (ACL)

The Company's allowance for credit losses (ACL) for expected credit losses on loans and leases was \$96.6 million as of December 31, 2022. The determination of the ACL has been identified by the Company as a critical accounting estimate. The ACL is based on relevant information from internal and external resources on past events, current conditions, and reasonable and supportable forecasts and requires enhanced disclosures related to the significant estimates and judgments used in estimating credit losses, as well as the credit quality and underwriting standards of the Company's portfolio. As further described in Notes 1 and 3 to the consolidated financial statements, the Company estimates its ACL on a pooled basis for loans and leases that share risk characteristics and on an individual basis for those that do not. For those evaluated on a pooled basis, the Company's historical credit loss experience, combined with reasonable and supportable forecasts, supports the underlying assumptions for the estimation of a quantitative component of the ACL. In addition, there is a qualitative factor component of the ACL based on additional internal and external indicators that adjust for differences in current risk characteristics not considered within the quantitative modeling. The Company estimates reserves on individually evaluated loans and leases using a discounted cash flow methodology or through the evaluation of collateral values. The estimation of the ACL is inherently subjective as it requires estimates that are susceptible to significant revision as more information becomes available.

We identified the Company's estimate of the ACL as a critical audit matter. The principal considerations for that determination were the degree of subjectivity and judgment required to audit management's identification of individually evaluated loans and leases and quantification of the related ACL, management's selection of assumptions for both the quantitative and qualitative factor components of the ACL for the pooled loans and leases and our use of an auditor's specialist. This was particularly true for the areas considered by management in establishing the qualitative factors, as well as the level assigned by management to each qualitative factor.

The primary procedures we performed to address this critical audit matter included the following:

- We evaluated the design and tested the operating effectiveness of controls relating to management's determination of the ACL, including controls over:
 - The credit administration function to ensure the timely and complete identification of individually evaluated loans and leases;
 - Management's review of portfolio trends that might impact the calculation of the ACL, and;
 - Management's review of the ACL, including the review of the qualitative components of the ACL.
- We tested the completeness of the individually evaluated loan and lease population, including testing the modifications for potential troubled debt restructurings, substandard or worse rated loans and leases, non-accrual loans and leases and past due loans and leases.
- We tested the calculation of losses on a sample of identified individually evaluated loans and leases, including assessing the reasonableness of the significant assumptions including any adjustments made to appraisals for discounts, selling costs, and other unobservable adjustments.
- We involved the firm's internal valuation specialists to assist in:
 - Evaluating the appropriateness of forecast inputs and assumptions, and;
 - Testing the design of the model calculation through a re-performance of the discounted cash flow on a sample basis.
- We evaluated the reasonableness of management's application of qualitative factor adjustments to the ACL, including the comparison of factors considered by management to third party or internal sources as well as evaluated the appropriateness and level of the qualitative factor adjustments.
- We inspected overall trends in credit quality by comparing the Company's year-over-year and quarterly changes in qualitative factors and the ACL.
- We evaluated subsequent events and transactions and considered whether they corroborated or contradicted the Company's conclusion.

Loans Held at Fair Value

As described in Notes 1 and 10 to the consolidated financial statements, the Company had \$494.5 million of loans held for investment as of December 31, 2022, representing retained participating interests of government guaranteed loans, for which management elected the fair value option. The valuation of loans accounted for under the fair value option has been identified by the Company as a critical accounting estimate. The fair values of loans are determined by discounting estimated cash flows and incorporating measurements of probability of default, loss given default, prepayments, estimated outstanding exposure at default, and the effective interest rate. If the loan is collateral dependent, the fair value is determined based on the difference between the fair value of the collateral and the amortized cost basis of the loan as of the measurement date. Fair value of the loan's collateral is determined by appraisal, independent valuation, or management's estimation of fair value, which is then adjusted for the cost related to the liquidation of the collateral.

We identified the Company's estimate of the fair value of loans for which the fair value option has been elected as a critical audit matter. The principal considerations for that determination were the high degree of subjectivity and auditor judgment required to assess the reasonableness of the assumptions, calculations in the valuation model related to the credit component of fair value, and our use of an auditor's specialist.

The primary procedures we performed to address this critical audit matter included the following:

- We obtained an understanding of the Company's process for establishing the fair value measurement, including the implementation of the model and basis for development and related adjustments of the qualitative factor components for the credit risk.
- We evaluated the design and tested the operating effectiveness of controls relating to the determination of the discount related to credit risk, including management's assessment of the adjustments applied to determine the qualitative component.
- We involved the firm's internal valuation specialists to assist in:
 - Evaluating the appropriateness of forecast inputs and assumptions, and;
 - Testing the design of the model calculation through a re-performance of discounted cash flows on loans accounted for under the fair value option.

Servicing Assets

The Company's servicing assets were \$26.3 million as of December 31, 2022. As described within Notes 1, 5, and 10 to the consolidated financial statements, the Company recognizes servicing assets, which represent the portion of the servicing spread that exceeds adequate compensation for the servicing function of the sold portion of loans originated by the Company. The valuation of the servicing asset has been identified by the Company as a critical accounting estimate. The Company accounts for the servicing assets at fair value with changes in the fair value reported in loan servicing asset revaluation within the consolidated statements of income. The determination of the servicing assets' fair value is based on a valuation model that incorporates assumptions such as adequate compensation for servicing, the discount rate, the custodial earnings rate, an inflation rate, ancillary income, prepayment speeds, and default rates and losses. The fair value of servicing rights is sensitive to changes in underlying assumptions. Prepayment speeds are one of the most significant assumptions.

We identified the Company's valuation of the servicing asset as a critical audit matter. The principal considerations for that determination were the high degree of auditor judgment required to assess the reasonableness of certain assumptions used in the valuation model and our use of an auditor's specialist. For instance, prepayment speeds and default rates are unobservable inputs developed using proprietary information from management's internal valuation specialists' database. In particular, the assumptions around prepayment speeds are the most subjective and provide the most sensitivity to the servicing rights.

The primary procedures we performed to address this critical audit matter included the following:

- We evaluated the design and tested the operating effectiveness of controls relating to the valuation of servicing assets, including controls over:
 - Management's valuation model, which is designed to ensure the completeness and accuracy of data used in the model, and;
 - The determination of significant inputs and assumptions, including unobservable inputs such as prepayment speeds, used in the model.

- We involved the firm's internal valuation specialists to assist in:
 - Evaluating the methodologies and assumptions used by management, including assessing the reasonableness of significant unobservable inputs such as prepayment speeds and assumptions of the valuation model, and;
 - Independently calculating the discounted cash flows at the individual loan level for a sample of loans and comparing the results to management's estimate.
- We inspected overall trends for the discount rate, prepayment speed, and servicing asset to compare the quarterly change, over a twelve-quarter period, and how the Company's discount rate assumptions compared to observable market interest rate trends.

/s/ FORVIS, LLP (Formerly, Dixon Hughes Goodman LLP)

We have served as the Company's auditor since 2010.

Greenville, North Carolina

February 23, 2023

Report of Independent Registered Public Accounting Firm

To the Shareholders, Board of Directors, and Audit and Risk Committee
Live Oak Bancshares, Inc.

Opinion on the Internal Control over Financial Reporting

We have audited Live Oak Bancshares, Inc.'s (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 (COSO). 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 COSO.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) ("PCAOB"), the consolidated financial statements of the Company as of December 31, 2022 and 2021, and for each of the three years in the period ended December 31, 2022, and our report dated February 23, 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 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.

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

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

/s/ FORVIS, LLP (Formerly, Dixon Hughes Goodman LLP)

Greenville, North Carolina

February 23, 2023

Live Oak Bancshares, Inc.
Consolidated Balance Sheets
(Dollars in thousands)

	December 31, 2022	December 31, 2021
Assets		
Cash and due from banks	\$ 280,239	\$ 187,203
Federal funds sold	136,397	16,547
Certificates of deposit with other banks	4,000	4,750
Investment securities available-for-sale	1,014,719	906,052
Loans held for sale (includes \$25,310 measured at fair value at December 31, 2021)	554,610	1,116,519
Loans and leases held for investment (includes \$494,458 and \$645,201 measured at fair value, respectively)	7,344,178	5,521,262
Allowance for credit losses on loans and leases	(96,566)	(63,584)
Net loans and leases	7,247,612	5,457,678
Premises and equipment, net	263,290	240,196
Foreclosed assets	—	620
Servicing assets	26,323	33,574
Other assets	328,308	250,254
Total assets	<u>\$ 9,855,498</u>	<u>\$ 8,213,393</u>
Liabilities and Shareholders' Equity		
Liabilities		
Deposits:		
Noninterest-bearing	\$ 194,100	\$ 89,279
Interest-bearing	8,690,828	7,022,765
Total deposits	8,884,928	7,112,044
Borrowings	83,203	318,289
Other liabilities	76,334	67,927
Total liabilities	<u>9,044,465</u>	<u>7,498,260</u>
Shareholders' equity		
Preferred stock, no par value, 1,000,000 authorized, none issued or outstanding at December 31, 2022 and December 31, 2021	—	—
Class A common stock, no par value, 100,000,000 shares authorized, 44,061,244 and 43,494,046, shares issued and outstanding at December 31, 2022 and December 31, 2021, respectively	330,854	310,970
Class B common stock, no par value, 10,000,000 shares authorized, none issued or outstanding at December 31, 2022 and 125,024 shares issued and outstanding at December 31, 2021	—	1,324
Retained earnings	572,497	400,893
Accumulated other comprehensive (loss) income	(92,318)	1,946
Total shareholders' equity	<u>811,033</u>	<u>715,133</u>
Total liabilities and shareholders' equity	<u>\$ 9,855,498</u>	<u>\$ 8,213,393</u>

See Notes to Consolidated Financial Statements

Live Oak Bancshares, Inc.
Consolidated Statements of Income
(Dollars in thousands, except per share data)

	Years Ended December 31,		
	2022	2021	2020
<i>Interest income</i>			
Loans and fees on loans	\$ 418,545	\$ 347,738	\$ 270,770
Investment securities, taxable	19,667	12,533	15,016
Other interest earning assets	6,261	942	2,622
Total interest income	444,473	361,213	288,408
<i>Interest expense</i>			
Deposits	115,035	59,740	89,726
Borrowings	1,937	4,688	3,959
Total interest expense	116,972	64,428	93,685
Net interest income	327,501	296,785	194,723
<i>Provision for loan and lease credit losses</i>	40,943	15,210	40,658
Net interest income after provision for loan and lease credit losses	286,558	281,575	154,065
<i>Noninterest income</i>			
Loan servicing revenue	25,359	25,219	26,600
Loan servicing asset revaluation	(16,577)	(11,726)	(9,958)
Net gains on sales of loans	43,244	67,280	49,473
Net gain (loss) on loans accounted for under the fair value option	1,046	4,257	(13,083)
Equity method investments income (loss)	144,250	(1,716)	(14,691)
Equity security investments gains (losses), net	3,355	44,752	14,909
Gain on sale of investment securities available-for-sale, net	—	—	1,880
Lease income	10,084	10,263	10,508
Management fee income	10,090	6,378	6,352
Other noninterest income	17,141	15,493	14,010
Total noninterest income	237,992	160,200	86,000
<i>Noninterest expense</i>			
Salaries and employee benefits	170,822	124,932	112,525
Travel expense	8,499	5,809	3,451
Professional services expense	11,737	15,135	6,359
Advertising and marketing expense	10,543	5,002	3,510
Occupancy expense	11,088	8,423	8,757
Technology expense	28,434	22,648	15,681
Equipment expense	15,120	14,869	15,394
Other loan origination and maintenance expense	13,168	13,529	10,790
Renewable energy tax credit investment impairment	16,217	3,187	—
FDIC insurance	9,756	7,070	7,473
Contributions and donations	6,462	2,331	1,238
Other expense	12,380	8,052	7,498
Total noninterest expense	314,226	230,987	192,676
<i>Income before taxes</i>	210,324	210,788	47,389
Income tax expense (benefit)	34,116	43,793	(12,154)
Net income	\$ 176,208	\$ 166,995	\$ 59,543
Basic earnings per share	\$ 4.02	\$ 3.87	\$ 1.46
Diluted earnings per share	\$ 3.92	\$ 3.71	\$ 1.43

See Notes to Consolidated Financial Statements

Live Oak Bancshares, Inc.
Consolidated Statements of Comprehensive Income
(Dollars in thousands)

	Years Ended December 31,		
	2022	2021	2020
Net income	\$ 176,208	\$ 166,995	\$ 59,543
Other comprehensive (loss) income before tax:			
Net unrealized (loss) gain on investment securities available-for-sale during the period	(124,032)	(25,738)	14,752
Reclassification adjustment for gain on sale of securities available- for-sale included in net income	—	—	(1,880)
Other comprehensive (loss) income before tax	(124,032)	(25,738)	12,872
Income tax benefit (expense)	29,768	6,177	(3,089)
Other comprehensive (loss) income, net of tax	(94,264)	(19,561)	9,783
Total comprehensive income	<u>\$ 81,944</u>	<u>\$ 147,434</u>	<u>\$ 69,326</u>

See Notes to Consolidated Financial Statements

Live Oak Bancshares, Inc.
Consolidated Statements of Changes in Shareholders' Equity

(Dollars in thousands, except per share data)

	Common stock			Retained earnings	Accumulated other comprehensive income (loss)	Total equity
	Shares		Amount			
	Class A	Class B				
Balance at December 31, 2019	37,401,443	2,915,531	\$ 340,397	\$ 180,265	\$ 11,724	\$ 532,386
Net income	—	—	—	59,543	—	59,543
Other comprehensive income	—	—	—	—	9,783	9,783
Issuance of restricted stock	1,510,066	—	—	—	—	—
Tax withholding related to vesting of restricted stock and other	—	—	(49,229)	—	—	(49,229)
Employee stock purchase program	39,253	—	520	—	—	520
Non-voting common stock converted to voting common stock in private sale	1,807,774	(1,807,774)	—	—	—	—
Cumulative effect of accounting change for Accounting Standards Update 2016-13	—	—	—	822	—	822
Stock option exercises	496,226	—	3,069	—	—	3,069
Stock option based compensation expense	—	—	1,594	—	—	1,594
Restricted stock expense	—	—	13,146	—	—	13,146
Issuance of common stock in connection with acquisition of wholly-owned subsidiary	89,927	—	1,122	—	—	1,122
Cash dividends (\$0.12 per share)	—	—	—	(4,906)	—	(4,906)
Balance at December 31, 2020	41,344,689	1,107,757	\$ 310,619	\$ 235,724	\$ 21,507	\$ 567,850
Net income	—	—	—	166,995	—	166,995
Other comprehensive loss	—	—	—	—	(19,561)	(19,561)
Issuance of restricted stock	453,127	—	—	—	—	—
Tax withholding related to vesting of restricted stock and other	—	—	(19,151)	—	—	(19,151)
Employee stock purchase program	13,674	—	670	—	—	670
Non-voting common stock converted to voting common stock in private sale	982,733	(982,733)	—	—	—	—
Stock option exercises	709,823	—	4,158	—	—	4,158
Stock option based compensation expense	—	—	1,379	—	—	1,379
Restricted stock expense	—	—	15,572	—	—	15,572
Transfer from retained earnings to other assets for pro rata portion of equity method investee stock compensation expense	—	—	—	3,360	—	3,360
Repurchase and retirement of shares securing a note receivable	(10,000)	—	(953)	—	—	(953)
Cash dividends (\$0.12 per share)	—	—	—	(5,186)	—	(5,186)
Balance at December 31, 2021	43,494,046	125,024	\$ 312,294	\$ 400,893	\$ 1,946	\$ 715,133
Net income	—	—	—	176,208	—	176,208
Other comprehensive loss	—	—	—	—	(94,264)	(94,264)
Issuance of restricted stock	211,235	—	—	—	—	—
Tax withholding related to vesting of restricted stock and other	—	—	(4,972)	—	—	(4,972)
Employee stock purchase program	29,383	—	1,067	—	—	1,067
Non-voting common stock converted to voting common stock in private sale	125,024	(125,024)	—	—	—	—
Stock option exercises	201,556	—	2,118	—	—	2,118
Stock option based compensation expense	—	—	942	—	—	942
Restricted stock expense	—	—	19,405	—	—	19,405
Transfer from retained earnings to other assets for pro rata portion of equity method investee stock compensation expense	—	—	—	662	—	662
Cash dividends (\$0.12 per share)	—	—	—	(5,266)	—	(5,266)
Balance at December 31, 2022	44,061,244	—	\$ 330,854	\$ 572,497	\$ (92,318)	\$ 811,033

See Notes to Consolidated Financial Statements

Live Oak Bancshares, Inc.
Consolidated Statements of Cash Flows
(Dollars in thousands)

	Years Ended December 31,		
	2022	2021	2020
<i>Cash flows from operating activities</i>			
Net income	\$ 176,208	\$ 166,995	\$ 59,543
Adjustments to reconcile net income to net cash provided (used) by operating activities:			
Depreciation and amortization	20,779	21,366	21,688
Provision for loan and lease credit losses	40,943	15,210	40,658
Amortization of premium on securities, net of accretion	3,420	6,461	3,359
Deferred tax expense (benefit)	27,129	24,808	(17,447)
Originations of loans held for sale	(1,042,061)	(1,364,168)	(1,183,152)
Proceeds from sales of loans held for sale	1,067,758	1,092,222	875,393
Net gains on sale of loans held for sale	(43,244)	(67,280)	(49,473)
Net (gain) loss on sale of foreclosed assets	(24)	(779)	12
Net (gain) loss on loans accounted for under fair value option	(1,046)	(4,257)	13,083
Net decrease in servicing assets	7,251	344	1,447
Gain on sale of investment securities available-for-sale, net	—	—	(1,880)
Net (gain) loss on sale or disposal of long lived asset	—	(114)	6
Net loss (gain) on disposal of premises and equipment	31	(48)	38
Impairment on premises and equipment, net	—	904	1,263
Equity method investments (income) loss	(144,250)	1,716	14,691
Equity security investments (gains) losses, net	(3,355)	(44,752)	(14,909)
Renewable energy tax credit investment impairment	16,217	3,187	—
Stock option compensation expense	942	1,379	1,594
Restricted stock compensation expense	19,405	15,572	13,146
Stock based compensation excess tax benefit	531	9,340	22,043
Business combination contingent consideration fair value adjustment	(86)	99	163
Lease right-of-use assets and liabilities, net	232	(26)	42
Changes in assets and liabilities:			
Other assets	(15,889)	1,754	(64,323)
Other liabilities	(6,406)	350	2,018
Net cash provided (used) by operating activities	124,485	(119,717)	(260,997)
<i>Cash flows from investing activities</i>			
Purchases of investment securities available-for-sale	(397,346)	(428,246)	(396,187)
Proceeds from sales, maturities, calls, and principal paydowns of investment securities available-for-sale	161,227	240,093	197,527
Proceeds from SBA reimbursement/sale of foreclosed assets, net	1,837	6,786	5,282
Business combination, net of cash acquired	—	—	(895)
Maturities of certificates of deposit with other banks	750	1,750	750
Loan and lease originations and principal collections, net	(1,268,871)	8,824	(2,414,016)
Proceeds from sale of long lived asset	—	8,988	9,063
Purchases of equity security investments	(9,283)	—	—
Purchases of equity method investments	(35,955)	—	—
Proceeds from sale of equity security investments	625	15,000	—
Proceeds from sale of equity method investments	148,423	—	—
Proceeds from sale of premises and equipment	—	84	4
Purchases of premises and equipment, net	(43,751)	(3,082)	(20,989)
Net cash used by investing activities	(1,442,344)	(149,803)	(2,619,461)

See Notes to Consolidated Financial Statements

Live Oak Bancshares, Inc.
Consolidated Statements of Cash Flows (Continued)
(Dollars in thousands)

	Years Ended December 31,		
	2022	2021	2020
<i>Cash flows from financing activities</i>			
Net increase in deposits	\$ 1,772,884	\$ 1,399,216	\$ 1,485,848
Proceeds from borrowings	62,096	602,848	1,828,033
Repayment of borrowings	(297,182)	(1,826,652)	(285,954)
Stock option exercises	2,118	4,158	3,069
Employee stock purchase program	1,067	670	520
Withholding cash issued in lieu of restricted stock and other	(4,972)	(19,151)	(49,229)
Repurchase and retirement of shares	—	(953)	—
Shareholder dividend distributions	(5,266)	(5,186)	(4,906)
Net cash provided by financing activities	1,530,745	154,950	2,977,381
Net increase (decrease) in cash and cash equivalents	212,886	(114,570)	96,923
<i>Cash and cash equivalents, beginning</i>	203,750	318,320	221,397
<i>Cash and cash equivalents, ending</i>	\$ 416,636	\$ 203,750	\$ 318,320
<i>Supplemental disclosure of cash flow information</i>			
Interest paid	\$ 117,516	\$ 66,844	\$ 91,801
Income tax paid, net	24,708	19,722	11,486
<i>Supplemental disclosures of noncash operating, investing, and financing activities</i>			
Unrealized holding (losses) gains on investment securities available-for-sale, net of taxes	\$ (94,264)	\$ (19,561)	\$ 9,783
Transfers from loans and leases to foreclosed real estate and other repossessions or SBA receivable	18,496	13,346	16,091
Net transfers between foreclosed real estate and SBA receivable	(15)	(1,643)	252
Transfer aircraft from premises and equipment, net to held for sale assets	—	—	17,943
Transfer of loans held for sale to loans and leases held for investment	930,612	638,696	295,981
Transfer of loans and leases held for investment to loans held for sale	468,042	338,873	97,341
Transfer from retained earnings to other assets for pro rata portion of equity method investee stock compensation expense	662	3,360	—
Equity method investment commitments	17,022	—	2,940
Equity security investment commitments	394	2,245	—
Business combination:			
Assets acquired (excluding goodwill)	—	—	2,523
Liabilities assumed	—	—	2,074
Goodwill recorded	—	—	1,797

See Notes to Consolidated Financial Statements

Note 1. Organization and Summary of Significant Accounting Policies

Organization

Live Oak Bancshares, Inc. (collectively with its subsidiaries including Live Oak Banking Company, the “Company”) is a bank holding company headquartered in Wilmington, North Carolina incorporated under the laws of North Carolina in December 2008. The Company conducts business operations primarily through its commercial bank subsidiary, Live Oak Banking Company (the “Bank”). The Bank was organized and incorporated under the laws of the State of North Carolina on February 25, 2008 and commenced operations on May 12, 2008. The Bank has satellite sales offices across the United States. The Bank specializes in lending and deposit related services to small businesses nationwide. The Bank identifies and extends lending to credit-worthy borrowers both within specific industries, also called verticals, through expertise within those industries, and more broadly to select borrowers outside of those industries. A significant portion of the loans originated by the Bank are partially guaranteed by the Small Business Administration (“SBA”) under the 7(a) Loan Program and the U.S. Department of Agriculture (“USDA”) Rural Energy for America Program (“REAP”), Water and Environmental Program (“WEP”), Business & Industry (“B&I”) and Community Facilities loan programs.

The Company’s wholly owned material subsidiaries are the Bank, Government Loan Solutions (“GLS”), Live Oak Grove, LLC (“Grove”), Live Oak Ventures, Inc. (“Live Oak Ventures”), and Canapi Advisors, LLC (“Canapi Advisors”). GLS is a management and technology consulting firm that advises and offers solutions and services to participants in the government guaranteed lending sector. GLS primarily provides services in connection with the settlement, accounting, and securitization processes for government guaranteed loans, including loans originated under the SBA 7(a) loan programs and USDA guaranteed loans. The Grove provides Company employees and business visitors an on-site restaurant location. Live Oak Ventures’ purpose is investing in businesses that align with the Company’s strategic initiative to be a leader in financial technology. Canapi Advisors provides investment advisory services to a series of funds focused on providing venture capital to new and emerging financial technology companies.

The Bank’s wholly owned subsidiaries are Live Oak Number One, Inc., Live Oak Clean Energy Financing LLC (“LOCEF”), Live Oak Private Wealth, LLC (“Live Oak Private Wealth”) and Tiburon Land Holdings, LLC (“TLH”). Live Oak Number One, Inc. holds properties foreclosed on by the Bank. LOCEF provides financing to entities for renewable energy applications. Live Oak Private Wealth provides high-net-worth individuals and families with strategic wealth and investment management services. During the first quarter of 2022, Jolley Asset Management, LLC (“JAM”) was merged into Live Oak Private Wealth. JAM was previously a wholly owned subsidiary of Live Oak Private Wealth. See Business Combination discussion below for more information on the acquisition of JAM in 2020. TLH was formed in the third quarter of 2022 to hold land adjacent to the Bank’s headquarters consisting of wetlands and other protected property for the use and enjoyment of the Bank’s employees and customers.

Basis of Presentation

Dollar amounts in all tables in the Notes to Consolidated Financial Statements have been presented in thousands, except percentage, time period, stock option, share and per share data. The accounting and reporting policies of the Company and the Bank follow United States generally accepted accounting principles (“GAAP”) and general practices within the financial services industry. The following is a description of the significant accounting and reporting policies the Company follows in preparing and presenting its consolidated financial statements.

The Company has evaluated subsequent events for potential recognition and/or disclosure through the date these consolidated financial statements were issued.

Consolidation Policy

The consolidated financial statements include the financial statements of the Company and its directly and indirectly wholly owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

Live Oak Bancshares, Inc.

Notes to Consolidated Financial Statements

The Company evaluates its relationships with other entities to identify whether they are a voting interest entity or variable interest entity ("VIE"). Voting interest entities are entities that generally (1) have sufficient equity to finance their activities and (2) provide the equity investors with power to make significant decisions relating to the entity's operations. A voting interest entity is consolidated if the Company holds majority voting rights.

The Company is considered to hold a controlling financial interest in a VIE when it is the primary beneficiary. A primary beneficiary has both (1) the power to direct the activities that most significantly impact the VIE's economic performance, and (2) the obligation to absorb losses or receive benefits of a VIE that could potentially be significant to a VIE. The parties that make investment and investment decisions, or parties that can unilaterally remove those decision makers are deemed to have the power to direct the activities of a VIE. The Company considers all of its economic interests in the VIE when determining whether it has the obligation to absorb losses or the right to receive benefits from the VIE. For details on the Company's VIE investments refer to Note 2. Securities, "Variable Interest Entities."

Business Combinations

Business combinations are accounted for by applying the acquisition method in accordance with Accounting Standards Codification (ASC) 805, *Business Combinations*. Under the acquisition method, identifiable assets acquired and liabilities assumed, and any non-controlling interest in the acquiree at the acquisition date are measured at their fair values as of that date, and are recognized separately from any resulting goodwill. Results of operations of the acquired entities are included in the consolidated statements of income and comprehensive income from the date of acquisition. Any subsequent measurement-period adjustments are recorded within 12 months of the acquisition date.

On April 1, 2020, the Company acquired 100% of the equity interests of JAM, a registered investment advisor based in Rocky Mount, North Carolina. Goodwill, intangible assets and contingent consideration of \$1.8 million, \$2.3 million and \$2.1 million, respectively, were recorded by the Company as a result of this transaction. Intangible assets are almost entirely comprised of customer relationships that are being amortized using the straight-line method over 15 years. As a result of this acquisition, the Bank's wholly owned subsidiary Live Oak Private Wealth, broadened service offerings to existing high-net-worth individuals and families, attracted new clients from an expanded footprint and benefited from economies of scale. The acquisition did not materially impact the Company's financial position, results of operations or cash flows. Given the impact of the above acquisition was immaterial to the Company and its results of operations, additional disclosures have not been included.

Business Segments

Operating segments are components of an enterprise about which separate financial information is available that is evaluated regularly by the chief operating decision maker in deciding how to allocate resources and in assessing performance. Management has determined that the Company has two reportable operating segments: Banking and Fintech, as discussed more fully in Note 16. Segments.

Use of Estimates

In preparing financial statements in conformity with GAAP, management is required to make estimates and assumptions that affect reported amounts of assets and liabilities as of the date of the balance sheet and reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Material estimates that are particularly susceptible to significant change in the near term relate to the determination of the allowance for credit losses on loans and leases, valuations of loans at fair value and servicing assets.

Cash and Cash Equivalents

For the purpose of presentation in the consolidated statements of cash flows, cash and cash equivalents are defined as those amounts included in the balance sheet caption "cash and due from banks" and "federal funds sold." Cash and cash equivalents have an initial maturity of three months or less.

To comply with banking regulations, the Company is required to maintain certain average cash reserve balances. The daily average cash reserve requirement was suspended for the years ended December 31, 2022 and 2021.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Certificates of Deposit with other Banks

Certificates of deposit with other banks have maturities ranging from September 2023 through December 2023 and bear interest at rates ranging from 0.20% to 3.55%. All investments in certificates of deposit are with FDIC insured financial institutions and none exceed the maximum insurable amount of \$250 thousand.

Investments

Debt Securities

Debt securities that management has the positive intent and ability to hold to maturity are classified as held-to-maturity and recorded at amortized cost. Securities that may be sold prior to maturity are classified as available-for-sale and recorded at fair value. Unrealized gains and losses for available-for-sale investment securities, other than certain credit-related impairment losses, are excluded from earnings and reported in other comprehensive income. The Company's entire portfolio of debt securities is classified as available-for-sale for the periods presented.

Purchase premiums and discounts on debt securities are recognized in interest income using the interest method over the terms of the securities. Gains and losses on the sales of these securities are typically recorded on the trade date and are determined using the specific identification method.

When debt securities are in an unrealized loss position, the Company first assesses whether it intends to sell, or it is more likely than not that it will be required to sell, the security before recovery of its amortized cost basis. If either of the criteria regarding intent or requirement to sell is met, the security's amortized cost basis is written down to fair value through income. Debt securities that do not meet the aforementioned criteria are evaluated to determine whether the decline in fair value has resulted from credit losses or other factors. In making this assessment, management considers the extent to which fair value is less than amortized cost, any changes to the rating of the security by a rating agency, and adverse conditions specifically related to the security, among other factors. If this assessment indicates that a credit loss exists, the present value of cash flows expected to be collected from the security are compared to the amortized cost basis of the security. If the present value of cash flows expected to be collected from the security is less than the amortized cost basis, a credit loss exists and an allowance for credit losses ("ACL") is recorded for the credit loss, limited by the amount that the fair value is less than the amortized cost basis. Any impairment that has not been recorded through an ACL is recognized in other comprehensive income. Changes in the ACL are recorded as provision for, or reversal of, credit loss expense. Losses are charged against the allowance when management believes the uncollectibility of an available-for-sale security is confirmed or when either of the criteria regarding intent or requirement to sell is met. Management has made the accounting policy election to exclude accrued interest receivable on available-for-sale debt securities from the estimate of credit losses. Securities are charged-off against the allowance or, in the absence of any allowance, written down through income when deemed uncollectible by management or when either of the aforementioned criteria regarding intent or requirement to sell is met.

Equity Investments

Equity investments are generally non-marketable investments and are included in the other assets line in the consolidated balance sheets. Earnings impacts are reflected in the equity method investments income (loss) and equity security investments gains (losses), net line items on the consolidated statements of income. The Company generally accounts for equity investments either under the equity method or equity security accounting.

Investments through which there is significant influence but not control over the investee are accounted for under the equity method. The determination of whether the Company has significant influence over an investee requires judgement based on the facts and circumstances of each investment including level of ownership, power to control and legal structure. Significant influence is generally presumed to exist in privately held companies where the Company owns at least 20%, or 5% for limited partnerships or limited liability companies in certain circumstances, or circumstances where there is ability to exercise significant influence over the investee's operating and financial policies through board involvement or other influence. Under the equity method, the Company recognizes its proportionate share of the results of operations of the investee based on most current information available. In instances where cash distributions vary at different points and/or are not directly linked to the Company's ownership percentage, the investee's net income or loss is allocated using the hypothetical liquidation at book value ("HLBV") method.

Live Oak Bancshares, Inc.

Notes to Consolidated Financial Statements

Investments through which the Company is not able to exercise significant influence over the investee are accounted for as equity securities whereby investments are measured at fair value with changes in fair value recognized in net income, unless those investments have no readily determinable fair value. Investments without a readily determinable fair value are measured at cost minus impairment, if any, plus or minus changes in value resulting from observable price changes arising from orderly transactions. Management considers a range of factors when adjusting the fair value of these investments, including, but not limited to, the term and nature of the investment, market conditions, values for comparable securities, current and projected operating performance, exit strategies, financing transactions subsequent to the acquisition of the investment and a discount for certain investments that have lock-up restrictions or other features that indicate a discount to fair value is warranted.

For equity securities not accounted for at fair value, any impairment is recognized with the full charge recorded in earnings. To determine whether such equity security is impaired, the Company considers various indicators of impairment, including (1) the length of time and the extent to which the fair value has been less than cost, (2) the financial condition and near-term prospects of the issuer, and (3) the intent and ability of the Company to retain its investment in the issuer for a period of time sufficient to allow for any anticipated recovery in fair value.

Federal Home Loan Bank Stock

Membership in the Federal Home Loan Bank of Atlanta (“FHLB”) requires ownership of FHLB stock. FHLB stock is restricted because it may only be sold to the FHLB and all sales must be at par. FHLB stock is carried at cost minus impairment, if any, and is recorded within other assets in the consolidated balance sheets. FHLB stock was \$4.1 million and \$3.9 million at December 31, 2022 and 2021, respectively.

Loans and Leases

Fair Value Option

Prior to 2021, management evaluated retained participating interests in government guaranteed loans for the fair value option election. Those loans for which the fair value option were elected are measured at fair value and classified as either held for sale or held for investment, as outlined below. Not electing fair value generally results in a larger discount being recorded on the date of the sale. This discount will subsequently be accreted into interest income over the underlying loan’s remaining term using the effective interest method. Management made this change of election in alignment with its ongoing effort to reduce volatility and drive more predictable revenue. In accordance with accounting standards, any loans for which fair value was previously elected continue to be measured as such. Interest income is recognized in the same manner on loans reported at fair value as on non-fair value loans, except in regard to origination fees and costs which are recognized immediately upon fair value election. The changes in fair value of loans are reported in noninterest income. Fair value of loans includes adjustments for historical credit losses, market liquidity, and economic conditions.

The credit loss adjustment is estimated using a discounted cash flow (“DCF”) methodology for each loan which incorporates measurements of (i) probability of default (“PD”), which is the likelihood a loan or lease will stop performing, (ii) loss given default (“LGD”), which is the expected loss rate for loans or leases in default, (iii) prepayments, (iv) the estimated outstanding exposure at default (“EAD”), and (v) the effective interest rate (“EIR”). PD rates are calculated using the number of defaults divided by the number of loans available to default for 1-year observation periods over the lifetime of data available for a certain pool. LGD rates are calculated by dividing the lifetime net charge-offs for each pool by the pool’s average outstanding balance. PD and LGD rates are adjusted for forecasted national unemployment rates during a reasonable and supportable forecast period. Management has determined that four quarters represents a reasonable and supportable forecast period and adjusted loss rates revert back to a historical loss rate over four quarters on a straight-line basis. Expected losses are calculated as the product of PD, LGD, and EAD. Expected losses are discounted using the loan or lease EIR, adjusted for prepayments. Market liquidity and economic condition adjustments are estimated using the sale prices of similar loans based on rate, term, and asset size. This evaluation is inherently subjective as it requires estimates that are susceptible to significant revision as more information becomes available.

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Held for Sale

Management designates loans as held for sale based on its intent to sell loans, or portions of loans, in established secondary markets or to participant banks and credit unions. Salability requirements of government guaranteed portions include, but are not limited to, full disbursement of the loan commitment amount. Loans held for sale are carried at either fair value, if the fair value option is elected, or the lower of cost or estimated fair value determined on a loan-by-loan basis. Net unrealized losses, if any, on loans without a fair value election, are recognized through a valuation allowance and recorded as a charge to noninterest income. The cost basis of loans held for sale includes unamortized loan origination fees and costs. The pro-rata portion, based on the percent of the total loan sold, of the remaining deferred fees and costs are recognized as an adjustment to the gain on sale.

Transfers of loans, or portions of loans that meet the definition of a participating interest are accounted for as sales on the transaction settlement date when control has been surrendered. Control is deemed surrendered when the loans have been (1) legally isolated from the Company, (2) the transferee obtains the right to pledge or transfer the loans free of conditions that constrain it from using that right, and (3) the Company does not maintain effective control over the loans through a repurchase agreement or other means. If the transfer is accounted for as a sale, the loans are derecognized from the Company's consolidated balance sheet and a gain or loss is recognized in net gains on sales of loans line item on the consolidated statements of income. The gain on sale recognized in income is the sum of the premium on the guaranteed loan and the fair value of the servicing assets recognized, less the discount recorded on the unguaranteed portion of the loan retained, and any fair value fluctuations in associated exchange-traded interest rate futures contracts. If the transfer does not satisfy the aforementioned control criteria, the transaction is recorded as a secured borrowing with the transferred loans remaining on the Company's consolidated balance sheet and proceeds recognized as a liability.

In accordance with SBA and USDA regulation, the Bank is required to retain 10% and 7.5% of the principal balance of any SBA 7(a) or USDA loan, respectively, comprised of unguaranteed dollars. With written consent from the SBA, the Bank may sell down to a 5% exposure comprised of unguaranteed dollars.

The Company occasionally transfers loans between the held for sale and held for investment classifications based on its intent and ability to hold or sell loans. Management's intent to sell may be impacted by secondary market conditions, loan credit quality, or other factors.

The following summarizes the activity pertaining to loans held for sale for the years ended December 31, 2022 and 2021:

	2022	2021
Balance at beginning of year	\$ 1,116,519	\$ 1,175,470
Originations	1,042,061	1,364,168
Proceeds from sale	(1,067,758)	(1,092,222)
Gain on sale of loans	43,244	67,280
Principal collections, net of deferred fees and costs	(116,886)	(98,354)
Non-cash transfers, net	(462,570)	(299,823)
Balance at end of period	<u>\$ 554,610</u>	<u>\$ 1,116,519</u>

Held for Investment

Loans and leases receivable that management has the intent and ability to hold for the foreseeable future or until maturity or pay-off are classified as held for investment and generally reported at their outstanding principal amount, net of unearned income unless the fair value option has been elected. For such loans not carried at fair value, loan origination fees and direct origination costs are deferred and recognized as an adjustment of the loan yield using the interest method. Discounts and premiums on any purchased loans are amortized to income using the interest method over the remaining period to contractual maturity, adjusted for anticipated prepayments. Interest income on loans and leases is recognized as earned on a daily accrual basis at the applicable interest rate.

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Loans and leases designated as held for investment include those identified as more beneficial to hold for the long term as well as the required retention amount defined by the SBA and USDA. Loans and leases held for investment also consist of certain guaranteed and unguaranteed credits including those designated as troubled debt restructurings, nonaccrual, non-marketable, and risk grade 5 or worse as defined by internal risk rating metrics.

Nonaccrual and Past Due Loans

Past due status of loans and leases is determined based on contractual terms. Loans and leases are placed in nonaccrual status and the accrual of interest is discontinued if they become 90 days delinquent or there is evidence that the borrower's ability to make the required payments is not probable. When interest accrual is discontinued, all unpaid accrued interest is reversed against current interest income. Loans and leases, or portions thereof, are charged off when deemed uncollectible.

Troubled Debt Restructurings

A loan or lease is accounted for as a troubled debt restructuring ("TDR") if the Company, for reasons related to the borrower's financial difficulties, restructures a loan or lease, and grants a concession to the borrower that it would not otherwise grant. A TDR typically involves a more than short-term modification of terms such as a reduction of the interest rate below the current market rate for a loan or lease with similar risk characteristics or the waiving of certain financial covenants without corresponding offsetting compensation or additional support.

Allowance for Credit Losses

The Company adopted ASC 326, *Measurement of Credit Losses on Financial Instruments* ("ASC 326") on January 1, 2020. Upon adoption, the Company recorded a net increase to retained earnings of \$822 thousand, comprised of a \$1.3 million decrease in the allowance for credit losses combined with a \$499 thousand increase in reserve on unfunded commitments.

The ACL is a valuation account that is deducted from the amortized cost basis of loans and leases to present a net amount expected to be collected. The ACL is not applicable to loans held for sale and loans accounted for under the fair value option. Loans and leases are charged-off against the ACL when management believes the uncollectibility of a loan or lease balance is confirmed. Expected recoveries do not exceed the aggregate of amounts previously charged-off and expected to be charged-off.

The Company's ACL on loans and leases is estimated using relevant information, from internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts. As a result, the impact of loss mitigation strategies, such as loan modifications and restructurings, are captured in the estimates of loss given default and probability of default. The Company's historical credit loss experience provides the basis for the estimation of expected credit losses.

The ACL is measured on a pooled basis using a quantitative modeling process when similar risk characteristics are present in the portfolio. The Company has identified pools based on industry, which aggregates into divisions, and whether the receivable is secured by real estate or another form of collateral. Additional information related to the portfolio segments can be found in Note 3. Loans and Leases Held for Investment and Credit Quality. Expected credit losses for pooled loans and leases are estimated using a DCF methodology for each loan which incorporates measurements of PD, LGD, prepayments, the estimated outstanding EAD, and the EIR. PD rates are calculated using the number of defaults divided by the number of loans available to default for 1-year observation periods over the lifetime of data available for a certain pool. LGD rates are calculated by dividing the lifetime net charge-offs for each pool by the pool's average outstanding balance. PD and LGD rates are adjusted for forecasted national unemployment rates during a reasonable and supportable forecast period. Management has determined that four quarters represents a reasonable and supportable forecast period and adjusted loss rates revert back to a historical loss rate over four quarters on a straight-line basis. Expected losses are calculated as the product of PD, LGD, and EAD. Expected losses are discounted using the loan or lease EIR, adjusted for prepayments.

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Management adjusts historical loss information for differences in current risk characteristics that are not considered within the quantitative modeling processes but are relevant in assessing the expected credit losses within the loan and lease pools. These qualitative factor adjustments generally increase management's estimate of expected credit losses based upon the estimated level of risk. The various risk factors considered in qualitative adjustments include risk grading, delinquency levels, pool age, portfolio mix and growth rates, and the status of servicing efforts which may be impacted by natural disasters or health pandemics. This evaluation is inherently subjective as it requires estimates that are susceptible to significant revision as more information becomes available.

Loans or leases that do not share risk characteristics are evaluated on an individual basis and are excluded from the pooled evaluation. This generally occurs when, based on current information and events, it is probable that the Company will be unable to collect all interest and principal payments due according to the originally contracted, or reasonably modified, terms of the loan or lease agreement. The Company has determined that loans and leases meeting the criteria defined below must be reviewed quarterly to determine if they should be evaluated for expected credit losses on an individual basis.

- All commercial loans and leases classified substandard or worse.
- Any loan or lease that is on nonaccrual, or any loan or lease that is delinquent greater than 90 days past due and still accruing interest.
- Any loan or lease that was restructured with an interest rate concession and now meets the definition of a TDR.

The Company estimates reserves on individually evaluated loans and leases using a DCF methodology or through the evaluation of collateral values.

During the quarter ended September 30, 2021, management updated the Company's policy for estimating expected credit losses on certain relationships that would otherwise meet the criteria for individual evaluation. Relationships with unguaranteed exposure of less than \$250 thousand are now collectively evaluated using an average of loss rates applied to individually evaluated relationships with unguaranteed exposure between \$250 thousand and \$1.0 million. The impact of this change on the ACL was not considered material.

Expected credit losses are estimated over the contractual term of the loan or lease, adjusted for expected prepayments when appropriate. The contractual term excludes expected extensions, renewals, and modifications unless management has a reasonable expectation at the reporting date that a TDR will be executed with an individual borrower or the extension or renewal options are included in the contract at the reporting date and are not unconditionally cancellable by the Company.

When the ACL, for pooled or individually evaluated loans and leases, is estimated using the DCF method, the effective interest rate used to discount expected cash flows is adjusted for expected prepayments.

When management determines that foreclosure is probable or when the borrower is experiencing financial difficulty at the reporting date and repayment is expected to be provided substantially through the operation or sale of the collateral, expected credit losses are based on the fair value of the collateral at the reporting date, adjusted for selling costs as appropriate.

Allowance for Off-Balance Sheet Credit Exposures

Expected credit losses on off-balance sheet credit exposures is estimated over the contractual period in which the Company is exposed to such losses, unless the obligation to extend credit is unconditionally cancellable. The estimate of off-balance sheet credit exposures includes consideration of the likelihood that funding will occur and an estimate of expected credit losses on commitments expected to be funded over its estimated losses. The estimate is influenced by historical loss experience, adjusted for current risk characteristics, and economic forecasts. The balance of the allowance for off-balance sheet credit exposures was \$1.5 million and \$739 thousand at December 31, 2022 and 2021, respectively, and is recorded in other expense in the consolidated statements of income and other liabilities in the consolidated balance sheets.

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Equipment Leasing

The Company purchases new equipment for the purpose of leasing such equipment to customers within its verticals. Equipment purchased to fulfill commitments to commercial renewable energy projects is leased out under operating leases while leases of equipment outside of the renewable energy vertical are generally direct financing leases. Accordingly, leased assets under operating leases are included in premises and equipment while leased assets under direct financing leases are included in loans and leases held for investment in the consolidated balance sheets.

Direct Financing Leases

Interest income on direct financing leases is recognized when earned. Unearned interest is recognized over the lease term on a basis which results in a constant rate of return on the unrecovered lease investment. The term of each lease is generally 3-7 years which is consistent with the useful life of the equipment with no residual value. The Company records expected credit losses on direct finance leases within the ACL.

Operating Leases

The term of each operating lease is generally 10 to 15 years. The Company retains ownership of the equipment and associated tax benefits such as investment tax credits and accelerated depreciation. At the end of the lease term, the lessee has the option to renew the lease for two additional terms or purchase the equipment at current fair market value.

Rental revenue from operating leases is recognized on a straight-line basis over the term of the lease. Rental equipment is recorded at cost and depreciated to an estimated residual value on a straight-line basis over the estimated useful life. The useful lives generally range from 20 to 25 years and residual values generally range from 20% to 50%, however, they are subject to periodic evaluation. Changes in useful lives or residual values will impact depreciation expense and any gain or loss from the sale of used equipment. The estimated useful lives and residual values of the Company's leasing equipment are based on industry disposal experience and the Company's expectations for future sale prices.

If the Company decides to sell or otherwise dispose of rental equipment, it is carried at the lower of cost or fair value less costs to sell or dispose. Repair and maintenance costs that do not extend the lives of the rental equipment are charged to direct operating expenses at the time the costs are incurred.

The Company evaluates the carrying value of rental equipment for impairment whenever events or circumstances have occurred that would indicate the carrying amount may not be fully recoverable. If the carrying amount is not fully recoverable, an impairment loss is recognized to reduce the carrying amount to fair value. The Company determines fair value based upon the condition of the rental equipment and the projected net cash flows from its rental and sale considering current market conditions. During the year ended December 31, 2021, the Company recognized impairment expense of \$904 thousand related to rental equipment. No impairment expense was recorded for the years ended December 31, 2022 and 2020.

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Premises and Equipment

All premises and equipment, excluding land, are carried at cost, less accumulated depreciation. Land is carried at cost. Additions and major replacements or improvements which extend useful lives of property or equipment are capitalized. Maintenance, repairs, and minor improvements are expensed as incurred. Upon retirement or other disposition of the assets, the cost and related depreciation are derecognized and any resulting gain or loss is reflected in income. Leasehold improvements are amortized over the terms of the respective leases or the estimated useful lives of the improvements, whichever is shorter. Depreciation is computed by the straight-line method over the following generally estimated useful lives:

	Years
Buildings	39
Transportation	5-10
Land improvements	10-15
Furniture and equipment	5-10
Hardware and software	3-5
Solar panels	20-25

Foreclosed Assets

Real estate properties acquired through, or in lieu of, loan foreclosure are to be sold and are initially recorded at fair value less anticipated cost to sell at the date of foreclosure, establishing a new cost basis. Any write down at the time of transfer to foreclosed assets is charged to the allowance for credit losses on loans and leases. After foreclosure, valuations are periodically performed by management, and the real estate is carried at the lower of the carrying amount or fair value, less cost to sell. Subsequent write downs are charged to other expense. Costs relating to improvement of the property are capitalized while holding costs of the property are charged to other loan origination and maintenance expense in the period incurred.

Servicing Assets

All sales of loans are executed on a servicing retained basis. The standard SBA loan sale agreement is structured to provide the Company with a “servicing spread” paid from a portion of the interest cash flow of the loan. SBA regulations require the Bank to retain a portion of the cash flow from the interest payments received for a sold loan. The SBA retention requirement is at least 100 basis points in servicing spread while the Company's standard USDA loan sale agreement specifies a servicing spread of 40 basis points. The portion of the servicing spread that exceeds adequate compensation for the servicing function is recognized as a servicing asset, while any that is less is considered a servicing liability. Industry practice recognizes adequate compensation for servicing SBA and USDA loans as 40 basis points. The fair value of the servicing asset is measured at the discounted present value of the excess servicing spread over the expected life of the related loan using appropriate discount rates and assumptions based on industry statistics for prepayment speeds.

Servicing assets are recognized as separate assets when rights are acquired through purchase or through sale of financial assets and are carried at fair value. Generally, purchased servicing rights are capitalized at the cost to acquire the rights. For sales of loans, a portion of the cost of originating the loan is allocated to the servicing right based on fair value. Fair value is based on market prices for comparable servicing contracts, when available, or alternatively, is based on a valuation model that calculates the present value of estimated future net servicing income. The valuation model incorporates assumptions that market participants would use in estimating future net servicing income, such as adequate compensation for servicing, the discount rate, the custodial earnings rate, an inflation rate, ancillary income, prepayment speeds and default rates and losses, with the prepayment speed being one of the most sensitive assumptions. Capitalized servicing rights are carried at fair value as of the reporting date. Changes to fair value are reported in loan servicing asset revaluation in the consolidated statements of income.

Servicing fee income is recorded for fees earned for servicing loans. The fees are based on a contractual percentage of the outstanding principal or a fixed amount per loan and are recorded as income when earned.

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Derivative Financial Instruments

Interest Rate Futures Contracts

The Company may use exchange-traded interest rate futures contracts to manage interest rate risk that may impact expected gains arising from future secondary market loan sales. All derivative contracts were closed out in December 2020 and there was no further activity in subsequent periods. The Company had not designated any derivative as a hedging instrument under applicable accounting guidance. Changes in fair value of the derivative contracts is recorded as a component of net gains on sales of loans on the consolidated statements of income. The Company recognized a loss of \$2.6 million on the derivative contracts for the year ended December 31, 2020, respectively.

Equity Warrant Assets

In connection with negotiated credit facilities and certain other services, the Company may obtain equity warrant assets giving the Company the right to acquire stock in private companies in certain verticals. These assets are held for prospective investment gains and are not used to hedge any economic risks. Further, the Company does not use other derivative instruments to hedge economic risks stemming from equity warrant assets.

Equity warrant assets in certain private client companies are recorded as derivatives when they contain net settlement terms and other qualifying criteria. Equity warrant assets entitle the Company to purchase a specific number of shares of stock at a specific price within a specific time period, generally 10 years. Certain equity warrant assets contain contingent provisions, which adjust the underlying number of shares or purchase price upon the occurrence of certain future events to prevent dilution of the Company's implied ownership represented by the warrants. Certain warrant agreements contain net share settlement provisions, which permit the receipt of, upon exercise, a share count equal to the intrinsic value of the warrant divided by the share price (otherwise known as a "cashless" exercise). These equity warrant assets are recorded at fair value and are classified as derivative assets, a component of other assets, on the consolidated balance sheets at the time they are obtained.

The grant date fair values of equity warrant assets classified as derivatives received in connection with the issuance of a credit facility are deemed to be loan fees and recognized as an adjustment of loan yield through loan interest income. Similar to other loan fees, the yield adjustment related to grant date fair value of warrants is recognized over the life of that credit facility.

Any changes in fair value from the grant date fair value of equity warrant assets classified as derivatives are recognized as increases or decreases to other assets on the consolidated balance sheets and as net gains or losses on derivative instruments, in other noninterest income, a component of consolidated net income. When a portfolio company is acquired, the Company may exercise these equity warrant assets for shares or cash.

The fair value of equity warrant assets classified as derivatives is reviewed and updated quarterly using a Black-Scholes option pricing model.

For those equity warrant assets that do not contain net share settlement provisions, the Company considers these to be equity investments without readily determinable market values and records the asset at cost, subject to periodic impairment testing.

Goodwill and Intangible Assets

Goodwill is the purchase premium after adjusting for the fair value of net assets acquired. Goodwill is not amortized but is reviewed for potential impairment on an annual basis, or when events or circumstances indicate a potential impairment, at the related reporting unit level. The goodwill impairment test involves comparing the fair value of the reporting unit with its carrying value, including goodwill. If the fair value of the reporting unit exceeds its carrying value, goodwill of the reporting unit is considered not impaired; however, if the carrying value of the reporting unit exceeds its fair value, an impairment charge must be recorded. An impairment loss recognized cannot exceed the amount of goodwill assigned to a reporting unit. An impairment loss establishes a new basis in the goodwill and subsequent reversals of goodwill impairment losses are not permitted under applicable accounting guidance.

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For intangible assets subject to amortization, the recoverability test is performed when a triggering event occurs and an impairment loss is recognized if the carrying value of the intangible asset is not recoverable and exceeds fair value. The carrying value of the intangible asset is considered not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use of the asset. Intangible assets deemed to have indefinite useful lives are not subject to amortization. An impairment loss is recognized if the carrying value of the intangible asset with an indefinite life exceeds its fair value.

The carrying amounts and accumulated amortization of all intangible assets as of December 31, 2022 was \$1.9 million and \$421 thousand, respectively, while at December 31, 2021 the balances were \$2.0 million and \$268 thousand, respectively, all as a result of the JAM acquisition discussed earlier under Business Combinations.

The Company had no impairment charges related to business combinations in 2022, 2021 or 2020.

Long-Lived Assets Impairment Evaluation

The Company evaluates the carrying value of long-lived assets for impairment whenever events or circumstances have occurred that would indicate the carrying amount may not be fully recoverable. A key element in determining the recoverability of long-lived assets is the Company's outlook as to the future market conditions. If the carrying amount is not fully recoverable, an impairment loss is recognized to reduce the carrying amount to fair value.

Long-Lived Assets Reclassified to Held for Sale

During 2020, the Company determined that retention of two of its aircraft was ineffective in serving the needs of an expanding nationwide customer base. As a result of the determination to sell, the Company began marketing the aircraft for sale and accordingly reclassified them from premises and equipment, net to other assets. The total amount reclassified out of premises and equipment was \$19.2 million and after assessment of fair value, \$1.3 million of that balance was recognized as impairment expense included in the other expense line item in the 2020 consolidated statement of income. Prior to December 31, 2020, one aircraft was sold for a minimal incremental loss with one remaining in other assets with a carrying amount of \$8.9 million at December 31, 2020. In 2021, the remaining held for sale aircraft was sold with a gain of \$114 thousand.

Common Stock

On June 11, 2014, the Company amended its Articles of Incorporation to create two classes of common stock. These two classes are identified as Class A and Class B or Voting Common Stock and Non-Voting Common Stock, respectively, in the accompanying consolidated balance sheets and statements of changes in shareholders' equity. Voting and Non-Voting Common Stock holders have identical rights and privileges, with the exception that Non-Voting Common shares have no voting power except in limited circumstances. Stock splits or dividends of Voting and Non-Voting Common Shares shall be in like stock (voting for voting and non-voting for non-voting). Any number of Non-Voting Common Stock may be converted to an equal number of Voting Common Stock at the option of the holder; provided that holder is not the initial transferee or an affiliate of initial transferee and other conditions are met.

During 2022, 125,024 shares of Class B common stock (non-voting) were converted to Class A common stock (voting) in connection with private sales. During 2021, 982,733 shares of Class B common stock (non-voting) were converted to Class A common stock (voting) in connection with private sales. This conversion decreased the value of Class B common stock (non-voting) and increased the value of Class A common stock (voting) by \$1.3 million and \$10.4 million during 2022 and 2021, respectively.

Advertising Expense

Marketing costs are recognized in the month the event or advertisement takes place. These costs are included in advertising and marketing expense as presented in the consolidated statements of income.

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Income Taxes

Income tax expense is the total of the current year income tax due or refundable and the change in deferred tax assets and liabilities (excluding deferred tax assets and liabilities related to business combinations or components of other comprehensive income). Deferred tax assets and liabilities are the expected future tax amounts for the temporary differences between carrying amounts and tax bases of assets and liabilities, computed using enacted tax rates. The effect of a change in tax rates on deferred assets and liabilities is recognized in income taxes during the period that includes the enactment date. A valuation allowance, if needed, reduces deferred tax assets to the expected amount more likely than not to be realized. Realization of deferred tax assets is dependent upon the level of historical income, prudent and feasible tax planning strategies, reversals of deferred tax liabilities and estimates of future taxable income.

The Company uses the flow-through method of accounting for its solar investment tax credit investments, none of which qualify for proportional amortization. Under the flow-through method, investment tax credits are recognized as a reduction to income tax expense immediately in the period that the credit is generated, to the extent permitted by tax law. In accounting for any temporary difference that arise, the Company has elected the income statement method whereby deferred taxes are adjusted through income tax expense.

The Company evaluates uncertain tax positions at the end of each reporting period. The Company may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefit recognized in the financial statements from any such position is measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. For tax positions not meeting the “more likely than not” test, no tax benefit is recorded. Interest and/or penalties related to income taxes are reported as a component of income tax expense.

Comprehensive Income

Annual comprehensive income reflects the change in the Company’s equity during the year arising from transactions and events other than investment by and distributions to shareholders. The only components of other comprehensive income consist of realized and unrealized gains and losses related to investment securities available-for-sale.

Stock Compensation Plans

The Company recognizes compensation cost based on the fair value of the equity or liability instruments issued. The expense measures the cost of employee services received in exchange for stock options and restricted stock based on the grant-date fair value of the award and recognizes the cost over the vesting period for all awards within an individual grant, including ones with graded vesting features. The fair value of the restricted stock awards or units with a market price condition and implied service period are calculated using the Monte Carlo Simulation method. The impact of forfeitures on stock-based compensation expense is recognized as forfeitures occur. See Note 12. Benefit Plans for further discussion and detail.

Fair Value of Financial Instruments

GAAP defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Company determines the fair values of its financial instruments based on the fair value hierarchy established per GAAP which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. See Note 10. Fair Value of Financial Instruments for further discussion and detail.

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Earnings Per Share

Basic and diluted earnings per share are computed based on the weighted average number of shares outstanding during each period. Diluted earnings per share reflects the potential dilution that could occur, upon the exercise of stock options or upon the vesting of restricted stock grants, any of which would result in the issuance of common stock that would then share in the net income of the Company.

	December 31,		
	2022	2021	2020
Basic earnings per share:			
Net income	\$ 176,208	\$ 166,995	\$ 59,543
Weighted-average basic shares outstanding	43,862,291	43,169,935	40,677,496
Basic earnings per share	\$ 4.02	\$ 3.87	\$ 1.46
Diluted earnings per share:			
Net income, for diluted earnings per share	\$ 176,208	\$ 166,995	\$ 59,543
Total weighted-average basic shares outstanding	43,862,291	43,169,935	40,677,496
Add effect of dilutive stock options and restricted stock grants	1,044,019	1,901,369	1,093,754
Total weighted-average diluted shares outstanding	44,906,310	45,071,304	41,771,250
Diluted earnings per share	\$ 3.92	\$ 3.71	\$ 1.43
Anti-dilutive stock options and restricted shares	1,413,738	37,401	2,179

Revenue Recognition

The Company offers various services to customers that generate revenue. The Company does not typically enter into long-term revenue contracts with customers, and therefore, does not experience significant contract balances. Incremental costs of obtaining a contract are expensed when incurred when the amortization period is one year or less. As of December 31, 2022, 2021 and 2020, remaining performance obligations consisted primarily of serviced based revenues for contracts with an original expected length of two years or less.

Service based revenues are included in other noninterest income and consist of other recurring revenue streams from services provided by the Bank for advisory and successful transactions, GLS to its clients for settlement, accounting and valuation for government guaranteed loan sales and holdings, fund investment advisory services performed by Canapi Advisors, and investment management and financial planning services provided by Live Oak Private Wealth.

Service Based Revenues

In addition to lending and related activities, the Bank's specialized industry teams also provide advisory services to certain Government Contracting clients. Performance obligations are satisfied over the contract period and revenue is recognized monthly. In 2021, the Company stopped offering advisory services to new Government Contracting clients.

GLS provides services when requested by clients. Each requested service represents a specific performance obligation with a transaction price outlined by GLS' fee schedule. Revenue is recognized as the requested services are completed and payment is generally received the following month.

Canapi Advisors provides investment advisory services to four financial technology venture funds where its performance obligations are satisfied over time. Fund management fees are based upon the contractual terms of the limited partnership agreements and are recognized as earned over the specified contract period, which is generally equal to the life of the individual fund. Fund management fees are calculated as a percentage of committed capital, net of any permitted offsets, and are collected in advance and recognized quarterly.

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Live Oak Private Wealth’s investment management and financial planning performance obligations are generally satisfied over time. Fees are recognized quarterly based on the quarter-end market value of the managed assets as valued by the custodian of the customer’s assets and the applicable fee rate. Payment is generally received within a quarter of service delivery. The Company does not earn performance-based incentives from investment management and financial planning services. Contracts with customers may be terminated at any time by either party.

Reclassifications

Certain reclassifications have been made to the prior period’s consolidated financial statements to place them on a comparable basis with the current year. Net income and shareholders’ equity previously reported were not affected by these reclassifications.

Loan and Lease Classes

During the fourth quarter of 2022, management made changes to loan and lease classes to align the presentation in the credit quality disclosures in Note 3. Loans and Leases Held for Investment and Credit Quality with the Company’s method for monitoring and assessing credit risk. As a result, loans and leases to customers that operate renewable energy projects, lodging facilities, and municipalities were reclassified from the Specialty Lending class into the Energy & Infrastructure class.

Recent Accounting Pronouncements

The following is a summary of recent authoritative pronouncements that could impact the accounting, reporting, and/or disclosure of financial information by the Company.

In March 2020, the FASB issued Accounting Standards Update (“ASU”) No. 2020-04 “Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting” (“ASU 2020-04”). ASU 2020-04 provides optional guidance for a limited period of time to ease the potential burden in accounting for (or recognizing the effects of) reference rate reform on financial reporting. With the amendments, the ASU can be adopted by the Company as of March 12, 2020 through December 31, 2024. In December 2022, ASU 2022-06 “Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848” was issued deferring the sunset date of Topic 848. The Company does not believe these standards will have a material impact on its consolidated financial statements. To address the discontinuance of LIBOR, the Company has stopped originating variable LIBOR-based loans effective December 31, 2021 and has started to negotiate loans using the preferred replacement index, the Secured Overnight Financing Rate (“SOFR”) or a relevant duration U.S. Treasury rate. For currently outstanding LIBOR-based loans, the timing and manner in which each customer’s contract transitions from LIBOR to another rate will vary on a case-by-case basis. The Company expects to complete all transitions by the second quarter of 2023 or at the next repricing date if later in 2023.

In March 2022, the FASB issued ASU No. 2022-02 “Financial Instruments – Credit Losses (Topic 326): Troubled Debt Restructurings and Vintage Disclosures” (“ASU 2022-02”). ASU 2022-02 eliminates the accounting guidance for TDRs by creditors in ASC 310-40, *Receivables – Troubled Debt Restructurings by Creditors*, while enhancing disclosure requirements for certain loan refinancings and restructurings when a borrower is experiencing financial difficulty. Additionally, for public business entities, ASU 2022-02 requires that an entity disclose current-period gross write-offs by year of origination for financing receivables and net investments in leases within the scope of ASC 326-20, *Financial Instruments – Credit Losses – Measured at Amortized Cost*. The amendments in this standard will be effective for the Company on January 1, 2023. The Company does not believe this standard will have a material impact on its consolidated financial statements.

In June 2022, the FASB issued ASU No. 2022-03 “Fair Value Measurement (Topic 820) Fair Value Measurement of Equity Securities Subject to Contractual Restrictions” (“ASU 2022-03”). ASU 2022-03 indicates a contractual sale restriction on equity securities should not be considered in measuring fair value, however, disclosure should be made about such restrictions. The amendments in this standard will be effective for the Company on January 1, 2024. The Company does not believe this standard will have a material impact on its consolidated financial statements.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 2. Securities

Available-for-Sale

The carrying amount of securities and their approximate fair values are reflected in the following table:

December 31, 2022	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
US government agencies	\$ 16,080	\$ —	\$ 412	\$ 15,668
Mortgage-backed securities	1,116,387	270	121,083	995,574
Municipal bonds	3,223	—	246	2,977
Other debt securities	500	—	—	500
Total	<u>\$ 1,136,190</u>	<u>\$ 270</u>	<u>\$ 121,741</u>	<u>\$ 1,014,719</u>

December 31, 2021				
US government agencies	\$ 10,444	\$ 193	\$ —	\$ 10,637
Mortgage-backed securities	887,302	14,246	12,209	889,339
Municipal bonds	3,246	333	3	3,576
Other debt securities	2,500	—	—	2,500
Total	<u>\$ 903,492</u>	<u>\$ 14,772</u>	<u>\$ 12,212</u>	<u>\$ 906,052</u>

During the year ended December 31, 2022, two securities totaling \$7.5 million matured and twenty securities totaling \$36.5 million were paid out. During the year ended December 31, 2021, one security totaling \$5.0 million matured and twelve securities totaling \$33.1 million were paid out. During the year ended December 31, 2020, four securities totaling \$12.0 million matured and twenty securities totaling \$29.6 million were sold resulting in a net gain of \$1.9 million, which consisted of \$2.0 million gross realized gains and \$136 thousand gross realized losses.

The following tables show debt securities available-for-sale in an unrealized loss position for which an allowance for credit losses has not been recorded, aggregated by investment category and length of time that the individual securities have been in a continuous unrealized loss position.

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
December 31, 2022						
US government agencies	\$ 15,668	\$ 412	\$ —	\$ —	\$ 15,668	\$ 412
Mortgage-backed securities	513,639	29,060	456,972	92,023	970,611	121,083
Municipal bonds	2,884	241	93	5	2,977	246
Total	<u>\$ 532,191</u>	<u>\$ 29,713</u>	<u>\$ 457,065</u>	<u>\$ 92,028</u>	<u>\$ 989,256</u>	<u>\$ 121,741</u>

	Less Than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
December 31, 2021						
Mortgage-backed securities	\$ 479,322	\$ 8,503	\$ 110,633	\$ 3,706	\$ 589,955	\$ 12,209
Municipal bonds	—	—	96	3	96	3
Total	<u>\$ 479,322</u>	<u>\$ 8,503</u>	<u>\$ 110,729</u>	<u>\$ 3,709</u>	<u>\$ 590,051</u>	<u>\$ 12,212</u>

Management evaluates available-for-sale debt securities to determine whether the unrealized loss is due to credit-related factors or non-credit-related factors. The evaluation considers the extent to which the security's fair value is less than cost, the financial condition and near-term prospects of the issuer, and intent and ability of the Company to retain its investment in the security for a period of time sufficient to allow for any anticipated recovery in fair value.

Live Oak Bancshares, Inc.**Notes to Consolidated Financial Statements**

At December 31, 2022, there were 185 mortgage-backed securities and one municipal bond in unrealized loss positions for greater than 12 months. There were 236 mortgage-backed securities, five US government agencies, and one municipal bond in unrealized loss positions for less than 12 months. Unrealized losses at December 31, 2021 consisted of 31 mortgage-backed securities and one municipal bond for greater than 12 months and 142 mortgage-backed securities in unrealized loss positions for less than 12 months.

These unrealized losses are primarily the result of non-credit-related volatility in the market and market interest rates. Since none of the unrealized losses relate to marketability of the securities or the issuer's ability to honor redemption obligations, and the Company has the intent and ability to hold these securities for a sufficient period of time to recover unrealized losses, none of the losses have been recognized in the Company's consolidated statement of income.

All mortgage-backed securities in the Company's portfolio at December 31, 2022 and 2021 were backed by U.S. government sponsored enterprises ("GSEs").

The following is a summary of investment securities by maturity:

	December 31, 2022	
	Available-for-sale	
	Amortized Cost	Fair Value
US government agencies		
One to five years	\$ 12,948	\$ 12,578
Five to ten years	3,132	3,090
Total	16,080	15,668
Mortgage-backed securities		
One to five years	113,726	108,045
Five to ten years	254,975	225,028
After 10 years	747,686	662,501
Total	1,116,387	995,574
Municipal bonds		
After 10 years	3,223	2,977
Total	3,223	2,977
Other debt securities		
Within one year	500	500
Total	500	500
Total	\$ 1,136,190	\$ 1,014,719

The table above reflects contractual maturities. Actual results will differ as the loans underlying the mortgage-backed securities may repay sooner than scheduled.

There were no investment securities pledged at December 31, 2022 or 2021.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Equity Investments

Equity investments, largely comprised of non-marketable equity investments, are generally accounted for under either the equity method or equity security accounting. The below tables provide additional information related to investments accounted for under these two methods.

Equity Method Accounting

The carrying amount and ownership percentage of each equity method investment at December 31, 2022 and 2021 is reflected in the following table:

	2022		2021	
	Amount	Ownership %	Amount	Ownership %
Apiture, Inc.	\$ 60,320	40.3 %	\$ 52,323	39.1 %
Canapi Ventures SBIC Fund, LP ^{(1) (5)}	19,246	2.9 %	19,431	2.9 %
Canapi Ventures Fund, LP ^{(2) (5)}	2,382	1.5 %	2,402	1.5 %
Canapi Ventures Fund II, LP ^{(3) (5)}	7,412	1.6 %	—	N/A
Canapi Ventures SBIC Fund II, LP ^{(4) (5)}	7,981	3.7 %	—	N/A
Other fintech investments in private companies ⁽⁶⁾	241	4.3 %	5,330	Various
Other ⁽⁷⁾	12,476	Various	4,664	Various
Total	<u>\$ 110,058</u>		<u>\$ 84,150</u>	

- (1) Includes unfunded commitments of \$5.5 million and \$6.8 million as of December 31, 2022 and 2021, respectively.
- (2) Includes unfunded commitments of \$617 thousand and \$770 thousand as of December 31, 2022 and 2021, respectively.
- (3) Includes unfunded commitments of \$6.9 million as of December 31, 2022. There were no unfunded commitments as of December 31, 2021.
- (4) Includes unfunded commitments of \$7.5 million as of December 31, 2022. There were no unfunded commitments as of December 31, 2021.
- (5) Investees are accounted for under equity method due to the Company's participation as an investment advisor. All Canapi Fund investments are unconsolidated VIEs. See Variable Interest Entities section below.
- (6) As of December 31, 2022, Other Fintech investments include Kwipped, Inc. On August 31, 2022, the Company sold its investment in Payrailz, LLC, resulting in a pre-tax gain of \$28.4 million, and on April 1, 2022, the Company sold its investment in Finxact, Inc. resulting in a pre-tax gain of \$120.8 million. As of December 31, 2021 Other Fintech investments include Finxact, Inc., Payrailz, LLC and Kwipped, Inc. Investees are accounted for under equity method due to the Company's ability to exercise significant influence through executive management's board involvement.
- (7) As of December 31, 2022, Other investments include solar income tax credit investments in Green Sun Tenant LLC ("Green Sun"), SVA 2021-2 TE Holdco LLC ("Sun Vest"), and EG5 CSPI Holding LLC ("HEP"), which the Company holds a 99.0% limited member interest in all investments. Also included within Other investments are Cape Fear Collective Impact Opportunity 1 LLC ("Cape Fear Collective 1") and Cape Fear Collective Impact Opportunity 2 LLC ("Cape Fear Collective 2"), which the Company holds 99.0% and 32.3% limited member interests, respectively. As of December 31, 2022, an unfunded commitment of \$2.6 million was recorded as a liability for HEP. As of December 31, 2021, Other investments included Green Sun and Cape Fear Collective 1, each with limited member interests of 99.0%. There were no unfunded commitments as of December 31, 2021. All Other investments are unconsolidated VIEs. See Variable Interest Entities section below.

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Notes to Consolidated Financial Statements

Equity Security Accounting

The carrying amount of the Company's investments in non-marketable equity securities with no readily determinable fair value and amounts recognized in earnings on a cumulative basis as of December 31, 2022 and for the years ended December 31, 2022, 2021 and 2020 is reflected in the following table:

	Cumulative Adjustments	2022	2021	2020
Carrying value ⁽¹⁾		\$ 76,438	\$ 63,321	\$ 31,146
Carrying value adjustments:				
Impairment	\$ —	—	—	—
Upward changes for observable prices ⁽²⁾	50,492	2,022	30,197	14,558
Downward changes for observable prices	(86)	—	—	—
Net upward change	\$ 50,406	\$ 2,022	\$ 30,197	\$ 14,558

- (1) Includes \$3.0 million, \$2.8 million and \$522 thousand in unfunded commitments for the years ended December 31, 2022, 2021 and 2020, respectively.
- (2) Cumulative adjustments excludes \$13.9 million in realized cash gains for the sale of an investment in the second quarter of 2021.

For the twelve months ended December 31, 2022, 2021 and 2020, the Company recognized unrealized gains on all equity securities still held at the reporting date of \$1.9 million, \$44.0 million, and \$14.6 million, respectively.

Variable Interest Entities

Variable interests are defined as contractual ownership or other interests in an entity that change with fluctuations in the fair value of an entity's net asset value. The primary beneficiary consolidates the VIE. The primary beneficiary is defined as the enterprise that has both the power to direct the activities of the VIE that most significantly impact the entity's economic performance and the obligation to absorb losses or the right to receive benefits that could be significant to the VIE.

Solar Renewable Energy Tax Credit Investments

The Company has limited interest in several limited liability companies that own and operate solar renewable energy projects which are accounted for as equity method investments. Over the course of the investments, the Company will receive federal and state tax credits, tax-related benefits, and excess cash available for distribution, if any. The Company may be called to sell its interest in the limited partnerships through a call option once all investment tax credits have been recognized.

Canapi Funds

The Company's limited partnership investments in the Canapi Funds focus on providing venture capital to new and emerging financial technology companies. After initial commitment and over the course of the investment period, the Company will make capital contributions and receive profit and return of capital distributions as a result of fund performance until the funds wind down. These fund investments are accounted for under the equity method due to the Company's participation as an investment advisor.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Non-marketable and Other Equity Investments

The Company also has a limited interest in several non-marketable funds, including Small Business Investment Company (“SBIC”) and venture capital funds, which are accounted for as equity security investments. After initial commitment and over the course of the investment period, the Company will make capital contributions and receive profit and return of capital distributions as a result of fund performance until the funds wind down. While the partnership agreements allow the Company to remove the general partner, this right is not deemed to be substantive as the general partner can only be removed for cause. All investments are generally non-redeemable and distributions are expected to be received through the liquidation of the underlying investments throughout the life of the investment fund. Investments may only be sold or transferred subject to the notice and approval provisions of the underlying investment agreement. Additionally, the Company has a limited interest in two limited liability companies that invest in the acquisition, rehabilitation, or new construction of local qualified housing projects which are accounted for as equity method investments.

The above investments meet the criteria of a VIE, however, the Company is not the primary beneficiary of the entities, as it does not have the power to direct the activities that most significantly impact the economic performance of the entities.

The Company’s investment in the unconsolidated VIEs are carried in other assets on the consolidated balance sheets and the Company’s unfunded capital and other commitments related to the unconsolidated VIEs are carried in other liabilities on the consolidated balance sheets.

The Company’s maximum exposure to loss from unconsolidated VIEs includes the investment recorded on the Company’s consolidated balance sheets, net of any impairment recognized, and previously recorded tax credits which remain subject to recapture by taxing authorities based on compliance features required to be met at the project level. While the Company believes the potential for losses from this investment is remote, the maximum exposure was determined by assuming a scenario where related tax credits were recaptured.

The following table provides a summary of the VIEs that the Company has not consolidated as of December 31, 2022 and 2021:

December 31, 2022	Carrying Amount	Maximum Exposure to Loss	Liability Recognized	Classification
Solar tax credit investments	\$ 5,221	\$ 24,295	\$ 2,641	Other assets & other liabilities ⁽¹⁾
Canapi Funds	37,021	37,021	20,474	Other assets & other liabilities
Non-marketable and other equity investments	15,764	15,764	3,033	Other assets & other liabilities

December 31, 2021	Carrying Amount	Maximum Exposure to Loss	Liability Recognized	Classification
Solar tax credit investments	\$ 708	\$ 4,100	\$ —	Other assets ⁽²⁾
Canapi Funds	21,833	21,833	7,608	Other assets & other liabilities
Non-marketable and other equity investments	13,225	13,225	2,758	Other assets & other liabilities

- (1) Maximum exposure to loss represents \$5.2 million of current investments and a scenario in which \$24.3 million in related tax credits are recaptured.
- (2) Maximum exposure to loss represents \$708 thousand of current investments and a scenario in which \$4.1 million in related tax credits are recaptured.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 3. Loans and Leases Held for Investment and Credit Quality

Loan and Lease Portfolio Segments & Classes

The following describes the risk characteristics relevant to each of the portfolio segments.

Commercial and Industrial

Commercial and industrial loans (“C&I”) receive similar underwriting treatment as commercial real estate loans in that the repayment source is analyzed to determine its ability to meet cash flow coverage requirements as set forth by Bank policies. Repayment of the Bank’s C&I loans generally comes from the generation of cash flow as the result of the borrower’s business operations. This business cycle itself brings a certain level of risk to the portfolio. In some instances, these loans may carry a higher degree of risk due to a variety of reasons – illiquid collateral, specialized equipment, highly depreciable assets, uncollectable accounts receivable, revolving balances, or simply being unsecured. As a result of these characteristics, the government guarantee on these loans, when applicable, is an important factor in mitigating risk. The Bank’s lease portfolio is included in the C&I segment.

Construction and Development

Construction and development loans are for the purpose of acquisition and development of land to be improved through the construction of commercial buildings. Such loans are usually paid off through the conversion to permanent financing for the long-term benefit of the borrower’s ongoing operations. At the completion of the project, if the loan is converted to permanent financing or if scheduled loan amortization begins, it is then reclassified to the Commercial Real Estate segment. Underwriting of construction and development loans typically includes analysis of not only the borrower’s financial condition and ability to meet the required debt obligations, but also the general market conditions associated with the area and type of project being funded.

Commercial Real Estate

Commercial real estate loans are extensions of credit secured by owner occupied and non-owner occupied collateral. Underwriting generally involves intensive analysis of the financial strength of the borrower and guarantor, liquidation value of the subject collateral, and any available secondary sources of repayment, with the greatest emphasis given to a borrower’s capacity to meet cash flow coverage requirements as set forth by Bank policies. Such repayment of owner occupied loans is commonly derived from the successful ongoing operations of the business occupying the property. These typically include small businesses and professional practices.

Commercial Land

Commercial land loans are extensions of credit secured by farmland. Such loans are often for land improvements related to agricultural endeavors that may include construction of new specialized facilities. These loans are usually repaid through the conversion to permanent financing, or if scheduled loan amortization begins, for the long-term benefit of the borrower’s ongoing operations. Underwriting generally involves intensive analysis of the financial strength of the borrower and guarantor, liquidation value of the subject collateral, and any available secondary sources of repayment, with the greatest emphasis given to a borrower’s capacity to meet cash flow coverage requirements as set forth by Bank policies.

The loan and lease portfolio is further grouped into one of the following classes (also referred to as divisions): Small Business Banking, Specialty Lending, Energy & Infrastructure (“E&I”), or Paycheck Protection Program. Small Business Banking includes loans to customers in verticals that generally have traditional loan structures. Specialty Lending includes loans to customers in verticals that generally have atypical ownership structures as well as complex collateral arrangements, underwriting requirements, and servicing needs. E&I includes loans to customers that operate renewable energy projects, lodging facilities, and municipalities. E&I loans often utilize USDA or tax-exempt loan structures. Paycheck Protection Program (“PPP”) includes all loans originated under the PPP pursuant to the Coronavirus Aid, Relief, and Economic Security Act’s (“CARES Act”) economic relief program and carry a 100% government guarantee. These loans and lease classes were determined based on industry risk characteristics and management’s method for monitoring credit risk and managing those lending divisions.

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Past Due Loans and Leases

Loans and leases are considered past due if the required principal and interest payments have not been received as of the date such payments were due. Loans and leases less than 30 days past due and accruing are included within current loans and leases shown below. The following tables show an age analysis of past due loans and leases as of the dates presented.

December 31, 2022	Current	30-89 Days Past Due	90 Days or More Past Due	Total Past Due	Total Carried at Amortized Cost	Loans Accounted for Under the Fair Value Option⁽¹⁾	Total Loans and Leases
Commercial & Industrial							
Small Business Banking	\$ 1,719,165	\$ 21,589	\$ 16,221	\$ 37,810	\$ 1,756,975	\$ 182,348	\$ 1,939,323
Specialty Lending	1,022,615	398	266	664	1,023,279	29,084	1,052,363
Energy & Infrastructure	420,447	—	3,082	3,082	423,529	50,094	473,623
Paycheck Protection Program	13,134	—	—	—	13,134	—	13,134
Total	3,175,361	21,987	19,569	41,556	3,216,917	261,526	3,478,443
Construction & Development							
Small Business Banking	471,243	1,500	—	1,500	472,743	—	472,743
Specialty Lending	104,069	—	—	—	104,069	—	104,069
Energy & Infrastructure	13,753	—	—	—	13,753	—	13,753
Total	589,065	1,500	—	1,500	590,565	—	590,565
Commercial Real Estate							
Small Business Banking	2,137,028	12,082	5,771	17,853	2,154,881	166,595	2,321,476
Specialty Lending	319,419	—	—	—	319,419	2,050	321,469
Energy & Infrastructure	136,706	—	3,072	3,072	139,778	22,123	161,901
Total	2,593,153	12,082	8,843	20,925	2,614,078	190,768	2,804,846
Commercial Land							
Small Business Banking	429,014	1,663	1,917	3,580	432,594	42,164	474,758
Total	429,014	1,663	1,917	3,580	432,594	42,164	474,758
Total	<u>\$ 6,786,593</u>	<u>\$ 37,232</u>	<u>\$ 30,329</u>	<u>\$ 67,561</u>	<u>\$ 6,854,154</u>	<u>\$ 494,458</u>	<u>\$ 7,348,612</u>
Net deferred fees							<u>\$ (4,434)</u>
Loan and Leases, Net							<u>\$ 7,344,178</u>
Guaranteed Balance	\$ 2,657,770	\$ 20,199	\$ 26,026	\$ 46,225	\$ 2,703,995	\$ 67,268	\$ 2,771,263
% Guaranteed	39.2%	54.3%	85.8%	68.4%	39.5%	13.6%	37.7%

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December 31, 2021	Current	30-89 Days Past Due	90 Days or More Past Due	Total Past Due	Total Carried at Amortized Cost	Loans Accounted for Under the Fair Value Option⁽¹⁾	Total Loans and Leases
Commercial & Industrial							
Small Business Banking	\$ 1,103,915	\$ 13,171	\$ 7,320	\$ 20,491	\$ 1,124,406	\$ 248,806	\$ 1,373,212
Specialty Lending	642,444	—	—	—	642,444	30,947	673,391
Energy & Infrastructure	232,923	—	—	—	232,923	33,578	266,501
Paycheck Protection Program	266,893	68	1,414	1,482	268,375	—	268,375
Total	2,246,175	13,239	8,734	21,973	2,268,148	313,331	2,581,479
Construction & Development							
Small Business Banking	275,786	—	1,366	1,366	277,152	—	277,152
Specialty Lending	40,805	—	—	—	40,805	—	40,805
Energy & Infrastructure	41,209	—	—	—	41,209	—	41,209
Total	357,800	—	1,366	1,366	359,166	—	359,166
Commercial Real Estate							
Small Business Banking	1,577,765	5,802	10,761	16,563	1,594,328	250,856	1,845,184
Specialty Lending	153,716	—	—	—	153,716	2,349	156,065
Energy & Infrastructure	131,657	—	2,315	2,315	133,972	17,132	151,104
Total	1,863,138	5,802	13,076	18,878	1,882,016	270,337	2,152,353
Commercial Land							
Small Business Banking	362,881	7,399	2,055	9,454	372,335	61,533	433,868
Total	362,881	7,399	2,055	9,454	372,335	61,533	433,868
Total	\$ 4,829,994	\$ 26,440	\$ 25,231	\$ 51,671	\$ 4,881,665	\$ 645,201	\$ 5,526,866
Net deferred fees							\$ (5,604)
Loan and Leases, Net							<u>\$ 5,521,262</u>
Guaranteed Balance	\$ 2,037,509	\$ 18,421	\$ 16,440	\$ 34,861	\$ 2,072,370	\$ 77,722	\$ 2,150,092
% Guaranteed	42.2 %	69.7 %	65.2 %	67.5 %	42.5 %	12.0 %	38.9 %

(1) Retained portions of government guaranteed loans sold prior to January 1, 2021 are carried at fair value under FASB ASC Subtopic 825-10, *Financial Instruments: Overall*. See Note 10. Fair Value of Financial Instruments for additional information.

Credit Quality Indicators

The Bank uses internal loan and lease reviews to assess the performance of individual loans and leases. Each loan and lease is assigned a risk grade during the origination and closing process. Subsequent to origination, loans and lease risk grades are continually evaluated as information becomes available. The Bank performs an annual review of each borrower's financial performance to validate the accuracy of the assigned risk grade. Additionally, the loan and lease portfolio is subject to annual independent review by an external firm.

The Bank uses a grading system to rank the quality of each loan and lease. The grade is periodically evaluated and adjusted as performance dictates. Loan and lease grades 1 through 4 are passing grades and grade 5 is special mention. Collectively, grades 6 through 8 represent classified loans and leases in the Bank's portfolio. The following guidelines govern the assignment of these risk grades:

Exceptional (1 Rated): These loans and leases are of the highest quality, with strong, well-documented sources of repayment. These loans and leases will typically have multiple demonstrated sources of repayment with no significant identifiable risk to collection, exhibit well-qualified management, and have liquid financial statements relative to both direct and indirect obligations.

Live Oak Bancshares, Inc.**Notes to Consolidated Financial Statements**

Quality (2 Rated): These loans and leases are of very high credit quality, with strong, well-documented sources of repayment. These loans and leases exhibit very strong, well defined primary and secondary sources of repayment, with no significant identifiable risk of collection and have internally generated cash flow that more than adequately covers current maturities of long-term debt.

Satisfactory (3 Rated): These loans and leases exhibit satisfactory credit risk and have excellent sources of repayment, with no significant identifiable risk of collection. These loans and leases have documented historical cash flow that meets or exceeds required minimum Bank guidelines, or that can be supplemented with verifiable cash flow from other sources. They have adequate secondary sources to liquidate the debt, including combinations of liquidity, liquidation of collateral, or liquidation value to the net worth of the borrower or guarantor.

Acceptable (4 Rated): These loans and leases show signs of weakness in either adequate sources of repayment or collateral but have demonstrated mitigating factors that minimize the risk of delinquency or loss. These loans and leases may have unproved, insufficient or marginal primary sources of repayment that appear sufficient to service the debt at this time. Repayment weaknesses may be due to minor operational issues, financial trends, or reliance on projected performance. They may also contain marginal or unproven secondary sources to liquidate the debt, including combinations of liquidation of collateral and liquidation value to the net worth of the borrower or guarantor.

Special mention (5 Rated): These loans and leases show signs of weaknesses in either adequate sources of repayment or collateral. These loans and leases may contain underwriting guideline tolerances and/or exceptions with no mitigating factors; and/or instances where adverse economic conditions develop subsequent to origination that do not jeopardize liquidation of the debt but substantially increase the level of risk.

Substandard (6 Rated): Loans and leases graded Substandard are inadequately protected by current sound net worth, paying capacity of the obligor, or pledged collateral. Loans and leases classified as Substandard must have a well-defined weakness or weaknesses that jeopardize the liquidation of the debt; are characterized by the distinct possibility that the Bank will sustain some loss if the deficiencies are not corrected. These loans and leases are consistently not meeting the repayment schedule.

Doubtful (7 Rated): Loans and leases graded Doubtful have all the weaknesses inherent in those classified as Substandard, plus the added characteristic that the weaknesses make collection or liquidation in full on the basis of currently existing facts, conditions, and values highly questionable and improbable. The ability of the borrower to service the debt is extremely weak, overdue status is constant, the debt has been placed on non-accrual status, and no definite repayment schedule exists. Once the loss position is determined, the amount is charged off.

Loss (8 Rated): Loss rated loans and leases are considered uncollectible and of such little value that their continuance as assets is not warranted. This classification does not mean that the asset has absolutely no recovery or salvage value, but rather that it is not practical or desirable to defer writing off this credit even though partial recovery may be affected in the future.

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The following tables present credit quality indicators by portfolio class:

	Term Loans and Leases Amortized Cost Basis by Origination Year						Revolving Loans Amortized Cost Basis	Revolving Loans Converted to Term	Total ⁽¹⁾
	2022	2021	2020	2019	2018	Prior			
December 31, 2022									
Small Business Banking									
Risk Grades 1 - 4	\$1,427,182	\$1,400,726	\$ 795,647	\$ 426,401	\$ 217,893	\$ 204,933	\$ 65,455	\$ 1,738	\$4,539,975
Risk Grade 5	15,942	17,745	40,202	45,712	26,124	27,212	13,210	204	186,351
Risk Grades 6 - 8	1,806	4,277	17,845	23,470	14,094	27,215	1,638	522	90,867
Total	1,444,930	1,422,748	853,694	495,583	258,111	259,360	80,303	2,464	4,817,193
Specialty Lending									
Risk Grades 1 - 4	635,079	355,785	144,545	25,849	6,574	788	153,062	31,504	1,353,186
Risk Grade 5	7,341	33,272	12,329	10,201	4,399	—	6,619	248	74,409
Risk Grades 6 - 8	—	11,433	416	5,577	166	—	1,343	237	19,172
Total	642,420	400,490	157,290	41,627	11,139	788	161,024	31,989	1,446,767
Energy & Infrastructure									
Risk Grades 1 - 4	199,338	176,855	39,600	51,190	23,374	19,694	12,751	351	523,153
Risk Grade 5	4,024	4,409	500	6,976	4,706	5,142	—	—	25,757
Risk Grades 6 - 8	—	3,082	16,589	—	8,479	—	—	—	28,150
Total	203,362	184,346	56,689	58,166	36,559	24,836	12,751	351	577,060
Paycheck Protection Program									
Risk Grades 1 - 4	—	7,421	5,713	—	—	—	—	—	13,134
Total	—	7,421	5,713	—	—	—	—	—	13,134
Total	\$2,290,712	\$2,015,005	\$1,073,386	\$ 595,376	\$ 305,809	\$ 284,984	\$ 254,078	\$ 34,804	\$6,854,154

	Term Loans and Leases Amortized Cost Basis by Origination Year						Revolving Loans Amortized Cost Basis	Revolving Loans Converted to Term	Total ⁽¹⁾
	2021	2020	2019	2018	2017	Prior			
December 31, 2021									
Small Business Banking									
Risk Grades 1 - 4	\$1,051,775	\$ 853,250	\$ 522,407	\$ 285,397	\$ 188,858	\$ 116,645	\$ 46,356	\$ 1,771	\$3,066,459
Risk Grade 5	7,838	19,651	65,715	60,615	37,661	13,933	5,066	195	210,674
Risk Grades 6 - 8	2,517	8,667	27,696	14,545	14,193	21,239	1,457	774	91,088
Total	1,062,130	881,568	615,818	360,557	240,712	151,817	52,879	2,740	3,368,221
Specialty Lending									
Risk Grades 1 - 4	467,751	168,067	43,598	10,413	1,145	—	126,845	1,816	819,635
Risk Grade 5	2,250	729	1,042	5,560	690	—	2,953	848	14,072
Risk Grades 6 - 8	—	17	3,166	—	—	—	75	—	3,258
Total	470,001	168,813	47,806	15,973	1,835	—	129,873	2,664	836,965
Energy & Infrastructure									
Risk Grades 1 - 4	177,100	70,343	30,380	32,040	37,558	—	7,044	—	354,465
Risk Grade 5	—	16,947	4,455	4,854	16,414	—	—	—	42,670
Risk Grades 6 - 8	—	—	—	8,654	—	2,315	—	—	10,969
Total	177,100	87,290	34,835	45,548	53,972	2,315	7,044	—	408,104
Paycheck Protection Program									
Risk Grades 1 - 4	204,803	63,572	—	—	—	—	—	—	268,375
Total	204,803	63,572	—	—	—	—	—	—	268,375
Total	\$1,914,034	\$1,201,243	\$ 698,459	\$ 422,078	\$ 296,519	\$ 154,132	\$ 189,796	\$ 5,404	\$4,881,665

(1) Excludes \$494.5 million and \$645.2 million of loans accounted for under the fair value option as of December 31, 2022 and December 31, 2021, respectively.

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The following tables present guaranteed and unguaranteed loan and lease balances by asset quality indicator:

December 31, 2022	Loan and Lease Balance⁽¹⁾	Guaranteed Balance	Unguaranteed Balance	% Guaranteed
Risk Grades 1 - 4	\$ 6,429,448	\$ 2,508,229	\$ 3,921,219	39.0 %
Risk Grade 5	286,517	115,573	170,944	40.3
Risk Grades 6 - 8	138,189	80,193	57,996	58.0
Total	<u>\$ 6,854,154</u>	<u>\$ 2,703,995</u>	<u>\$ 4,150,159</u>	<u>39.5 %</u>

December 31, 2021	Loan and Lease Balance⁽¹⁾	Guaranteed Balance	Unguaranteed Balance	% Guaranteed
Risk Grades 1 - 4	\$ 4,508,932	\$ 1,875,152	\$ 2,633,780	41.6 %
Risk Grade 5	267,418	134,221	133,197	50.2
Risk Grades 6 - 8	105,315	62,997	42,318	59.8
Total	<u>\$ 4,881,665</u>	<u>\$ 2,072,370</u>	<u>\$ 2,809,295</u>	<u>42.5 %</u>

(1) Excludes \$494.5 million and \$645.2 million of loans accounted for under the fair value option as of December 31, 2022 and 2021, respectively.

Nonaccrual Loans and Leases

As of December 31, 2022 and December 31, 2021 there were no loans greater than 90 days past due and still accruing. There was no interest income recognized on nonaccrual loans and leases during the twelve months ended December 31, 2022 and 2021. Nonaccrual loans and leases are generally included in the held for investment portfolio. Accrued interest receivable on loans totaled \$46.5 million and \$31.0 million at December 31, 2022 and December 31, 2021, respectively, and is included in other assets in the accompanying consolidated balance sheets.

Nonaccrual loans and leases as of December 31, 2022 and December 31, 2021 are as follows:

December 31, 2022	Loan and Lease Balance⁽¹⁾	Guaranteed Balance	Unguaranteed Balance	Unguaranteed Exposure with No ACL
Commercial & Industrial				
Small Business Banking	\$ 22,321	\$ 19,302	\$ 3,019	\$ 407
Specialty Lending	3,647	384	3,263	—
Energy & Infrastructure	3,082	2,794	288	288
Total	<u>29,050</u>	<u>22,480</u>	<u>6,570</u>	<u>695</u>
Commercial Real Estate				
Small Business Banking	34,520	23,830	10,690	3,611
Energy & Infrastructure	3,072	2,799	273	—
Total	<u>37,592</u>	<u>26,629</u>	<u>10,963</u>	<u>3,611</u>
Commercial Land				
Small Business Banking	6,750	5,499	1,251	196
Total	<u>6,750</u>	<u>5,499</u>	<u>1,251</u>	<u>196</u>
Total	<u>\$ 73,392</u>	<u>\$ 54,608</u>	<u>\$ 18,784</u>	<u>\$ 4,502</u>

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<u>December 31, 2021</u>	<u>Loan and Lease Balance⁽¹⁾</u>	<u>Guaranteed Balance</u>	<u>Unguaranteed Balance</u>	<u>Unguaranteed Exposure with No ACL</u>
Commercial & Industrial				
Small Business Banking	\$ 16,911	\$ 13,981	\$ 2,930	\$ —
Payroll Protection Program	1,482	1,482	—	—
Total	18,393	15,463	2,930	—
Construction & Development				
Small Business Banking	3,884	1,201	2,683	—
Total	3,884	1,201	2,683	—
Commercial Real Estate				
Small Business Banking	12,410	5,226	7,184	5,169
Energy & Infrastructure	2,315	507	1,808	1,808
Total	14,725	5,733	8,992	6,977
Commercial Land				
Small Business Banking	5,531	4,148	1,383	—
Total	\$ 5,531	\$ 4,148	\$ 1,383	\$ —
Total	\$ 42,533	\$ 26,545	\$ 15,988	\$ 6,977

- (1) Excludes nonaccrual loans accounted for under the fair value option. See Note 10. Fair Value of Financial Instruments for additional information.

The following tables present the amortized cost basis of collateral-dependent loans and leases which are individually evaluated to determine expected credit losses, as of December 31, 2022 and 2021:

	Total Collateral Dependent Loans			Unguaranteed Portion			
<u>December 31, 2022</u>	<u>Real Estate</u>	<u>Business Assets</u>	<u>Other</u>	<u>Real Estate</u>	<u>Business Assets</u>	<u>Other</u>	<u>Allowance for Credit Losses</u>
Commercial & Industrial							
Small Business Banking	\$ 2,730	\$ —	\$ —	\$ 414	\$ —	\$ —	\$ —
Specialty Lending	—	371	—	—	371	—	291
Energy & Infrastructure	16,378	—	—	13,583	—	—	—
Total	19,108	371	—	13,997	371	—	291
Commercial Real Estate							
Small Business Banking	15,286	—	—	6,440	—	—	152
Total	15,286	—	—	6,440	—	—	152
Commercial Land							
Small Business Banking	1,743	—	—	202	—	—	—
Total	1,743	—	—	202	—	—	—
Total	\$ 36,137	\$ 371	\$ —	\$ 20,639	\$ 371	\$ —	\$ 443

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Notes to Consolidated Financial Statements

	Total Collateral Dependent Loans			Unguaranteed Portion			
	Real Estate	Business Assets	Other	Real Estate	Business Assets	Other	Allowance for Credit Losses
December 31, 2021							
Commercial & Industrial							
Small Business Banking	\$ 698	\$ 7,475	\$ —	\$ 152	\$ 449	\$ —	\$ 235
Total	698	7,475	—	152	449	—	235
Construction & Development							
Specialty Lending	3,858	—	—	2,657	—	—	57
Total	3,858	—	—	2,657	—	—	57
Commercial Real Estate							
Small Business Banking	5,172	700	64	4,038	14	13	65
Energy & Infrastructure	512	—	—	6	—	—	—
Total	5,684	700	64	4,044	14	13	65
Commercial Land							
Small Business Banking	5,541	—	—	1,393	—	—	601
Total	5,541	—	—	1,393	—	—	601
Total	<u>\$ 15,781</u>	<u>\$ 8,175</u>	<u>\$ 64</u>	<u>\$ 8,246</u>	<u>\$ 463</u>	<u>\$ 13</u>	<u>\$ 958</u>

Allowance for Credit Losses – Loans and Leases

On January 1, 2020, the Company adopted ASC 326. The Company maintains the ACL at levels management believes represents the future expected credit losses in the loan and lease portfolios as of the balance sheet date. See Note 1. Organization and Summary of Significant Accounting Policies for a description of the methodologies used to estimate credit losses under ASC 326.

The following tables detail activity in the allowance for credit losses for the periods presented:

	Commercial & Industrial	Construction & Development	Commercial Real Estate	Commercial Land	Total
December 31, 2022					
Beginning Balance	\$ 37,770	\$ 3,435	\$ 19,068	\$ 3,311	\$ 63,584
Charge offs	(8,262)	—	(1,463)	(652)	(10,377)
Recoveries	1,039	3	1,363	11	2,416
Provision	34,448	1,663	3,933	899	40,943
Ending Balance	<u>\$ 64,995</u>	<u>\$ 5,101</u>	<u>\$ 22,901</u>	<u>\$ 3,569</u>	<u>\$ 96,566</u>
December 31, 2021					
Beginning Balance	\$ 26,941	\$ 5,663	\$ 18,148	\$ 1,554	\$ 52,306
Charge offs	(2,912)	(262)	(2,731)	(12)	(5,917)
Recoveries	172	—	1,813	—	1,985
Provision	13,569	(1,966)	1,838	1,769	15,210
Ending Balance	<u>\$ 37,770</u>	<u>\$ 3,435</u>	<u>\$ 19,068</u>	<u>\$ 3,311</u>	<u>\$ 63,584</u>
December 31, 2020					
Beginning Balance, prior to adoption of ASC 326	\$ 15,757	\$ 2,732	\$ 8,427	\$ 1,318	\$ 28,234
Impact of adopting ASC 326	(4,561)	1,131	1,916	193	(1,321)
Charge offs	(4,401)	—	(10,347)	(644)	(15,392)
Recoveries	84	—	28	15	127
Provision	20,062	1,800	18,124	672	40,658
Ending Balance	<u>\$ 26,941</u>	<u>\$ 5,663</u>	<u>\$ 18,148</u>	<u>\$ 1,554</u>	<u>\$ 52,306</u>

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During the year ended December 31, 2022, the ACL increased primarily as a result of loan growth, charge-off experience impacts, and changes in the macroeconomic outlook. Loss rates are adjusted for twelve month forecasted unemployment followed by a twelve-month straight-line reversion period.

During the year ended December 31, 2021, increases to the ACL were primarily related to loan growth which has outpaced the improvement in forecasted unemployment rates and other conditions related to the COVID-19 pandemic. Unemployment rates were forecasted for twelve months followed by a twelve-month straight-line reversion period. Additionally, the provision expense was impacted by net charge-offs during the period.

During the year ended December 31, 2020, increases to the ACL were primarily related to the severity of forecasted unemployment rates and ongoing developments as a result of the COVID-19 pandemic. Unemployment rates were forecasted for twelve months followed by a twelve-month straight-line reversion period. Additionally, the provision expense was impacted by loan and lease growth and net charge-offs during the period.

The following table represents the types of TDRs that were made during the periods presented:

Twelve months ended December 31, 2022										
	Interest Only		Payment Deferral		Extend Amortization		Other ⁽¹⁾		Total TDRs ⁽²⁾	
	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end
Commercial & Industrial										
Small Business Banking	—	\$ —	7	\$ 8,795	3	\$ 1,442	1	\$ 490	11	\$ 10,727
Specialty Lending	—	—	1	4,183	—	—	—	—	1	4,183
Energy & Infrastructure	—	—	—	—	1	13,517	—	—	1	13,517
Total	—	—	8	12,978	4	14,959	1	490	13	28,427
Commercial Real Estate										
Small Business Banking	1	3,677	1	797	1	4,364	—	—	3	8,838
Total	1	3,677	1	797	1	4,364	—	—	3	8,838
Construction & Development										
Small Business Banking	—	—	—	—	—	—	2	3,081	2	3,081
Total	—	—	—	—	—	—	2	3,081	2	3,081
Total	1	\$ 3,677	9	\$ 13,775	5	\$ 19,323	3	\$ 3,571	18	\$ 40,346

(1) Includes one small business banking loan with extend amortization and a rate concession (\$490 thousand) and two small business banking loans with extended amortization and interest only (\$3.1 million).

(2) Excludes loans accounted for under the fair value option. See Note 10. Fair Value of Financial Instruments for additional information.

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Twelve months ended December 31, 2021

	Interest Only		Payment Deferral		Extend Amortization		Other ⁽¹⁾		Total TDRs ⁽²⁾	
	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end
Commercial & Industrial										
Small Business Banking	—	\$ —	3	\$ 6,097	1	\$ 496	—	\$ —	4	\$ 6,593
Total	—	—	3	6,097	1	496	—	—	4	6,593
Commercial Real Estate										
Small Business Banking	—	—	5	6,613	—	—	1	3,124	6	9,737
Total	—	—	5	6,613	—	—	1	3,124	6	9,737
Total	—	\$ —	8	\$ 12,710	1	\$ 496	1	\$ 3,124	10	\$ 16,330

- (1) Includes one small business banking loan with extended amortization and a rate concession TDR (\$3.1 million).
- (2) Excludes loans accounted for under the fair value option. See Note 10. Fair Value of Financial Instruments for additional information.

Twelve months ended December 31, 2020

	Interest Only		Payment Deferral		Extend Amortization		Other ⁽¹⁾		Total TDRs ⁽²⁾	
	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end
Commercial & Industrial										
Small Business Banking	—	\$ —	6	\$ 1,895	—	\$ —	1	\$ 170	7	\$ 2,065
Specialty Lending	—	—	—	—	2	423	—	—	2	423
Total	—	—	6	1,895	2	423	1	170	9	2,488
Construction & Development										
Small Business Banking	—	—	—	—	1	1,787	—	—	1	1,787
Total	—	—	—	—	1	1,787	—	—	1	1,787
Commercial Real Estate										
Small Business Banking	—	—	2	3,738	—	—	—	—	2	3,738
Energy & Infrastructure	—	—	1	3,627	—	—	2	12,219	3	15,846
Total	—	—	3	7,365	—	—	2	12,219	5	19,584
Commercial Land										
Small Business Banking	—	—	—	—	1	4,865	—	—	1	4,865
Total	—	—	—	—	1	4,865	—	—	1	4,865
Total	—	\$ —	9	\$ 9,260	4	\$ 7,075	3	\$ 12,389	16	\$ 28,724

- (1) Includes one small business banking interest only and rate concession TDR (\$170 thousand), and two energy & infrastructure interest only and rate concession TDRs (\$12.2 million).
- (2) Excludes loans accounted for under the fair value option. See Note 10. Fair Value of Financial Instruments for additional information.

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Restructurings made to improve a loan's performance have varying degrees of success. The following tables present TDRs that were modified within the twelve months ended December 31, 2022 that subsequently defaulted during the period:

Twelve Months Ended December 31, 2022									
Interest Only		Payment Deferral		Extend Amortization		Other		Total TDRs ⁽¹⁾	
Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end	Number of Loans	Recorded investment at period end
Commercial & Industrial									
Small Business Banking	— \$ —	2 \$ 940	2 \$ 318	— \$ —	4 \$ 1,258				
Total	— \$ —	2 \$ 940	2 \$ 318	— \$ —	4 \$ 1,258				

(1) Excludes loans accounted for under the fair value option. See Note 10. Fair Value of Financial Instruments for additional information.

One TDR that was modified within the twelve months ended December 31, 2021 subsequently defaulted during the twelve months ended December 31, 2021. The TDR that defaulted was a commercial real estate small business banking loan that had previously been modified for a payment deferral and had a recorded investment of \$50 thousand at December 31, 2021. No TDRs were modified within the twelve months ended December 31, 2020 subsequently defaulted during the twelve months ended December 31, 2020.

Note 4. Leases
Lessor Equipment Leasing

The Company purchases new equipment for the purpose of leasing such equipment to customers within its verticals. Equipment purchased to fulfill commitments to commercial renewable energy projects is rented out under operating leases while leases of equipment outside of the renewable energy vertical are generally direct financing leases. Accordingly, leased assets under operating leases are included in premises and equipment while leased assets under direct financing leases are included in loans and leases held for investment.

Direct Financing Leases

The gross lease payments receivable and the net investment included in accounts receivable for such leases are as follows:

	As of December 31,	
	2022	2021
Gross direct finance lease payments receivable	\$ 4,284	\$ 7,333
Less - unearned interest	(479)	(998)
Net investment in direct financing leases	\$ 3,805	\$ 6,335

Future minimum lease payments receivable under direct finance leases are as follows:

As of December 31, 2022	Amount
2023	\$ 1,803
2024	1,374
2025	990
2026	117
Total	\$ 4,284

Interest income of \$393 thousand, \$669 thousand and \$838 thousand was recognized in the twelve months ended December 31, 2022, 2021 and 2020, respectively.

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Notes to Consolidated Financial Statements

Operating Leases

As of December 31, 2022 and 2021, the Company had a net investment of \$114.2 million and \$123.9 million, respectively, in assets included in premises and equipment that are subject to operating leases. Of the net investment, the gross balance of the assets was \$163.4 million as of December 31, 2022 and 2021 and accumulated depreciation was \$49.2 million and \$39.5 million as of December 31, 2022 and 2021, respectively. Depreciation expense recognized on these assets for the twelve months ended December 31, 2022, 2021 and 2020 was \$9.7 million, \$9.7 million and \$9.8 million, respectively.

Lease income of \$9.5 million was recognized in the twelve months ended December 31, 2022, 2021 and 2020.

A maturity analysis of future minimum lease payments receivable under non-cancelable operating leases is as follows:

<u>As of December 31, 2022</u>	<u>Amount</u>	
2023	\$	9,041
2024		8,808
2025		8,935
2026		8,923
2027		8,690
Thereafter		13,563
Total	\$	57,960

Lessee Lease Arrangements

The Company determines if an arrangement is or contains a lease at inception. If it is determined to be or contain a lease, then the lease is classified as an operating or finance lease.

Right-of-use assets represent the Company's right to use an underlying asset for the lease term. Lease liabilities represent the Company's obligation to make lease payments arising from the lease. When recognizing right-of-use assets and liabilities, the Company accounts for lease and non-lease components separately because such amounts are readily determinable under the lease contracts. Right-of-use assets and liabilities are measured on commencement date based on the present value of the lease payments over the lease term, discounted using the discount rate for the lease at commencement. The discount rate is the rate implicit in the lease, however, if that is not readily determinable, the Company will use its incremental borrowing rate. The right-of-use asset also includes any lease payments made before the commencement date and initial direct costs and excludes any lease incentives received. The lease terms may include options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Lease expense for lease payments is recognized on a straight-line basis over the lease term. The Company does not apply the recognition and measurement requirements to any short-term leases (terms of twelve months or less).

Operating leases are included in other assets and other liabilities in the consolidated balance sheets. Finance leases are included in other assets and borrowings in the consolidated balance sheets. Lease expense for operating leases and finance leases is included in occupancy expense in the consolidated statements of income and interest expense for finance leases is included in borrowings interest expense in the consolidated statements of income.

The Company has operating leases for real property, land, copiers and other equipment. These leases have remaining lease terms of less than 1 year to 24 years, some of which include options to extend the leases for up to 20 years, and some of which include options to terminate the leases. The Company has concluded that it is reasonably certain it will exercise the options to extend for only one lease, which was therefore recognized as part of the right-of-use asset and lease liability.

The Company had a finance lease for fitness equipment, which matured during the year ended December 31, 2022.

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The components of lease expense are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Operating lease cost	\$ 1,224	\$ 635
Short-term lease cost	99	96
Finance lease cost:		
Amortization of right-of-use assets	4	3
Interest expense on lease liabilities	—	—
Total net lease cost	<u>\$ 1,327</u>	<u>\$ 734</u>

Supplemental disclosure for the consolidated balance sheets related to operating and finance leases is as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Operating lease right-of-use asset	\$ 2,118	\$ 2,228
Operating lease liability	2,558	2,436
Finance lease right-of-use asset	—	4
Finance lease liability	—	4

The weighted average remaining lease term and weighted average discount rate for leases are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Weighted average remaining lease term (years)		
Operating leases	10.62	12.35
Finance lease	0	0.92
Weighted average discount rate		
Operating leases	3.14 %	2.74 %
Finance lease	— %	3.10 %

A maturity analysis of operating lease liabilities is as follows:

<u>As of December 31, 2022</u>	<u>Operating Leases</u>
2023	\$ 696
2024	421
2025	244
2026	197
2027	201
Thereafter	1,438
Total lease payments	3,197
Less: imputed interest	(639)
Total lease liabilities	<u>\$ 2,558</u>

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Note 5. Servicing Assets

Loans serviced for others are not included in the accompanying consolidated balance sheets. The unpaid principal balances of loans serviced for others requiring recognition of a servicing asset were \$2.67 billion, \$2.29 billion and \$2.21 billion at December 31, 2022, 2021 and 2020, respectively. The unpaid principal balance for all loans serviced for others was \$3.48 billion, \$3.30 billion and \$3.21 billion at December 31, 2022, 2021 and 2020, respectively.

The following summarizes the activity pertaining to servicing rights:

	2022	2021
Balance at beginning of period	\$ 33,574	\$ 33,918
Additions, net	9,326	11,382
Fair value changes:		
Due to changes in valuation inputs or assumptions	(5,934)	(982)
Decay due to increases in principal paydowns or runoff	(10,643)	(10,744)
Balance at end of period	\$ 26,323	\$ 33,574

The fair value of servicing rights was determined using a weighted average discount rate of 20.8% on December 31, 2022 and 13.2% on December 31, 2021. The fair value of servicing rights was determined using a weighted average prepayment speed of 15.7% on December 31, 2022 and 16.2% on December 31, 2021, with the actual rate depending on the stratification of the specific right. Changes to fair value are reported in loan servicing asset revaluation within the consolidated statements of income.

The fair value of servicing rights is highly sensitive to changes in underlying assumptions. Changes in prepayment speed assumptions have the most significant impact on the fair value of servicing rights. Generally, as interest rates rise on variable rate loans, loan prepayments increase due to an increase in refinance activity, which results in a decrease in the fair value of servicing assets. However, weakening economic conditions or significant declines in interest rates can also increase loan prepayment activity. Measurement of fair value is limited to the conditions existing and the assumptions used as of a particular point in time, and those assumptions may not be appropriate if they are applied at a different time.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 6. Premises and Equipment

Components of Premises and Equipment

Components of premises and equipment and total accumulated depreciation at December 31, 2022 and 2021 are as follows:

	2022	2021
Buildings	\$ 54,746	\$ 54,746
Land improvements	5,180	5,180
Furniture and equipment	19,117	18,683
Hardware and software	10,264	8,399
Leasehold improvements	7,705	8,106
Land	15,982	8,650
Transportation	49,766	49,766
Solar panels	163,391	163,391
Deposits on fixed assets	33,966	712
Premises and equipment, total	360,117	317,633
Less accumulated depreciation	(96,827)	(77,437)
Premises and equipment, net of depreciation	<u>\$ 263,290</u>	<u>\$ 240,196</u>

Deposits on fixed assets at December 31, 2022 consist primarily of software development costs, plane deposits and campus improvement costs. Depreciation expense for the years ended December 31, 2022, 2021 and 2020 amounted to \$20.6 million, \$21.2 million and \$21.6 million, respectively.

In 2022, the Company purchased a building and land adjacent to its main campus for \$18.3 million. The building with a value of \$11.3 million is temporarily idle and therefore included in deposits on fixed assets at December 31, 2022 as the Company formalizes plans for its campus expansion.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 7. Deposits

The types of deposits at December 31, 2022 and 2021 are:

	2022	2021
Noninterest-bearing deposits	\$ 194,100	\$ 89,279
Interest-bearing deposits:		
Money market	128,443	105,628
Savings	4,096,576	3,507,354
Time deposits	4,465,809	3,409,783
Total	8,690,828	7,022,765
Total deposits	<u>\$ 8,884,928</u>	<u>\$ 7,112,044</u>

The aggregate amount of time deposits in denominations of \$250 thousand or more at December 31, 2022 and 2021 was approximately \$629.1 million and \$564.8 million, respectively. At December 31, 2022 the scheduled maturities of total time deposits are as follows:

Year	Amount
2023	\$ 2,350,669
2024	620,558
2025	431,735
2026	356,022
2027	266,189
Thereafter	440,636
Total	<u>\$ 4,465,809</u>

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 8. Borrowings

Total outstanding borrowings consisted of the following:

	December 31, 2022	December 31, 2021
<u>Borrowings</u>		
In March 2021, the Company entered into a 60-month term loan agreement of \$50.0 million with a third party correspondent bank. The loan accrues interest at a fixed rate of 2.95% with a monthly payment sufficient to fully amortize the loan, with all remaining unpaid principal and interest due at maturity on March 30, 2026. The Company paid the Lender a non-refundable \$325 thousand loan origination fee upon signing of the Note that is presented as a direct deduction from the carrying amount of the loan and will be amortized into interest expense over the life of the loan.	\$ 33,203	\$ 42,734
In April 2020, the Company entered into the Federal Reserve Bank's Paycheck Protection Program Liquidity Facility ("PPPLF"). Under the PPPLF, advances must be secured by pledges of loans to small businesses originated by the Company under the U.S. Small Business Administration's 7(a) loan program titled the Paycheck Protection Program. The PPPLF accrues interest at thirty-five basis points and matures at various dates equal to the maturity date of the PPPLF collateral pledged to secure the advance, and will be accelerated on and to the extent of any 7(a) loan forgiveness reimbursement by the SBA for any PPPLF collateral or the date of purchase by the SBA from the borrower of any PPPLF collateral. On the maturity date of each advance, the Company shall repay the advance plus accrued interest. The borrowing was paid in full at September 30, 2022.	—	267,550
In September 2020, the Company renewed a \$50.0 million revolving line of credit originally issued in 2017 with a third party correspondent bank. Subsequently on October 20, 2021, the Company renewed and increased the revolving line of credit from \$50.0 million to \$100.0 million and increased the term from 12 months to 36 months. The line of credit is unsecured and accrues interest at 30-day SOFR plus 1.25%, with an interest rate cap of 4.25% and an interest rate floor of 2.75%. Payments are interest only with all principal and accrued interest due at maturity on October 10, 2025. The terms of this loan require the Company to maintain minimum capital and debt service coverage ratios. The Company paid the Lender a non-refundable \$750 thousand loan origination fee upon signing of the Note that will be amortized into interest expense over the life of the loan. The Company made an advance of \$8.0 million on December 20, 2021 and \$12.0 million on March 16, 2022. The Company paid down this balance in full on May 20, 2022 and there is \$100.0 million of available credit remaining at December 31, 2022.	—	8,000
On December 30, 2022, the Company made an advance of \$50.0 million on an overnight Fed Funds line of credit that is unsecured with an interest rate of 4.65% with \$50.0 million of available credit remaining at December 31, 2022.	50,000	—
Other long term debt ⁽¹⁾	—	5
Total borrowings	\$ 83,203	\$ 318,289

(1) Includes finance leases paid in full November 1, 2022.

The Company may purchase federal funds through unsecured federal funds lines of credit with various correspondent banks, which totaled \$164.5 million and \$167.5 million as of December 31, 2022 and 2021, respectively. These lines are intended for short-term borrowings and are subject to restrictions limiting the frequency and terms of advances. These lines of credit are payable on demand and bear interest based upon the daily federal funds rate. The Company had \$50.0 million in outstanding balances on the lines of credit as of December 31, 2022, and no outstanding balance on the lines of credit as of December 31, 2021.

Live Oak Bancshares, Inc.**Notes to Consolidated Financial Statements**

The Company has entered into a repurchase agreement with a third party for up to \$5.0 million as of December 31, 2022 and 2021. At the time the Company enters into a transaction with the third party, the Company must transfer securities or other assets against the funds received. The terms of the agreement are set at market conditions at the time the Company enters into such transaction. The Company had no outstanding balance on the repurchase agreement as of December 31, 2022 and 2021.

On June 18, 2018, the Company entered into a borrowing agreement with the Federal Home Loan Bank of Atlanta. These borrowings must be secured with eligible collateral approved by the Federal Home Loan Bank of Atlanta. As of December 31, 2022 and 2021, there was \$2.31 billion and \$2.02 billion, respectively, of potential borrowing capacity available under this agreement. There is no collateral pledged and no advances outstanding as of December 31, 2022 or 2021.

The Company may borrow funds through the Federal Reserve Bank's discount window. These borrowings are secured by a blanket floating lien on qualifying loans with a balance of \$2.81 billion and \$2.44 billion as of December 31, 2022 and 2021, respectively. At December 31, 2022 and 2021, the Company had approximately \$2.35 billion and \$2.04 billion, respectively, in borrowing capacity available under these arrangements with no outstanding balance as of December 31, 2022 or 2021.

Note 9. Income Taxes

The components of income tax expense for the years ended December 31 are as follows:

	2022	2021	2020
Current income tax expense:			
Federal	\$ 3,686	\$ 12,774	\$ 2,071
State	3,301	6,211	3,222
Total current tax expense	6,987	18,985	5,293
Deferred income tax expense (benefit):			
Federal	23,838	22,886	(12,946)
State	3,291	1,922	(4,501)
Total deferred tax expense (benefit)	27,129	24,808	(17,447)
Income tax expense (benefit), as reported	<u>\$ 34,116</u>	<u>\$ 43,793</u>	<u>\$ (12,154)</u>

Reported income tax expense (benefit) differed from the amounts computed by applying the U.S. federal statutory income tax rate of 21% in 2022, 2021 and 2020 to income before income taxes as follows:

	2022	2021	2020
Income tax expense computed at the statutory rate	\$ 44,168	\$ 44,266	\$ 9,952
State income tax expense (benefit), net of federal	5,899	6,426	(1,009)
Stock-based compensation expense	73	(4,689)	(17,489)
Decrease in taxes due to investment tax credit	(16,361)	(3,392)	—
Amended return net benefits	(3,261)	—	—
Net operating loss carryback arising from CARES Act	—	—	(3,732)
Other	3,598	1,182	124
Total income tax expense (benefit)	<u>\$ 34,116</u>	<u>\$ 43,793</u>	<u>\$ (12,154)</u>

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Components of deferred tax assets and liabilities are as follows:

	2022	2021
Deferred tax assets:		
Net unrealized losses on securities available for sale	\$ 29,153	\$ —
Allowance for loan and lease losses	27,159	19,918
Stock-based compensation expense	5,248	3,720
Capitalized research and experimentation costs	3,780	—
Accrued expenses	1,070	2,247
Operating lease liabilities	618	584
Goodwill and intangibles	14	71
Mark to market on loans held for sale	—	24,213
Deferred loan fees and costs, net	—	3,388
Other	1,147	1,474
Total deferred tax assets	68,189	55,615
Deferred tax liabilities:		
Premises and equipment	39,054	41,038
Net unrealized gains on non-marketable and other equity securities	22,309	23,273
Mark to market on loans held for sale	14,036	—
Unguaranteed loan discount	4,309	6,171
Deferred loan fees and costs, net	1,332	—
Operating lease right-of-use assets	511	534
Net unrealized gains on securities available for sale	—	614
Other	13	—
Total deferred tax liabilities	81,564	71,630
Net deferred tax (liability) asset	\$ (13,375)	\$ (16,015)

The Company assesses the realizability of deferred tax assets at each reporting period and considers whether it is more likely than not that a deferred tax asset will not be realized. The realization of a deferred tax asset is dependent upon the generation of future taxable income during periods in which the related temporary difference becomes deductible or realizable prior to its expiration. The Company considers projected future taxable income, scheduled reversal of deferred tax liabilities, cessation of investing in renewable energy assets that generate investment tax credits and tax planning strategies in making this assessment. Based on these considerations, management believes it is more likely than not that the deferred tax assets will be realized.

ASC 740, Income Taxes, defines the threshold for recognizing the benefits of tax return positions in the financial statements as "more-likely-than-not" to be sustained by the taxing authority. The Company does not have material uncertain tax positions, interest or penalties recorded in the consolidated balance sheets or statements of income as of or for the years ended December 31, 2022, 2021 and 2020.

The Company files a consolidated income tax return in the U.S. federal tax jurisdiction. Generally, the Company's federal and state tax returns are no longer subject to examination by the taxing authorities for years prior to 2015.

Note 10. Fair Value of Financial Instruments

Fair Value Hierarchy

There are three levels of inputs in the fair value hierarchy that may be used to measure fair value. Financial instruments are considered *Level 1* when valuation can be based on quoted prices in active markets for identical assets or liabilities. *Level 2* financial instruments are valued using quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or models using inputs that are observable or can be corroborated by observable market data of substantially the full term of the assets or liabilities. Financial instruments are considered *Level 3* when their values are determined using pricing models, discounted cash flow methodologies or similar techniques and at least one significant model assumption or input is unobservable and when determination of the fair value requires significant management judgment or estimation.

Recurring Fair Value

The following sections provide a description of the valuation methodologies used for instruments measured at fair value on a recurring basis, as well as the general classification of such instruments pursuant to the fair value hierarchy:

Investment securities: Where quoted prices are available in an active market, securities are classified within Level 1 of the valuation hierarchy. Level 1 securities would include highly liquid government bonds, mortgage products and exchange traded equities. If quoted market prices are not available, then fair values are estimated by using pricing models, quoted prices of securities with similar characteristics, discounted cash flow or at net asset value per share. Level 2 securities would include U.S. government agency securities, mortgage-backed securities, obligations of states and political subdivisions and certain corporate, asset backed and other securities. In certain cases where there is limited activity or less transparency around inputs to the valuation, securities are classified within Level 3 of the valuation hierarchy.

Loans held for sale: The fair values of loans held for sale accounted for under the fair value option are determined by discounting estimated cash flows using interest rates approximating prevailing market rates for similar loans adjusted to reflect the inherent credit risk. Due to the nature of the valuation inputs, loans held for sale are classified within Level 3 of the valuation hierarchy.

Loans held for investment: The fair values of loans held for investment accounted for under the fair value option are typically determined based on discounted cash flow analyses using market-based interest rate spreads. Discounted cash flow analyses are adjusted, as appropriate, to reflect current market conditions and borrower-specific credit risk. If the loan is collateral dependent, the fair value is determined based on the difference between the fair value of the collateral and the amortized cost basis of the loan as of the measurement date. Fair value of the loan's collateral is determined by appraisals, independent valuation, or management's estimation of fair value which is then adjusted for the cost related to liquidation of the collateral. Due to the nature of the valuation inputs, loans held for investment are classified within Level 3 of the valuation hierarchy.

Servicing assets: Servicing rights do not trade in an active, open market with readily observable prices. While sales of servicing rights do occur, the precise terms and conditions typically are not readily available. Accordingly, the Company estimates the fair value of servicing rights using discounted cash flow models incorporating numerous assumptions from the perspective of a market participant including servicing income, servicing costs, market discount rates and prepayment speeds. Due to the nature of the valuation inputs, servicing rights are classified within Level 3 of the valuation hierarchy.

Mutual fund: The mutual fund is registered with the Securities and Exchange Commission as a closed-end, non-diversified management investment company and operates as an interval fund. The fund primarily invests in the unguaranteed portion of SBA504 first lien loans secured by owner-occupied commercial real estate. This investment is valued using quoted prices in markets that are not active and is classified as Level 2 within the valuation hierarchy.

Live Oak Bancshares, Inc.**Notes to Consolidated Financial Statements**

Equity warrant assets: Fair value measurements of equity warrant assets of private companies are priced based on a Black-Scholes option pricing model to estimate the asset value by using stated strike prices, option expiration dates, risk-free interest rates and option volatility assumptions. Option volatility assumptions used in the Black-Scholes model are based on public companies that operate in similar industries as the companies in the Company's private company portfolio. Option expiration dates are modified to account for estimates of actual life relative to stated expiration. Values are further adjusted for a general lack of liquidity due to the private nature of the associated underlying company. The Company classifies equity warrant assets within Level 3 of the valuation hierarchy.

The table below provides a rollforward of the Level 3 equity warrant asset fair values.

Equity Warrant Assets	Twelve months ended December 31,	
	2022	2021
Balance at beginning of period	\$ 1,672	\$ 908
Issuances	833	229
Net gains on derivative instruments	671	1,088
Settlements	(966)	(553)
Balance at end of period	<u>\$ 2,210</u>	<u>\$ 1,672</u>

The tables below present the recorded amount of assets and liabilities measured at fair value on a recurring basis.

December 31, 2022	Total	Level 1	Level 2	Level 3
Investment securities available-for-sale				
US government agencies	\$ 15,668	\$ —	\$ 15,668	\$ —
Mortgage-backed securities	995,574	—	995,574	—
Municipal bonds ⁽¹⁾	2,977	—	2,884	93
Other debt securities	500	—	500	—
Loans held for investment	494,458	—	—	494,458
Servicing assets ⁽²⁾	26,323	—	—	26,323
Mutual fund	1,656	—	1,656	—
Equity warrant assets	2,210	—	—	2,210
Total assets at fair value	<u>\$ 1,539,366</u>	<u>\$ —</u>	<u>\$ 1,016,282</u>	<u>\$ 523,084</u>

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

<u>December 31, 2021</u>	<u>Total</u>	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
Investment securities available-for-sale				
US government agencies	\$ 10,637	\$ —	\$ 10,637	\$ —
Mortgage-backed securities	889,339	—	889,339	—
Municipal bonds ⁽¹⁾	3,576	—	3,480	96
Other debt securities	2,500	—	2,500	—
Loans held for sale	25,310	—	—	25,310
Loans held for investment	645,201	—	—	645,201
Servicing assets ⁽²⁾	33,574	—	—	33,574
Mutual fund	2,379	—	2,379	—
Equity warrant assets	1,672	—	—	1,672
Total assets at fair value	<u>\$ 1,614,188</u>	<u>\$ —</u>	<u>\$ 908,335</u>	<u>\$ 705,853</u>

(1) During the year ended December 31, 2022, the Company recorded a principal paydown of \$1 thousand and a fair value adjustment loss of \$2 thousand. During the year ended December 31, 2021, the Company recorded a principal paydown of \$1 thousand and a fair value adjustment gain of \$1 thousand.

(2) See Note 5 for a rollforward of recurring Level 3 fair values for servicing assets.

Fair Value Option

The Company has historically elected to account for retained participating interests of all government guaranteed loans under the fair value option in order to align the accounting presentation with the Company's viewpoint of the economics of the loans. Interest income on loans accounted for under the fair value option is recognized in loans and fees on loans on the Company's consolidated statements of income. Beginning in the first quarter of 2021, the Company chose not to elect fair value for all retained participating interests arising from new government guaranteed loan sales. Not electing fair value generally results in a larger discount being recorded on the date of the sale. This discount is subsequently accreted into interest income over the underlying loan's remaining term using the effective interest method. Management made this change of election in alignment with its ongoing effort to reduce volatility and drive more predictable revenue. In accordance with accounting standards, any loans for which fair value was previously elected will continue to be measured as such. There were no loans accounted for under the fair value option that were 90 days or more past due and still accruing interest at December 31, 2022 or 2021. The unpaid principal balance of unguaranteed exposure for nonaccruals was \$7.2 million and \$6.9 million at December 31, 2022 and 2021, respectively.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

The following tables provide more information about the fair value carrying amount and the unpaid principal outstanding of loans accounted for under the fair value option at December 31, 2022 and December 31, 2021.

December 31, 2022									
	Total Loans			Nonaccruals			90 Days or More Past Due		
	Fair Value Carrying Amount	Unpaid Principal Balance	Difference	Fair Value Carrying Amount	Unpaid Principal Balance	Difference	Fair Value Carrying Amount	Unpaid Principal Balance	Difference
Fair Value Option Elections									
Loans held for investment	\$494,458	\$513,219	\$ (18,761)	\$ 44,890	\$ 46,993	\$ (2,103)	\$ 24,663	\$ 26,321	\$ (1,658)
	<u>\$494,458</u>	<u>\$513,219</u>	<u>\$ (18,761)</u>	<u>\$ 44,890</u>	<u>\$ 46,993</u>	<u>\$ (2,103)</u>	<u>\$ 24,663</u>	<u>\$ 26,321</u>	<u>\$ (1,658)</u>
December 31, 2021									
	Total Loans			Nonaccruals			90 Days or More Past Due		
	Fair Value Carrying Amount	Unpaid Principal Balance	Difference	Fair Value Carrying Amount	Unpaid Principal Balance	Difference	Fair Value Carrying Amount	Unpaid Principal Balance	Difference
Fair Value Option Elections									
Loans held for sale	\$ 25,310	\$ 26,831	\$ (1,521)	\$ —	\$ —	\$ —	\$ —	\$ —	\$ —
Loans held for investment	645,201	666,066	(20,865)	38,262	42,841	(4,579)	24,057	25,633	(1,576)
	<u>\$670,511</u>	<u>\$692,897</u>	<u>\$ (22,386)</u>	<u>\$ 38,262</u>	<u>\$ 42,841</u>	<u>\$ (4,579)</u>	<u>\$ 24,057</u>	<u>\$ 25,633</u>	<u>\$ (1,576)</u>

The following table presents the net gains (losses) from changes in fair value.

Gains (Losses) on Loans Accounted for under the Fair Value Option	Twelve Months Ended December 31,	
	2022	2021
Loans held for sale	\$ 1,521	\$ 502
Loans held for investment	(475)	3,755
	<u>\$ 1,046</u>	<u>\$ 4,257</u>

Losses related to borrower-specific credit risk were \$1.9 million and \$1.5 million for the twelve months ended December 31, 2022 and 2021, respectively.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

The following tables summarize the activity pertaining to loans accounted for under the fair value option.

	Twelve Months Ended December 31,	
	2022	2021
Loans held for sale		
Balance at beginning of period	\$ 25,310	\$ 36,111
Repurchases & Issuances	65	—
Fair value changes	1,521	502
Transfers	(26,219)	—
Settlements	(677)	(11,303)
Balance at end of period	<u>\$ —</u>	<u>\$ 25,310</u>

	Twelve Months Ended December 31,	
	2022	2021
Loans held for investment		
Balance at beginning of period	\$ 645,201	\$ 815,374
Repurchases & Issuances	18,629	37,159
Fair value changes	(475)	3,755
Transfers	26,219	—
Settlements	(195,116)	(211,087)
Balance at end of period	<u>\$ 494,458</u>	<u>\$ 645,201</u>

Non-recurring Fair Value

The following sections provide a description of the valuation methodologies used for instruments measured at fair value on a non-recurring basis, as well as the general classification of such instruments pursuant to the fair value hierarchy:

Collateral-dependent loans: Loans are considered collateral-dependent when the Company has determined that foreclosure of the collateral is probable or when a borrower is experiencing financial difficulty and the loan is expected to be repaid substantially through the operation or sale of collateral. A collateral-dependent loan's ACL is measured based on the difference between the fair value of the collateral and the amortized cost basis of the loan as of the measurement date. Fair value of the loan's collateral is determined by appraisals, independent valuation, or management's estimation of fair value which is then adjusted for the cost related to liquidation of the collateral. Collateral-dependent loans are generally classified as Level 3 based on management's judgment and estimation. Loans with agreed upon sales prices are classified as Level 1.

Foreclosed assets: Foreclosed real estate is adjusted to fair value less selling costs upon transfer of the loans to foreclosed real estate. Subsequently, foreclosed real estate is carried at the lower of carrying value or fair value less selling costs. Fair value is based upon independent market prices, appraised values of the collateral or management's estimation of the value of the collateral. Given the lack of observable market prices for identical properties and market discounts applied to appraised values, the Company generally classifies foreclosed assets as nonrecurring Level 3.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

The tables below present the recorded amount of assets and liabilities measured at fair value on a non-recurring basis.

December 31, 2022	Total	Level 1	Level 2	Level 3
Collateral-dependent loans	\$ 4,840	\$ —	\$ —	\$ 4,840
Total assets at fair value	<u>\$ 4,840</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 4,840</u>

December 31, 2021	Total	Level 1	Level 2	Level 3
Collateral-dependent loans	\$ 1,567	\$ —	\$ —	\$ 1,567
Foreclosed assets	620	—	—	620
Total assets at fair value	<u>\$ 2,187</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 2,187</u>

Level 3 Analysis

For Level 3 assets and liabilities measured at fair value as of December 31, 2022 and December 31, 2021, the significant unobservable inputs used in the fair value measurements were as follows:

December 31, 2022					
Level 3 Assets with Significant Unobservable Inputs	Fair Value	Valuation Technique	Significant Unobservable Inputs	Range	Weighted Average⁽¹⁾
Recurring fair value					
Municipal bond	\$ 93	Discounted expected cash flows	Discount rate	6.0 %	N/A
			Prepayment speed	5.0 %	N/A
Loans held for investment	\$ 494,458	Discounted expected cash flows	Loss rate	0.0 % - 79.3 %	1.9 %
			Discount rate	7.5 % - 11.2 %	10.0 %
			Prepayment speed	16.5 %	16.5 %
		Discounted appraisals	Appraisal adjustments ⁽²⁾	0.0 % - 77.3 %	28.6 %
Equity warrant assets	\$ 2,210	Black-Scholes option pricing model	Volatility	26.5 % - 90.0 %	34.2 %
			Risk-free interest rate	3.9 % - 4.0 %	3.9 %
			Marketability discount	20.0 %	20.0 %
			Remaining life	3 - 10 years	7.7 years
Non-recurring fair value					
Collateral-dependent loans	\$ 4,840	Discounted appraisals	Appraisal adjustments ⁽²⁾	10.0 % - 66.5 %	34.2 %

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

December 31, 2021

Level 3 Assets with Significant Unobservable Inputs	Fair Value	Valuation Technique	Significant Unobservable Inputs	Range	Weighted Average ⁽¹⁾
<i>Recurring fair value</i>					
Municipal bond	\$ 96	Discounted expected cash flows	Discount rate	4.8 %	N/A
			Prepayment speed	5.0 %	N/A
Loans held for sale	\$ 25,310	Discounted expected cash flows	Discount rate	6.2 % - 21.9 %	6.6 %
			Prepayment speed	17.4 %	17.4 %
Loans held for investment	\$ 645,201	Discounted expected cash flows	Loss rate	0.0 % - 70.2 %	1.5 %
			Discount rate	6.2 % - 21.9 %	6.6 %
			Prepayment speed	17.4 %	17.4 %
		Discounted appraisals	Appraisal adjustments ⁽²⁾	10.0 % - 85.0 %	16.2 %
Equity warrant assets	\$ 1,672	Black-Scholes option pricing model	Volatility	26.2 % - 88.2 %	39.2 %
			Risk-free interest rate	1.3 % - 1.5 %	1.5 %
			Marketability discount	20.0 %	20.0 %
			Remaining life	4 - 10 years	7.5 years
<i>Non-recurring fair value</i>					
Collateral-dependent loans	\$ 1,567	Discounted appraisals	Appraisal adjustments ⁽²⁾	10.0 % - 99.0 %	32.9 %
Foreclosed assets	\$ 620	Discounted appraisals	Appraisal adjustments ⁽²⁾	9.0 % - 10.0 %	9.5 %

- (1) Weighted averages are determined by the relative fair value of the instruments or the relative contribution to the instruments fair value.
- (2) Appraisals may be adjusted by management for customized discounting criteria, estimated sales costs, and other qualitative adjustments.

Estimated Fair Value of Other Financial Instruments

GAAP also requires disclosure of fair value information about financial instruments carried at book value on the consolidated balance sheet. In cases where quoted market prices are not available, fair values are based on estimates using present value or other valuation techniques. Those techniques are significantly affected by the assumptions used, including the discount rate and estimates of future cash flows. In that regard, the derived fair value estimates cannot be substantiated by comparison to independent markets and, in many cases, could not be realized in immediate settlement of the instruments. Accordingly, the aggregate fair value amounts presented do not represent the underlying value of the Company.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

The carrying amounts and estimated fair values of the Company's financial instruments are as follows:

December 31, 2022	Carrying Amount	Quoted Price In Active Markets for Identical Assets/Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value
<i>Financial assets</i>					
Cash and due from banks	\$ 280,239	\$ 280,239	\$ —	\$ —	\$ 280,239
Federal funds sold	136,397	136,397	—	—	136,397
Certificates of deposit with other banks	4,000	4,000	—	—	4,000
Loans held for sale	554,610	—	—	577,254	577,254
Loans and leases held for investment, net of allowance for credit losses on loans and leases	6,753,154	—	—	6,652,936	6,652,936
<i>Financial liabilities</i>					
Deposits	8,884,928	—	8,532,615	—	8,532,615
Borrowings	83,203	—	—	82,258	82,258

December 31, 2021	Carrying Amount	Quoted Price In Active Markets for Identical Assets/Liabilities (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Fair Value
<i>Financial assets</i>					
Cash and due from banks	\$ 187,203	\$ 187,203	\$ —	\$ —	\$ 187,203
Federal funds sold	16,547	16,547	—	—	16,547
Certificates of deposit with other banks	4,750	4,930	—	—	4,930
Loans held for sale	1,091,209	—	—	1,197,307	1,197,307
Loans and leases held for investment, net of allowance for credit losses on loans and leases	4,812,477	—	—	4,958,875	4,958,875
<i>Financial liabilities</i>					
Deposits	7,112,044	—	6,942,512	—	6,942,512
Borrowings	318,289	—	—	312,036	312,036

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 11. Commitments and Contingencies

Litigation

In the ordinary course of operations, the Company is at times involved in legal proceedings. In the opinion of management, as of December 31, 2022, there are no material pending legal proceedings to which the Company or any of its subsidiaries is a party or of which any of their property is the subject.

On March 12, 2021, a purported class action was filed against the Company in the United States District Court for the Eastern District of North Carolina, *Joseph McAlear, individually and on behalf of all others similarly situated v. Live Oak Bancshares, Inc. et al.* The complaint alleged the existence of an agreement between the Company, nCino, Inc. and Apiture, LLC in which those companies purportedly sought to restrain the mobility of employees in violation of antitrust laws by agreeing not to solicit or hire each other's employees. The complaint alleged violations of Section 1 of the federal Sherman Act (15 U.S.C. § 1) and violations of Sections 75-1 and 75-2 of the North Carolina General Statutes. The plaintiff sought monetary damages, including treble damages, entitlement to restitution, disgorgement, attorneys' fees, and pre- and post-judgment interest. On October 12, 2021, the Company reached an agreement to settle the case with a proposed class of all persons (with certain exclusions) employed by the Company or its wholly owned subsidiary, Live Oak Banking Company, Apiture, Inc. or nCino, Inc. in North Carolina at any time from January 27, 2017, through March 31, 2021. In the agreement, the Company agreed to pay \$3.9 million. On October 13, 2021, the plaintiff filed a motion for preliminary approval of the settlement, which the court granted by order entered on November 23, 2021. After class-wide noticing, the plaintiff filed a motion for final approval on March 28, 2022, which the court granted by order entered on April 28, 2022. Pursuant to the terms of the settlement, the settlement became effective on June 11, 2022.

Financial Instruments with Off-balance-sheet Risk

The Company is party to financial instruments with off-balance-sheet risk in the normal course of business to meet the financing needs of its customers. These financial instruments include commitments to extend credit and standby letters of credit. These instruments involve, to varying degrees, credit risk in excess of the amount recognized in the balance sheet.

The Company's exposure to credit loss in the event of nonperformance by the other party to the financial instrument for commitments to extend credit and standby letters of credit is represented by the contractual amount of those instruments. The Company uses the same credit policies in making commitments and conditional obligations as for on-balance-sheet instruments. A summary of the Company's commitments is as follows:

	December 31, 2022	December 31, 2021
Commitments to extend credit	\$ 2,731,866	\$ 2,634,387
Standby letters of credit	26,454	10,753
Airplane purchase agreement commitments	24,000	—
Total unfunded off-balance sheet credit risk	<u>\$ 2,782,320</u>	<u>\$ 2,645,140</u>

Commitments to extend credit are agreements to lend to a customer as long as there is no violation of any condition established in the contract. Commitments generally have fixed expiration dates or other termination clauses and may require payment of a fee. Since many of the commitments are expected to expire without being drawn upon, the total commitment amounts do not necessarily represent future cash requirements. The Company evaluates each customer's creditworthiness on a case-by-case basis. The amount of collateral obtained, if deemed necessary by the Company upon extension of credit, is based on management's credit evaluation of the party. Collateral held varies, but may include accounts receivable, inventory, property and equipment, residential real estate and income-producing commercial properties. Commitment letters are issued after approval of the loan by the Credit Department and generally expire ninety days after issuance.

Standby letters of credit are conditional commitments issued by the Company to guarantee the performance of a customer to a third party. Those guarantees are primarily issued to support public and private borrowing arrangements. The credit risk involved in issuing letters of credit is essentially the same as that involved in extending loan facilities to customers. Collateral held varies as specified above and is required in instances which the Company deems necessary.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

As of December 31, 2022 and 2021, the Company had unfunded commitments to provide capital contributions for on-balance sheet instruments in the amount of \$26.1 million and \$10.4 million, respectively.

Concentrations of Credit Risk

The distribution of commitments to extend credit approximates the distribution of loans outstanding. The Company does not have a significant number of credits to any single borrower or group of related borrowers whereby their retained exposure exceeds \$20.0 million, except for 23 relationships that have a retained unguaranteed exposure of \$701.9 million of which \$440.9 million of the unguaranteed exposure has been disbursed.

Additionally, the Company has future minimum lease payments receivable under non-cancelable operating leases totaling \$58.0 million, of which no relationships exceed \$20.0 million.

The Company from time-to-time may have cash and cash equivalents on deposit with financial institutions that exceed federally-insured limits.

Note 12. Benefit Plans

Defined Contribution Plan

The Company maintains an employee benefit plan pursuant to Section 401(k) of the Internal Revenue Code. The plan covers substantially all employees. Participants may contribute a percentage of compensation, subject to a maximum allowed under the Code. In addition, the Company makes certain matching contributions and may make additional contributions at the discretion of the board of directors. Company expense relating to the plan for the years ended December 31, 2022, 2021 and 2020 amounted to \$6.3 million, \$4.4 million and \$3.9 million, respectively.

Flexible Benefits Plan

The Company maintains a Flexible Benefits Plan which covers substantially all employees. Participants may set aside pre-tax dollars to provide for future expenses such as dependent care.

Employee Stock Purchase Plan

The Company adopted an Employee Stock Purchase Plan on October 8, 2014, which plan was most recently amended and restated as of March 22, 2021 and approved by the Company's shareholders on May 11, 2021 ("ESPP"), within the meaning of Section 423 of the Internal Revenue Code of 1986, as amended. Under this plan, eligible employees are able to purchase available shares with post-tax dollars as of the grant date. In order for employees to be eligible to participate in this plan they must be employed or on an authorized leave of absence from the Company or any subsidiary immediately prior to the grant date. ESPP stock purchases cannot exceed \$25 thousand in fair market value per employee per calendar year. Options to purchase shares under the ESPP are granted at a 15% discount to fair market value. Expense recognized in relation to the ESPP was \$188 thousand, \$118 thousand and \$92 thousand for fiscal years 2022, 2021 and 2020, respectively.

Stock Option Plans

On March 20, 2015, the Company adopted the 2015 Omnibus Stock Incentive Plan which replaced the previously existing Amended Incentive Stock Option Plan and Nonstatutory Stock Option Plan. Subsequently on May 24, 2016, the 2015 Omnibus Stock Incentive Plan was amended and restated, and on May 15, 2018, the 2015 Omnibus Stock Incentive Plan was amended, to authorize awards covering a maximum of 7,000,000 and 8,750,000 common voting shares, respectively. On May 11, 2021, the Amended and Restated 2015 Omnibus Stock Incentive Plan was amended to authorize awards covering a maximum of 10,750,000 common voting shares. Options or restricted shares granted under the Amended and Restated 2015 Omnibus Stock Incentive Plan (the "Plan") expire no more than 10 years from date of grant. Exercise prices under the Plan are set by the Board of Directors at the date of grant but shall not be less than 100% of fair market value of the related stock at the date of the grant. Forfeitures are recognized as they occur.

Live Oak Bancshares, Inc.**Notes to Consolidated Financial Statements**

Compensation cost relating to share-based payment transactions are recognized in the financial statements with measurement based upon the fair value of the equity or liability instruments issued. For the years ended December 31, 2022, 2021 and 2020 the Company recognized \$753 thousand, \$1.3 million and \$1.5 million in compensation expense for stock options, respectively.

Stock option activity under the Plan during the year ended December 31, 2022 is summarized below.

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at December 31, 2021	1,062,681	\$ 12.94		
Exercised	(228,941)	13.58		
Forfeited	(8,626)	15.75		
Outstanding at December 31, 2022	825,114	\$ 12.73	2.28	\$ 14,412,142
Exercisable at December 31, 2022	787,354	\$ 12.67	2.24	\$ 13,803,102

The following is a summary of non-vested stock option activity for the Company for the years ended December 31, 2022, 2021 and 2020.

	Shares	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2019	1,485,396	\$ 4.73
Vested	(387,867)	3.05
Forfeited	(74,893)	4.52
Non-vested at December 31, 2020	1,022,636	5.38
Vested	(592,693)	4.35
Forfeited	(47,093)	7.28
Non-vested at December 31, 2021	382,850	6.75
Vested	(336,464)	6.85
Forfeited	(8,626)	6.95
Non-vested at December 31, 2022	37,760	\$ 6.60

The total intrinsic value of options exercised during the years ended December 31, 2022, 2021 and 2020 was \$7.0 million, \$46.3 million and \$15.9 million, respectively.

At December 31, 2022, unrecognized compensation costs relating to stock options amounted to \$25 thousand which will be recognized over a weighted average period of 0.27 years.

There were no options granted in 2022, 2021 or 2020.

Restricted Stock Plan

In 2010, the Company adopted a Restricted Stock Plan. Under this plan, a total of 1,350,000 shares of Common Stock were available for issuance to eligible employees. Restricted stock grants vested in equal installments ranging from immediate vesting to over a seven year period from the date of the grant. Under the 2015 Omnibus Stock Incentive Plan, which replaced the previously existing Restricted Stock Plan, during 2020, 586,132 restricted stock units were granted to eligible employees and outside directors at a weighted average grant date fair value of \$17.78. During 2021, 1,329,508 restricted stock units were granted to eligible employees and outside directors at a weighted average grant date fair value of \$58.19. The vesting of these grants was time based and had no market price conditions. During 2022, 885,939 restricted stock units were granted to eligible employees and outside directors at a weighted average grant date fair value of \$37.75, of which the vesting of all grants was time based.

Live Oak Bancshares, Inc.**Notes to Consolidated Financial Statements**

The fair value of each restricted stock unit is based on the market value of the Company's stock on the date of the grant. Restricted stock awards are authorized in the form of restricted stock awards or units ("RSUs") and restricted stock awards or units with a market price condition ("Market RSUs").

RSUs have a restriction based on the passage of time and may also have a restriction based on a non-market-related performance criteria. The fair value of the RSUs is based on the closing price on the date of the grant.

Market RSUs may have a restriction based on the passage of time and may have non-market-related performance criteria, but also have a restriction based on market price criteria related to the Company's share price closing at or above a specified price for at least twenty (20) consecutive trading days at any time prior to the expiration date of the grants. For the outstanding Market RSUs as of December 31, 2020, the market price conditions ranged from \$45.00 to \$55.00 per share. The non-market-related performance criteria had all been satisfied as of December 31, 2020. The amount of Market RSUs earned will not exceed 100% of the Market RSUs awarded. The fair value of the Market RSUs and the implied service period is calculated using the Monte Carlo Simulation method.

The following is a summary of non-vested RSU stock activity for the Company for the year ended December 31, 2022.

	Shares	Weighted Average Grant Date Fair Value
Non-vested at December 31, 2021	1,907,513	\$ 46.12
Granted	885,939	37.75
Vested	(314,703)	41.62
Forfeited	(69,051)	46.23
Non-vested at December 31, 2022	2,409,698	\$ 43.63

During 2021 and 2020, the Company granted 1,329,508 and 586,132 RSUs, respectively. The weighted average grant date fair value for RSUs granted in 2021 and 2020 were \$58.19 and \$17.78 respectively.

For the years ended December 31, 2022, 2021 and 2020 the Company recognized \$19.4 million, \$11.4 million and \$3.5 million in compensation expense for RSUs, respectively.

At December 31, 2022, unrecognized compensation costs relating to RSUs amounted to \$88.1 million which will be recognized over a weighted average period of 4.18 years.

The compensation expense for Market RSUs is measured based on their grant date fair value as calculated using the Monte Carlo Simulation and is recognized on a straight-line basis over the average vesting period. The Monte Carlo Simulation used 100,000 simulation paths to assess the expected date of achieving the market price criteria.

For the years ended December 31, 2021 and 2020, the Company recognized \$4.2 million and \$9.7 million, respectively, in compensation expense for Market RSUs. For the year ended December 31, 2021, 575,500 Market RSUs met the performance stock price conditions for the \$45.00, \$48.00 \$50.00 and \$55.00 stock price for twenty consecutive days. The remaining expense of \$3.7 million was fully recognized due to the accelerated vesting. For the year ended December 31, 2020, 2,513,233 Market RSUs met the performance stock price conditions for the \$34.00 \$35.00 \$38.00 and \$40.00 stock price for twenty consecutive days. The remaining expense of \$2.4 million was fully recognized due to the accelerated vesting.

There were no remaining Market RSUs at year end December 31, 2022 and 2021.

Employee Incentive Compensation

The Company has an incentive compensation framework whereby full-time employees are eligible to receive an annual cash bonus payment plus the opportunity for an annual long-term incentive (“LTI”) equity grant in the form of RSUs. Both cash bonus and LTI equity grants are based on each individual’s base pay and overall Company performance. LTI grants are also influenced by each individual’s tiered target as a percent of base pay. Total expenses related to the cash bonus for employees were \$9.4 million, \$7.7 million and \$6.7 million for the years ended December 31, 2022, 2021 and 2020, respectively. In addition, for the years ended December 31, 2022, 2021 and 2020 the Company had discretionary special bonuses related to fintech investment gains and PPP loan efforts of \$10.5 million, \$4.0 million and \$7.2 million, respectively, to most full-time employees.

Note 13. Regulatory Matters

Dividends

The Bank, as a North Carolina banking corporation, may pay dividends to shareholders provided the bank does not make distributions that reduce its capital below its applicable required capital, pursuant to North Carolina General Statutes Section 53C-4-7. However, regulatory authorities may limit payment of dividends by any bank when it is determined that such a limitation is in the public interest and is necessary to ensure financial soundness of the bank.

Capital Requirements

The Company and the Bank are subject to various regulatory capital requirements administered by the federal banking agencies. The Basel III Capital Rules, a comprehensive capital framework for U.S. banking organizations, includes quantitative measures designed to ensure capital adequacy. The Basel III Rules require the Company and the Bank to maintain (i) a minimum common equity Tier 1 ratio minimum of 4.50 percent plus a 2.50 percent “capital conservation buffer” (effectively resulting in minimum common equity Tier 1 ratio of 7.00 percent), (ii) Tier 1 risk-based capital minimum of 6.00 percent plus the capital conservation buffer (effectively resulting in a minimum Tier 1 risk-based capital ratio of 8.50 percent), (iii) total risk-based capital ratio minimum of 8.00 percent plus the capital conservation buffer (effectively resulting in a minimum total risk-based capital ratio of 10.5 percent) and (iv) Tier 1 leverage capital ratio minimum of 4.00 percent. The capital conservation buffer is designed to absorb losses during periods of economic stress and effectively increases the minimum required risk-weighted capital ratios. Failure to meet minimum capital requirements may result in certain actions by regulators that could have a direct material effect on the consolidated financial statements.

As discussed in Note 1. Organization and Summary of Significant Accounting Policies, the Company recorded a cumulative effect increase to retained earnings totaling \$822 thousand on January 1, 2020 as a result of the adoption of ASC 326. The Company did not elect the federal banking agencies’ transition option that allowed banking organizations to phase in the day one effects of ASC 326 on their regulatory capital ratios over multiple years.

Federal bank regulatory agencies have issued an interim final rule that permits banks to neutralize the regulatory capital effects of participating in the PPPLF and clarify that PPP loans have a zero percent risk weight under applicable risk-based capital rules. Specifically, a bank may exclude all PPP loans pledged as collateral to the PPPLF from its average total consolidated assets for the purposes of calculating its leverage ratio, while PPP loans that are not pledged as collateral to the PPPLF will be included. Accordingly, the Company’s PPP loans are excluded from the calculation of the leverage ratio as of December 31, 2022 and 2021.

Based on the most recent notification from the Federal Deposit Insurance Corporation, the Bank is well capitalized under the regulatory framework for prompt corrective action. As of December 31, 2022, the Company and the Bank met all capital adequacy requirements to which they are subject and were not aware of any conditions or events that would change each entity’s well capitalized status.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Capital amounts and ratios as of December 31, 2022 and 2021, are presented in the following table.

	Actual		Minimum Capital Requirement		Minimum To Be Well Capitalized	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
Consolidated - December 31, 2022						
Common Equity Tier 1						
(to Risk-Weighted Assets)	\$ 888,235	12.47 %	\$ 320,446	4.50 %	N/A	N/A
Total Capital						
(to Risk-Weighted Assets)	\$ 977,360	13.73 %	\$ 569,681	8.00 %	N/A	N/A
Tier 1 Capital						
(to Risk-Weighted Assets)	\$ 888,235	12.47 %	\$ 427,261	6.00 %	N/A	N/A
Tier 1 Capital						
(to Average Assets)	\$ 888,235	9.26 %	\$ 383,499	4.00 %	N/A	N/A
Bank - December 31, 2022						
Common Equity Tier 1						
(to Risk-Weighted Assets)	\$ 730,092	10.70 %	\$ 307,179	4.50 %	\$ 443,703	6.50%
Total Capital						
(to Risk-Weighted Assets)	\$ 815,577	11.95 %	\$ 546,096	8.00 %	\$ 682,620	10.00 %
Tier 1 Capital						
(to Risk-Weighted Assets)	\$ 730,092	10.70 %	\$ 409,572	6.00 %	\$ 546,096	8.00 %
Tier 1 Capital						
(to Average Assets)	\$ 730,092	7.70 %	\$ 379,396	4.00 %	\$ 474,245	5.00 %
Consolidated - December 31, 2021						
Common Equity Tier 1						
(to Risk-Weighted Assets)	\$ 689,367	12.38 %	\$ 250,619	4.50%	N/A	N/A
Total Capital						
(to Risk-Weighted Assets)	\$ 753,691	13.53 %	\$ 445,544	8.00%	N/A	N/A
Tier 1 Capital						
(to Risk-Weighted Assets)	\$ 689,367	12.38 %	\$ 334,158	6.00%	N/A	N/A
Tier 1 Capital						
(to Average Assets)	\$ 689,367	8.87 %	\$ 310,902	4.00%	N/A	N/A
Bank - December 31, 2021						
Common Equity Tier 1						
(to Risk-Weighted Assets)	\$ 640,652	12.05 %	\$ 239,201	4.50%	\$ 345,512	6.50%
Total Capital						
(to Risk-Weighted Assets)	\$ 704,976	13.26 %	\$ 425,246	8.00%	\$ 531,557	10.00%
Tier 1 Capital						
(to Risk-Weighted Assets)	\$ 640,652	12.05 %	\$ 318,934	6.00%	\$ 425,246	8.00%
Tier 1 Capital						
(to Average Assets)	\$ 640,652	8.32 %	\$ 307,931	4.00%	\$ 384,914	5.00%

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 14. Transactions with Related Parties

The Company has entered into transactions with its directors, officers, significant shareholders, their affiliates, and equity method investments (“related parties”).

The following table provides related party loan activity during 2022.

	Amount
Balance as of December 31, 2021	\$ 17,089
Loan originations	19,172
Loan repayments	(14,523)
Balance as of December 31, 2022	<u>\$ 21,738</u>

Deposits from related parties held by the Company as of December 31, 2022 and 2021 amounted to \$63.5 million and \$40.3 million, respectively.

Transactions with related parties include the following equity method investments: Apiture, Inc. (“Apiture”), Canapi Funds, Cape Fear Collective 1 & 2, Green Sun, Sunvest, and HEP.

Apiture is a digital banking solution for financial institutions. The Canapi Funds are investment funds which focus on providing venture capital to new and emerging financial technology companies. Each of Cape Fear Collective 1 & 2 is a “qualified housing project” within the meaning of 12 CFR 362.3 and serves as a special purpose vehicle to purchase residential homes available for sale in the community. Green Sun, Sunvest, and HEP are solar income tax credit projects. See Note 2. Securities, section captioned “Equity Method Accounting,” for further detail on equity method investments.

During the years ended December 31, 2022, 2021 and 2020, the Company paid Apiture \$2.0 million, \$1.2 million and \$377 thousand, respectively, for professional services. During 2022, 2021 and 2020, the Company recognized income from Apiture of \$438 thousand, \$601 thousand and \$782 thousand, respectively, for shared services and rent.

During the years ended December 31, 2022, 2021 and 2020, the Company made charitable contributions in the amounts of \$310 thousand, \$352 thousand and \$282 thousand, respectively, to Collective Impact in New Hanover County, a 501(c)(3) charitable organization (“Collective Impact”). Cape Fear Collective Ventures, LLC, a wholly owned subsidiary of Collective Impact, manages each of Cape Fear Collective 1 & 2.

Note 15. Significant Equity Method Investments

In accordance with Rules 3-09 and 4-08(g) of Regulation S-X, the Company must assess whether any of its equity method investments are significant equity method investments. In evaluating the significance of these investments, the Company performed the income test, the investment test and the asset test described in S-X 3-05 and S-X 1-02(w). Rule 3-09 of Regulation S-X requires separate audited financial statements of an equity method investee in an annual report if either the income or investment test exceeds 20%. As of December 31, 2022, 2021 and 2020, none of our investments were considered a significant subsidiary under Rule 3-09. Rule 4-08(g) of Regulation S-X requires summarized financial information in an annual report if any of the three tests exceeds 10%. Under the income test, the Company’s proportionate share of its equity method investees’ aggregated net losses exceeded the applicable threshold of 10% for the year ended December 31, 2020, and are accordingly required to provide summarized financial information for these investees for all periods presented in this Form 10-K.

Live Oak Bancshares, Inc.**Notes to Consolidated Financial Statements**

The following table provides summarized balance sheet information for the Company's combined equity method investments as of December 31, 2022 and 2021. The Company's equity method investments are included in the other assets line on the consolidated balance sheet and are largely concentrated in new or emerging financial service technology companies and solar investment tax credits.

Balance sheet data	As of December 31,	
	2022	2021
Current assets	\$ 58,683	\$ 90,629
Noncurrent assets	889,677	776,171
Total assets	<u>\$ 948,360</u>	<u>\$ 866,800</u>
Current liabilities	\$ 16,947	\$ 37,730
Noncurrent liabilities	16,799	14,052
Total liabilities	<u>33,746</u>	<u>51,782</u>
Equity interests	914,614	815,018
Total liabilities and equity	<u>\$ 948,360</u>	<u>\$ 866,800</u>

The following table provides summarized income statement information for the Company's combined equity method investments for the years ended December 31, 2022, 2021 and 2020.

Summary of operations	Years ended December 31,		
	2022	2021	2020
Total revenues	\$ 74,908	\$ 79,016	\$ 68,038
Net (loss) income	(65,208)	215,792	(68,406)

Note 16. Segments

The Company's management reporting process measures the performance of its operating segments based on internal operating structure, which is subject to change from time to time. Accordingly, the Company operates two reportable segments for management reporting purposes as discussed below:

Banking - This segment specializes in providing financing services to small businesses nationwide in targeted industries and deposit-related services to small businesses, consumers and other customers nationwide. The primary source of revenue for this segment is net interest income and secondarily the origination and sale of government guaranteed loans.

Fintech - This segment is involved in making strategic investments into emerging financial technology companies. The primary sources of revenue for this segment are principally gains and losses on equity method and equity security investments and management fees. The Fintech segment is comprised of the Company's direct wholly owned subsidiaries Live Oak Ventures and Canapi Advisors, and the investments held by those entities, as well as the Bank's investment in Apiture.

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

The following tables provide financial information for the Company's segments. The information provided under the caption "Other" represents operations not considered to be reportable segments and/or general operating expenses of the Company, and includes the parent company, other non-bank subsidiaries and elimination adjustments to reconcile the results of the operating segments to the consolidated financial statements prepared in conformity with GAAP.

	Banking	Fintech	Other	Consolidated
As of and for the year ended December 31, 2022				
Interest income	\$ 444,307	\$ 93	\$ 73	\$ 444,473
Interest expense	115,324	—	1,648	116,972
Net interest income	328,983	93	(1,575)	327,501
Provision for loan and lease credit losses	40,943	—	—	40,943
Noninterest income	80,562	155,028	2,402	237,992
Noninterest expense	296,891	9,413	7,922	314,226
Income tax (benefit) expense	(226)	36,016	(1,674)	34,116
Net income (loss)	<u>\$ 71,937</u>	<u>\$ 109,692</u>	<u>\$ (5,421)</u>	<u>\$ 176,208</u>
Total assets	<u>\$ 9,672,458</u>	<u>\$ 124,249</u>	<u>\$ 58,791</u>	<u>\$ 9,855,498</u>
As of and for the year ended December 31, 2021				
Interest income	\$ 360,986	\$ 201	\$ 26	\$ 361,213
Interest expense	63,119	—	1,309	64,428
Net interest income	297,867	201	(1,283)	296,785
Provision for loan and lease credit losses	15,210	—	—	15,210
Noninterest income	114,363	43,141	2,696	160,200
Noninterest expense	215,819	5,395	9,773	230,987
Income tax expense (benefit)	35,539	10,280	(2,026)	43,793
Net income (loss)	<u>\$ 145,662</u>	<u>\$ 27,667</u>	<u>\$ (6,334)</u>	<u>\$ 166,995</u>
Total assets	<u>\$ 8,053,212</u>	<u>\$ 121,889</u>	<u>\$ 38,292</u>	<u>\$ 8,213,393</u>
As of and for the year ended December 31, 2020				
Interest income	\$ 288,305	\$ —	\$ 103	\$ 288,408
Interest expense	93,313	—	372	93,685
Net interest income	194,992	—	(269)	194,723
Provision for loan and lease credit losses	40,658	—	—	40,658
Noninterest income	77,512	6,567	1,921	86,000
Noninterest expense	181,555	5,510	5,611	192,676
Income tax (benefit) expense	(7,171)	2,989	(7,972)	(12,154)
Net income (loss)	<u>\$ 57,462</u>	<u>\$ (1,932)</u>	<u>\$ 4,013</u>	<u>\$ 59,543</u>
Total assets	<u>\$ 7,767,013</u>	<u>\$ 83,946</u>	<u>\$ 21,344</u>	<u>\$ 7,872,303</u>

Live Oak Bancshares, Inc.
Notes to Consolidated Financial Statements

Note 17. Parent Company Only Financial Statements

The following balance sheets, statements of income and statements of cash flows are for Live Oak Bancshares, Inc.

Balance Sheets

	As of December 31,	
	2022	2021
<u>Assets</u>		
Cash and cash equivalents	\$ 103,238	\$ 10,635
Investment in subsidiaries	704,905	723,803
Other assets	50,801	40,149
Total assets	<u>\$ 858,944</u>	<u>\$ 774,587</u>
<u>Liabilities and Shareholders' Equity</u>		
Borrowings	\$ 33,203	\$ 50,734
Other liabilities	14,708	8,720
Total liabilities	<u>47,911</u>	<u>59,454</u>
Shareholders' equity:		
Common stock	330,854	312,294
Retained earnings	572,497	400,893
Accumulated other comprehensive (loss) income	(92,318)	1,946
Total shareholders' equity	<u>811,033</u>	<u>715,133</u>
Total liabilities and shareholders' equity	<u>\$ 858,944</u>	<u>\$ 774,587</u>

Statements of Income

	Years ended December 31,		
	2022	2021	2020
Interest income	\$ 73	\$ 25	\$ 91
Interest expense	1,648	1,309	372
Net interest loss	<u>(1,575)</u>	<u>(1,284)</u>	<u>(281)</u>
Noninterest income:			
Other noninterest income	(107)	716	252
Total noninterest income	<u>(107)</u>	<u>716</u>	<u>252</u>
Noninterest expense:			
Salaries and employee benefits	1,444	5,120	17,250
Professional services expense	1,163	679	750
Other expense	1,907	789	1,167
Total noninterest expense	<u>4,514</u>	<u>6,588</u>	<u>19,167</u>
Net loss before equity in undistributed income of subsidiaries	(6,196)	(7,156)	(19,196)
Income tax benefit	(1,358)	(1,615)	(7,785)
Net loss	<u>(4,838)</u>	<u>(5,541)</u>	<u>(11,411)</u>
Equity in undistributed income of subsidiaries in excess of dividends from subsidiaries	181,046	172,536	70,954
Net income attributable to Live Oak Bancshares, Inc.	<u>\$ 176,208</u>	<u>\$ 166,995</u>	<u>\$ 59,543</u>

Statements of Cash Flows

	Years ended December 31,		
	2022	2021	2020
<i>Cash flows from operating activities</i>			
Net income	\$ 176,208	\$ 166,995	\$ 59,543
Adjustments to reconcile net income to net cash (used in) provided by operating activities:			
Equity in undistributed net income of subsidiaries in excess of dividends of subsidiaries	(181,046)	(172,536)	(70,954)
Subsidiary vesting of restricted stock and other	(14,862)	2,679	43,507
Deferred income tax	434	30,070	1,163
Stock option compensation expense	942	1,379	1,594
Restricted stock compensation expense	19,405	15,572	13,146
Business combination contingent consideration fair value adjustments	(86)	99	163
Net change in other assets	(2,846)	(22,645)	(6,182)
Net change in other liabilities	(1,626)	(11,243)	(525)
Net cash (used in) provided by operating activities	(3,477)	10,370	41,455
<i>Cash flows from investing activities</i>			
Capital return on (investment in) subsidiaries	121,750	(26,407)	(6,354)
Purchases of equity security investments	(182)	(84)	(17)
Purchases of equity method investments	(904)	(237)	(507)
Business combination, net of cash acquired	—	—	(895)
Net cash provided by (used in) investing activities	120,664	(26,728)	(7,773)
<i>Cash flows from financing activities</i>			
Proceeds from borrowings	12,096	57,675	70,000
Repayment of borrowings	(29,627)	(21,429)	(55,512)
Stock option exercises	2,118	4,158	3,069
Employee stock purchase program	1,067	670	520
Withholding cash issued in lieu of restricted stock and other	(4,972)	(19,151)	(49,229)
Repurchase and retirement of shares	—	(953)	—
Shareholder dividend distributions	(5,266)	(5,186)	(4,906)
Net cash (used in) provided by financing activities	(24,584)	15,784	(36,058)
Net change in cash and cash equivalents	92,603	(574)	(2,376)
Cash and cash equivalents at beginning of year	10,635	11,209	13,585
Cash and cash equivalents at end of year	\$ 103,238	\$ 10,635	\$ 11,209

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

Item 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As of the end of the period covered by this Annual Report on Form 10-K, the Company carried out an evaluation, under the supervision and with the participation of its management, including its Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of its disclosure controls and procedures. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management was required to apply judgment in evaluating its controls and procedures. Based on this evaluation, the Company's Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), were effective as of the end of the period covered by this report.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the quarter ended December 31, 2022, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

The Company's management is responsible for establishing and maintaining adequate internal control over financial reporting. 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 pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles in the United States of America, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and 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 might 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.

As of December 31, 2022, management assessed the effectiveness of the Company's internal control over financial reporting based on the criteria for effective internal control over financial reporting established in "Internal Control-Integrated Framework (2013)," issued by the Committee of Sponsoring Organizations ("COSO") of the Treadway Commission. Based on the assessment, management determined that the Company maintained effective internal control over financial reporting as of December 31, 2022.

FORVIS, LLP, the independent registered public accounting firm, audited the consolidated financial statements of the Company included in this Annual Report on Form 10-K and has issued an audit report on the Company's internal control over financial reporting as of December 31, 2022. This report entitled "Report of Independent Registered Public Accounting Firm" appears in Item 8.

Item 9B. OTHER INFORMATION

None.

Item 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 will be included in the Company's definitive proxy statement for the 2023 Annual Meeting of Shareholders (the "Proxy Statement"), under the headings "Proposal 1: Election of Directors," "Qualifications of Directors," "Code of Ethics and Conflict of Interest Policy," "Director Relationships," "Committees of the Board or Directors," "Executive Officers," "Report of the Audit and Risk Committee," and "Delinquent Section 16(a) Reports" and is incorporated herein by reference. The Proxy Statement will be filed with the Securities and Exchange Commission pursuant to Regulation 14A within 120 days of the end of our 2022 fiscal year.

Item 11. EXECUTIVE COMPENSATION

The information required by Item 11 will be included in the section of the Proxy Statement entitled "Executive Compensation and Other Matters" under the following headings: "Compensation Discussion and Analysis," "Compensation Committee Report," "Summary Compensation and Other Tables," "Potential Payments upon Termination or Change in Control," "Principal Executive Officer Pay Ratio," and "Director Compensation," and in the section of the Proxy Statement entitled "Corporate Governance" under the heading "Compensation Committee Interlocks and Insider Participation."

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

The information required by Item 12 will be included in the Proxy Statement under the headings "Beneficial Ownership of Our Common Stock" and "Executive Compensation and Other Matters - Equity Compensation Plan Information" and is incorporated herein by reference.

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

The information required by Item 13 will be included in the Corporate Governance section of the Proxy Statement under the headings "Director Independence," "Director Relationships," "Indebtedness of and Transactions with Management," and "Certain Relationships and Related Person Transactions" and is incorporated herein by reference.

Item 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 will be included in the Proxy Statement under the heading "Proposal 3: Ratification of Independent Auditors" and is incorporated herein by reference.

The Independent Registered Public Accounting Firm is FORVIS, LLP (Public Company Accounting Oversight Board Firm ID No. 686) located in Greenville, North Carolina.

PART IV

Item 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) Financial Statements. The following financial statements are filed as part of this Report.

Reports of Independent Registered Public Accounting Firm

Consolidated Balance Sheets as of December 31, 2022 and 2021

Consolidated Statements of Income for the Years Ended December 31, 2022, 2021 and 2020

Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2022, 2021 and 2020

Consolidated Statements of Changes in Shareholders' Equity for the Years Ended December 31, 2022, 2021 and 2020

Consolidated Statements of Cash Flows for the Years Ended December 31, 2022, 2021 and 2020

Notes to Consolidated Financial Statements

(a)(2) Financial Statement Schedules. All applicable financial statement schedules required under Regulation S-X have been included in the Notes to the Consolidated Financial Statements.

(a)(3) Exhibits. The exhibits listed below are filed or furnished as a part of this Annual Report on Form 10-K.

Exhibit No.	Description of Exhibit
-------------	------------------------

- | | |
|--------|--|
| 3.1 | Amended and Restated Articles of Incorporation of Live Oak Bancshares, Inc. (incorporated by reference to Exhibit 3.1 of the registration statement on Form S-1, filed on June 19, 2015) |
| 3.2 | Amended Bylaws of Live Oak Bancshares, Inc. (incorporated by reference to Exhibit 3.2 of the amended registration statement on Form S-1, filed on July 13, 2015) |
| 4.1 | Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 of the registration statement on Form S-1, filed on June 19, 2015) |
| 4.2 | Description of Securities Registered under Section 12 of the Exchange Act (incorporated by reference to Exhibit 4.3 of the annual report on Form 10-K, filed on February 27, 2020) |
| 10.1 | 2008 Incentive Stock Option Plan, as amended (incorporated by reference to Exhibit 10.1 of the registration statement on Form S-1, filed on June 19, 2015) # |
| 10.2.1 | 2008 Nonstatutory Stock Option Plan, as amended (incorporated by reference to Exhibit 10.2 of the registration statement on Form S-1, filed on June 19, 2015) # |
| 10.2.2 | Amendment to 2008 Nonstatutory Stock Option Plan effective July 1, 2019 (incorporated by reference to Exhibit 10.2 of the quarterly report on Form 10-Q, filed on August 6, 2019) # |
| 10.3 | Second Amended and Restated Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.2 of the current report on Form 8-K filed on May 12, 2021) # |
| 10.4.1 | 2015 Omnibus Stock Incentive Plan as Amended and Restated effective May 24, 2016 (incorporated by reference to Exhibit 10.1 of the current report on Form 8-K filed on May 27, 2016) # |
| 10.4.2 | Amendment to 2015 Omnibus Stock Incentive Plan dated May 15, 2018 (incorporated by reference to Exhibit 10.1 of the current report on Form 8-K filed on May 18, 2018) # |
| 10.4.3 | Amendment to 2015 Omnibus Stock Incentive Plan dated May 11, 2021 (incorporated by reference to Exhibit 10.1 of the current report on Form 8-K filed on May 12, 2021) # |
| 10.5.1 | Software Service Agreement between Live Oak Banking Company and nCino, LLC, dated November 1, 2012 (incorporated by reference to Exhibit 10.10 of the registration statement on Form S-1 filed on June 19, 2015) |
| 10.5.2 | Amendment to Software Service Agreement dated October 9, 2015, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.7.2 of the 2015 10-K) |

- 10.5.3 Amendment to Software Service Agreement dated September 5, 2018, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.3 of the 2021 10-K)
- 10.5.4 Amendment to Software Service Agreement dated September 21, 2018, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.4 of the 2021 10-K)
- 10.5.5 Renewal Amendment to Software Service Agreement dated January 18, 2019, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.3 of the 2018 10-K)
- 10.5.6 Amendment to Software Service Agreement dated April 1, 2020, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.2.1 of the quarterly report on Form 10-Q, filed on August 5, 2020)
- 10.5.7 Amendment to Software Service Agreement dated April 5, 2020, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.2.2 of the quarterly report on Form 10-Q, filed on August 5, 2020)
- 10.5.8 Amendment to Software Service Agreement dated April 24, 2020, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.2.3 of the quarterly report on Form 10-Q, filed on August 5, 2020)
- 10.5.9 Amendment to Software Service Agreement dated December 1, 2020, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.9 of the 2021 10-K)
- 10.5.10 Amendment to Software Service Agreement dated January 13, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.10 of the 2021 10-K)
- 10.5.11 Amendment to Software Service Agreement dated January 15, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.11 of the 2021 10-K)
- 10.5.12 Amendment to Software Service Agreement dated January 23, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.12 of the 2021 10-K)
- 10.5.13 Amendment to Software Service Agreement dated January 28, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.13 of the 2021 10-K)
- 10.5.14 Amendment to Software Service Agreement dated February 23, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.14 of the 2021 10-K)
- 10.5.15 Amendment to Software Service Agreement dated March 8, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.1.1 of the quarterly report on Form 10-Q, filed on May 5, 2021)
- 10.5.16 Amendment to Software Service Agreement dated April 6, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.1.2 of the quarterly report on Form 10-Q, filed on May 5, 2021)
- 10.5.17 Amendment to Software Service Agreement dated May 21, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.1.1 of the quarterly report on Form 10-Q, filed on August 4, 2021)
- 10.5.18 Amendment to Software Service Agreement dated June 11, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.1.2 of the quarterly report on Form 10-Q, filed on August 4, 2021)
- 10.5.19 Amendment to Software Service Agreement dated July 23, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.1.3 of the quarterly report on Form 10-Q, filed on August 4, 2021)
- 10.5.20 Amendment to Software Service Agreement dated November 4, 2021, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.5.20 of the 2022 10-K)
- 10.5.21 Amendment to Software Service Agreement dated October 4, 2022, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.3.1 of the quarterly report on Form 10-Q, filed on November 2, 2022)

- 10.5.22 Amendment to Software Service Agreement dated October 16, 2022, between Live Oak Banking Company and nCino, Inc. (incorporated by reference to Exhibit 10.3.2 of the quarterly report on Form 10-Q, filed on November 2, 2022)
- 10.5.23 Amendment to Software Service Agreement dated November 3, 2022, between Live Oak Banking Company and nCino, Inc.*
- 10.5.24 Amendment to Software Service Agreement dated November 15, 2022, between Live Oak Banking Company and nCino, Inc.*
- 10.5.25 Amendment to Software Service Agreement dated January 30, 2023, between Live Oak Banking Company and nCino, Inc.*
- 10.6.1 Form of Stock Option Award Agreement for executive officers under the 2015 Omnibus Stock Incentive Plan (incorporated by reference to Exhibit 10.8 of the 2015 10-K) #
- 10.6.2 Form of RSU Award Agreement for certain executive officers (incorporated by reference to Exhibit 99.1 of the current report on Form 8-K filed on February 14, 2020) #
- 10.6.3 Form of RSU Award Agreement for certain executive officers (incorporated by reference to Exhibit 99.2 of the current report on Form 8-K filed on February 24, 2021) #
- 10.6.4 RSU Award Agreement for M. Huntley Garriott, Jr. (incorporated by reference to Exhibit 99.3 of the current report on Form 8-K filed on February 24, 2021) #
- 10.6.5 RSU Award Agreement for William C. Losch, III (incorporated by reference to Exhibit 10.2 of the quarterly report on Form 10-Q filed on November 3, 2021) #
- 10.6.6 Form of RSU Award Agreement for certain executive officers (incorporated by reference to Exhibit 99.1 of the current report on Form 8-K filed on February 18, 2022) #
- 10.6.7 Form of 2022 RSU Award Agreement for non-employee directors (incorporated by reference to Exhibit 10.1 of the quarterly report on Form 10-Q filed on August 3, 2022) #
- 10.6.8 RSU Award Agreement for non-employee director Casey S. Crawford (incorporated by reference to Exhibit 10.1 of the quarterly report on Form 10-Q filed on November 2, 2022) #
- 10.6.9 RSU Award Agreement for non-employee director Yousef A. Valine* #
- 10.6.10 Form of RSU Award Agreement for certain executive officers (incorporated by reference to Exhibit 99.1 of the current report on Form 8-K filed on February 17, 2023) #
- 10.6.11 Member Interest Letters, dated May 9, 2019 and September 7, 2019, as revised on February 14, 2022, from Canapi Ventures LOB SLP, LLC, to the Neil L. Underwood Revocable Trust (incorporated by reference to Exhibit 10.2.1 of the quarterly report on Form 10-Q filed on August 3, 2022) #
- 10.6.12 Member Interest Letter, dated May 5, 2022, from Canapi Ventures LOB SLP II, LLC, to the Neil L. Underwood Revocable Trust (incorporated by reference to Exhibit 10.2.2 of the quarterly report on Form 10-Q filed on August 3, 2022) #
- 10.6.13 Member Interest Letter, dated September 6, 2022, from Canapi Ventures LOB SLP II, LLC, to the Neil L. Underwood Revocable Trust (incorporated by reference to Exhibit 10.2 of the quarterly report on Form 10-Q filed on November 2, 2022) #
- 21.1 Subsidiaries of the Registrant*
- 23.1 Consent of the Independent Registered Public Accounting Firm - FORVIS, LLP*
- 31.1 Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
- 31.2 Certification of Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002*
- 32 Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002**
- 101.INS Inline XBRL Instance Document (the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)
- 101.SCH Inline XBRL Taxonomy Extension Schema Document
- 101.CAL Inline XBRL Taxonomy Extension Calculation Linkbase Document
- 101.DEF Inline XBRL Taxonomy Extension Definition Linkbase Document

101.LAB Inline XBRL Taxonomy Extension Label Linkbase Document

101.PRE Inline XBRL Taxonomy Extension Presentation Linkbase Document

104 Cover Page Interactive Data File (formatted as inline XBRL and contained in Exhibit 101)

* Indicates a document being filed with this Form 10-K.

** Furnished herewith. This exhibit shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, or otherwise subject to the liability of that Section. Such exhibit shall not be deemed incorporated into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

Denotes management contract or compensatory plan.

Item 16. FORM 10-K SUMMARY

Registrants may voluntarily include a summary of information required by Form 10-K under this Item 16. We have elected not to include such summary information.

SIGNATURES

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

Live Oak Bancshares, Inc.

(Registrant)

Date: February 23, 2023

By: /s/ James S. Mahan III

James S. Mahan III

Chairman and Chief Executive Officer

(Principal Executive Officer)

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

Date

/s/ James S. Mahan III

James S. Mahan III

Chairman and Chief Executive Officer
(Principal Executive Officer)

February 23, 2023

/s/ William C. Losch III

William C. Losch III

Chief Financial Officer
(Principal Financial Officer)

February 23, 2023

/s/ J. Wesley Sutherland

J. Wesley Sutherland

Chief Accounting Officer
(Principal Accounting Officer)

February 23, 2023

/s/ William L. Williams III

William L. Williams III

Vice Chairman of the Board of Directors

February 23, 2023

/s/ Tonya W. Bradford

Tonya W. Bradford

Director

February 23, 2023

/s/ William H. Cameron

William H. Cameron

Director

February 23, 2023

/s/ Casey S. Crawford

Casey S. Crawford

Director

February 23, 2023

/s/ Diane B. Glossman

Diane B. Glossman

Director

February 23, 2023

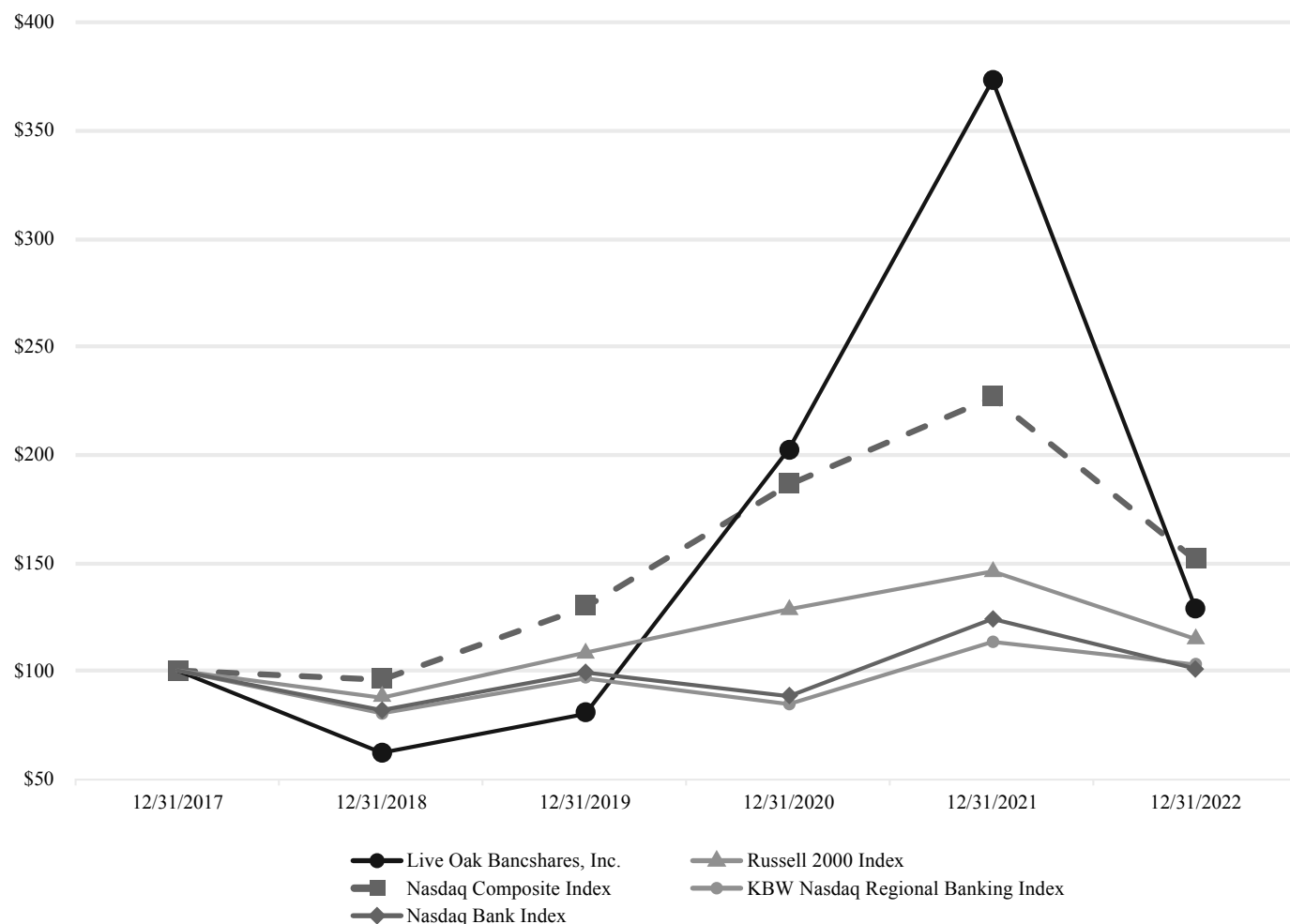
<u>/s/ Glen F. Hoffsis</u> Glen F. Hoffsis Director	February 23, 2023
<u>/s/ David G. Lucht</u> David G. Lucht Director	February 23, 2023
<u>/s/ Milton E. Petty</u> Milton E. Petty Director	February 23, 2023
<u>/s/ Neil L. Underwood</u> Neil L. Underwood Director	February 23, 2023
<u>/s/ Yousef A. Valine</u> Yousef A. Valine Director	February 23, 2023

Stock Performance Graph

The Stock Performance Graph set forth below compares the cumulative total stockholder return on our common stock for the period from December 31, 2017, through December 31, 2022, with the cumulative total return of the Russell 2000 Index, the Nasdaq Composite Index, the KBW Nasdaq Regional Banking Index, and the Nasdaq Bank Index over the same period. The comparison assumes \$100 was invested on December 31, 2017, in the common stock of Live Oak Bancshares, Inc., in the Russell 2000 Index, the Nasdaq Composite Index, the KBW Nasdaq Regional Banking Index, and the Nasdaq Bank Index and assumes reinvestment of dividends, if any.

On December 14, 2022, we voluntarily transferred the listing of our voting common stock from The Nasdaq Stock Market LLC to the New York Stock Exchange under the symbol “LOB.” As a result of this transfer, we changed our broad equity market index from the Nasdaq Composite Index to the Russell 2000 Index and changed the published industry index from the Nasdaq Bank Index to the KBW Nasdaq Regional Banking Index. We believe the new indices are better comparisons to the Company as they represent small to mid capitalization companies and the KBW Nasdaq Regional Banking Index contains performance of U.S. companies that do business as regional banks or thrifts.

Comparison of Total Return from 12/31/2017 – 12/31/2022



	12/31/2017	12/31/2018	12/31/2019	12/31/2020	12/31/2021	12/31/2022
Live Oak Bancshares, Inc.	\$ 100	\$ 62	\$ 81	\$ 203	\$ 373	\$ 130
Russell 2000 Index	100	88	109	129	146	115
Nasdaq Composite Index	100	96	130	187	227	152
KBW Nasdaq Regional Banking Index	100	81	97	85	114	103
Nasdaq Bank Index	100	82	100	89	124	101

CORPORATE INFORMATION

EXECUTIVE OFFICERS

James S. Mahan III, Chief Executive Officer & Chairman

Neil L. Underwood, President and Director

M. Huntley Garriott, Jr., President, Live Oak Banking Company

William C. Losch III, Chief Financial Officer & Chief Banking Officer

Renato Derraik, Chief Information & Digital Officer, Live Oak Banking Company

Stephanie A. Mann, Chief Strategy Officer

Gregory W. Seward, Chief Risk Officer & General Counsel

Steven J. Smits, Chief Credit Officer

Courtney C. Spencer, Chief Experience Officer

J. Wesley Sutherland, Chief Accounting Officer

DIRECTORS

Tonya W. Bradford

William H. Cameron

Casey S. Crawford

Diane B. Glossman

Glen F. Hoffsis

David G. Lucht

Miltom E. Petty

Yousef A. Valine

William L. Williams III

CORPORATE HEADQUARTERS

Live Oak Bancshares, Inc.

1741 Tiburon Drive

Wilmington, NC 28403

TRANSFER AGENT

Broadridge Corporate Issuer Solutions, Inc.

51 Mercedes Way

Edgewood, NY 11717

STOCK INFORMATION

The voting common stock of Live Oak Bancshares, Inc. is traded on the New York Stock Exchange under the symbol "LOB."

INDEPENDENT AUDITORS

FORVIS, LLP



1741 Tiburon Drive | Wilmington, NC 28403 | liveoakbank.com

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IMPORTANT NOTE REGARDING FORWARD-LOOKING STATEMENTS: This report contains forward-looking statements, within the meaning of the Private Securities Litigation Reform Act of 1995. These statements generally relate to the Company's financial condition, results of operations, plans, objectives, future performance or business. They usually can be identified by the use of forward-looking terminology, such as "believes," "expects," or "are expected to," "plans," "projects," "goals," "estimates," "may," "should," "could," "would," "intends to," "outlook" or "anticipates," or variations of these and similar words. Forward-looking statements are based on current management expectations and, by their nature, are subject to risks and uncertainties. Actual results may differ materially from those contained in the forward-looking statements. Factors which may cause actual results to differ materially from those contained in such forward-looking statements include those identified in the company's most recent Form 10-K and subsequent SEC filings.