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

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2023

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

For the transition period from _______________ to ______________________

Commission File No. 001-39090

Provident Bancorp, Inc.

(Exact name of registrant as specified in its charter)

Maryland (State or other jurisdiction of incorporation or organization)	**84-4132422** (I.R.S. Employer Identification Number)
5 Market Street, Amesbury, Massachusetts (Address of Principal Executive Offices)	**01913** Zip Code

(978) 834-8555
(Registrant's telephone number)

N/A
(Former name, former address, and former fiscal year if changed since last report)

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

Title of each class	Trading Symbol	Name of each exchange on which registered
Common stock	PVBC	The NASDAQ Stock Market LLC

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 requirements for the past 90 days. YES x NO o

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 during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). YES x NO o

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

Large Accelerated Filer	o	Accelerated Filer	o
Non-accelerated Filer	x	Smaller Reporting Company	x
Emerging Growth Company	o		

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. o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES o NO x

As of November 2, 2023, there were 17,681,916 shares of the Registrant's common stock, $0.01 par value per share, outstanding.

Provident Bancorp, Inc.
Form 10-Q

Part I. Financial Information
Item 1. Financial Statements

PROVIDENT BANCORP, INC.
CONSOLIDATED BALANCE SHEETS

(Dollars in thousands)	At September 30, 2023 (unaudited)	At December 31, 2022
Assets		
Cash and due from banks	$ 22,445	$ 42,923
Short-term investments	343,924	37,706
Cash and cash equivalents	366,369	80,629
Debt securities available-for-sale (at fair value)	26,179	28,600
Federal Home Loan Bank stock, at cost	3,607	4,266
Loans, net of allowance for credit losses of $24,023 and $28,069 as of September 30, 2023 and December 31, 2022, respectively	1,313,666	1,416,047
Bank owned life insurance	44,437	43,615
Premises and equipment, net	13,187	13,580
Other repossessed assets	—	6,051
Accrued interest receivable	5,585	6,597
Right-of-use assets	3,821	3,942
Deferred tax asset, net	15,599	16,793
Other assets	15,990	16,261
Total assets	$ 1,808,440	$ 1,636,381
Liabilities and Shareholders' Equity		
Deposits:		
Noninterest-bearing	$ 385,488	$ 520,226
Interest-bearing	1,104,237	759,356
Total deposits	1,489,725	1,279,582
Borrowings:		
Short-term borrowings	80,000	108,500
Long-term borrowings	9,730	18,329
Total borrowings	89,730	126,829
Operating lease liabilities	4,199	4,282
Other liabilities	7,206	18,146
Total liabilities	1,590,860	1,428,839
Shareholders' equity:		
Preferred stock; authorized 50,000 shares: no shares issued and outstanding	—	—
Common stock, $0.01 par value, 100,000,000 shares authorized; 17,681,916 and 17,669,698 shares issued and outstanding at September 30, 2023 and December 31, 2022, respectively	177	177
Additional paid-in capital	123,808	122,847
Retained earnings	103,361	94,630
Accumulated other comprehensive loss	(2,393)	(2,200)
Unearned compensation - ESOP	(7,373)	(7,912)
Total shareholders' equity	217,580	207,542
Total liabilities and shareholders' equity	$ 1,808,440	$ 1,636,381

The accompanying notes are an integral part of the unaudited consolidated financial statements.

PROVIDENT BANCORP, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(Unaudited)

(Dollars in thousands, except per share data)	Three Months Ended September 30, 2023	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Interest and dividend income:				
Interest and fees on loans	$ 19,811	$ 20,147	$ 59,469	$ 56,917
Interest and dividends on debt securities available-for-sale	233	203	717	576
Interest on short-term investments	3,184	357	6,545	816
Total interest and dividend income	23,228	20,707	66,731	58,309
Interest expense:				
Interest on deposits	9,113	846	20,684	1,777
Interest on short-term borrowings	196	34	1,250	34
Interest on long-term borrowings	31	72	191	213
Total interest expense	9,340	952	22,125	2,024
Net interest and dividend income	13,888	19,755	44,606	56,285
Credit loss (benefit) expense - loans	(105)	56,310	2,090	57,398
Credit loss (benefit) expense - off-balance sheet credit exposures	(51)	5	(1,534)	41
Total credit loss (benefit) expense	(156)	56,315	556	57,439
Net interest and dividend income after credit loss (benefit) expense	14,044	(36,560)	44,050	(1,154)
Noninterest income:				
Customer service fees on deposit accounts	903	789	2,651	1,989
Service charges and fees - other	511	222	1,489	1,050
Bank owned life insurance income	284	264	822	778
Gain (loss) on loans sold, net	—	(12)	—	272
Other income	67	76	452	122
Total noninterest income	1,765	1,339	5,414	4,211
Noninterest expense:				
Salaries and employee benefits	7,776	7,653	24,429	22,164
Occupancy expense	429	450	1,271	1,287
Equipment expense	148	147	443	428
Deposit insurance	500	161	1,146	466
Data processing	378	347	1,113	1,026
Marketing expense	203	66	447	263
Professional fees	1,034	736	3,356	2,173
Directors' compensation	178	255	542	776
Software depreciation and implementation	509	398	1,409	1,019
Insurance expense	451	448	1,353	1,343
Service fees	272	255	789	688
Write down of other assets and receivables	—	—	—	395
Other	837	1,128	2,379	2,734
Total noninterest expense	12,715	12,044	38,677	34,762
Income (loss) before income tax expense	3,094	(47,265)	10,787	(31,705)
Income tax expense (benefit)	628	(11,956)	2,757	(7,540)
Net income (loss)	$ 2,466	$ (35,309)	$ 8,030	$ (24,165)
Earnings (loss) per share:				
Basic	$ 0.15	$ (2.15)	$ 0.48	$ (1.47)
Diluted	0.15	$ (2.15)	0.48	$ (1.47)
Weighted Average Shares:				
Basic	16,604,886	16,456,274	16,568,331	16,477,933
Diluted	16,648,657	16,456,274	16,569,526	16,477,933

The accompanying notes are an integral part of the unaudited consolidated financial statements.

PROVIDENT BANCORP, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
(In thousands)				
Net income (loss)	$ 2,466	$ (35,309)	$ 8,030	$ (24,165)
Other comprehensive income:				
Unrealized holding losses arising during the period on debt securities available-for-sale	(644)	(1,009)	(244)	(4,010)
Unrealized loss	(644)	(1,009)	(244)	(4,010)
Income tax effect	142	231	51	927
Total other comprehensive loss	(502)	(778)	(193)	(3,083)
Comprehensive income (loss)	$ 1,964	$ (36,087)	$ 7,837	$ (27,248)

The accompanying notes are an integral part of the unaudited consolidated financial statements.

PROVIDENT BANCORP, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Unaudited)

(In thousands, except share data)	For the three months ended September 30, 2023 and 2022 Shares of Common Stock	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Unearned Compensation ESOP	Total
Balance, June 30, 2023	17,684,720	$ 177	$ 123,444	$ 100,894	$ (1,891)	$ (7,552)	$ 215,072
Net income	—	—	—	2,466	—	—	2,466
Dividends forfeited	—	—	—	1	—	—	1
Other comprehensive loss	—	—	—	—	(502)	—	(502)
Stock-based compensation expense, net of forfeitures	—	—	329	—	—	—	329
Restricted stock award grants, net of forfeitures	(3,000)	—	—	—	—	—	—
Shares surrendered related to tax withholdings on restricted stock awards	(804)	—	(8)	—	—	—	(8)
Stock options exercised, net	1,000	—	9	—	—	—	9
ESOP shares earned	—	—	34	—	—	179	213
Balance, September 30, 2023	17,681,916	$ 177	$ 123,808	$ 103,361	$ (2,393)	$ (7,373)	$ 217,580
Balance, June 30, 2022	17,718,522	$ 177	$ 121,770	$ 127,890	$ (1,656)	$ (8,272)	$ 239,909
Net loss	—	—	—	(35,309)	—	—	(35,309)
Dividends declared ($0.04 per share)	—	—	—	(666)	—	—	(666)
Other comprehensive loss	—	—	—	—	(778)	—	(778)
Stock-based compensation expense, net of forfeitures	—	—	480	—	—	—	480
Restricted stock award grants, net of forfeitures	19,435	—	—	—	—	—	—
Stock options exercised, net	1,000	—	8	—	—	—	8
ESOP shares earned	—	—	154	—	—	180	334
Balance, September 30, 2022	17,738,957	$ 177	$ 122,412	$ 91,915	$ (2,434)	$ (8,092)	$ 203,978

PROVIDENT BANCORP, INC.
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY (continued)
(Unaudited)

(In thousands, except share data)	Shares of Common Stock	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive (Loss) Income	Unearned Compensation ESOP	Total
	For the nine months ended September 30, 2023 and 2022						
Balance, December 31, 2022	17,669,698	$ 177	$ 122,847	$ 94,630	$ (2,200)	$ (7,912)	$ 207,542
Cumulative effect of change in accounting principle (Note 4)	—	—	—	696	—	—	696
Balance at January 1, 2023 (as adjusted for change in accounting principal)	17,669,698	177	122,847	95,326	(2,200)	(7,912)	208,238
Net income	—	—	—	8,030	—	—	8,030
Dividends forfeited	—	—	—	5	—	—	5
Other comprehensive loss	—	—	—	—	(193)	—	(193)
Stock-based compensation expense, net of forfeitures	—	—	981	—	—	—	981
Restricted stock award grants, net of forfeitures	7,421	—	—	—	—	—	—
Shares surrendered related to tax withholdings on restricted stock awards	(3,986)	—	(31)	—	—	—	(31)
Stock options exercised, net	8,783	—	(18)	—	—	—	(18)
ESOP shares earned	—	—	29	—	—	539	568
Balance, September 30, 2023	17,681,916	$ 177	$ 123,808	$ 103,361	$ (2,393)	$ (7,373)	$ 217,580
Balance, December 31, 2021	17,854,649	$ 179	$ 123,498	$ 118,087	$ 649	$ (8,631)	$ 233,782
Net loss	—	—	—	(24,165)	—	—	(24,165)
Dividends declared ($0.08 per share)	—	—	—	(2,007)	—	—	(2,007)
Other comprehensive loss	—	—	—	—	(3,083)	—	(3,083)
Stock-based compensation expense, net of forfeitures	—	—	1,393	—	—	—	1,393
Restricted stock award grants, net of forfeitures	49,355	—	—	—	—	—	—
Repurchase of common stock	(180,434)	(2)	(2,858)	—	—	—	(2,860)
Shares surrendered related to tax withholdings on restricted stock awards	(2,517)	—	(40)	—	—	—	(40)
Stock options exercised, net	17,904	—	(108)	—	—	—	(108)
ESOP shares earned	—	—	527	—	—	539	1,066
Balance, September 30, 2022	17,738,957	$ 177	$ 122,412	$ 91,915	$ (2,434)	$ (8,092)	$ 203,978

PROVIDENT BANCORP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(In thousands)	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Cash flows from operating activities:		
Net income (loss)	$ 8,030	$ (24,165)
Adjustments to reconcile net income to net cash provided by operating activities:		
Amortization of securities premiums, net of accretion	119	146
ESOP expense	568	1,066
Change in deferred loan fees, net	(1,273)	123
Provision for credit losses	556	57,439
Depreciation and amortization	816	817
Increase (decrease) in accrued interest receivable	1,012	(270)
Deferred tax expense (benefit)	995	(7,752)
Share-based compensation expense	981	1,393
Bank-owned life insurance income	(822)	(778)
Principal repayments of operating lease obligations	(83)	(79)
Gain on loans sold, net	—	(272)
Gain on sale of other repossessed assets	(166)	—
Write down of other repossessed assets	21	—
Net decrease (increase) in other assets	271	(5,274)
Net decrease in other liabilities	(11,049)	(4,371)
Net cash (used in) provided by operating activities	(24)	18,023
Cash flows from investing activities:		
Proceeds from pay downs, maturities and calls of debt securities available-for-sale	2,058	3,513
Redemption (purchase) of Federal Home Loan Bank stock	659	(2,628)
Loan principal collections net of originations	104,153	(107,901)
Proceeds from loan sales	—	15,839
Proceeds from other repossessed asset sales	6,196	—
Proceeds from principal repayments on loans held for sale	—	2,560
Additions to premises and equipment	(302)	(206)
Net cash provided by (used in) investing activities	112,764	(88,823)

PROVIDENT BANCORP, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS (continued)
(Unaudited)

(In thousands)	Nine Months Ended September 30, 2023	Nine Months Ended September 30, 2022
Cash flows from financing activities:		
Net (decrease) increase in noninterest-bearing accounts	(134,738)	35,704
Net increase (decrease) in interest-bearing accounts	344,881	(24,090)
Net cash dividends forfeited (paid) on common stock	5	(2,007)
Payments from exercise of stock options, net	(18)	(108)
Net change in short-term borrowings	(28,500)	67,000
Repayments of Federal Home Loan Bank long-term advances	(8,599)	—
Shares surrendered related to tax withholdings on restricted stock awards	(31)	(40)
Repurchase of common stock	—	(2,860)
Net cash provided by financing activities	173,000	73,599
Net increase in cash and cash equivalents	285,740	2,799
Cash and cash equivalents at beginning of period	80,629	153,115
Cash and cash equivalents at end of period	$ 366,369	$ 155,914
Supplemental disclosures:		
Interest paid	$ 22,071	$ 2,023
Income taxes paid	161	4,771
Reclassification of loans held for sale to loans held for investment	—	9,599
Loans transferred to other repossessed assets	—	10,451

The accompanying notes are an integral part of the unaudited consolidated financial statements.

(1) Basis of Presentation

The accompanying unaudited financial statements of Provident Bancorp, Inc. (the "Company") were prepared in accordance with the instructions for Form 10-Q and with Regulation S-X and do not include information or footnotes necessary for a complete presentation of the financial condition, results of operations, and cash flows in conformity with U.S. generally accepted accounting principles ("GAAP"). However, in the opinion of management, all adjustments (consisting only of normal and recurring adjustments) necessary for a fair presentation of the financial statements have been included. The results of operations for the three- and nine-month periods ended September 30, 2023 are not necessarily indicative of the results that may be expected for future periods, including the entire fiscal year. Certain amounts in 2022 have been reclassified to be consistent with the 2023 consolidated financial statement presentation, which had no effect on the net income reported in the consolidated statements of income. These financial statements should be read in conjunction with the annual financial statements and notes thereto included in the annual report on Form 10-K the Company filed with the Securities and Exchange Commission (the "SEC") on March 31, 2023.

The consolidated financial statements include the accounts of the Company, its wholly owned subsidiary BankProv (the "Bank"), and the Bank's wholly owned subsidiaries, Provident Security Corporation, 5 Market Street Security Corporation, and Prov 1, LLC. Provident Security Corporation and 5 Market Street Security Corporation were established to buy, sell, and hold investments for their own account. Prov 1, LLC was established to engage in any lawful act or activity for which limited liability companies may be organized. All significant inter-company balances and transactions have been eliminated in consolidation.

(2) Corporate Structure

The Company is a Maryland corporation whose primary purpose is to act as the holding company for the Bank. The Bank, headquartered in Amesbury, Massachusetts, operates its business from seven banking offices located in Amesbury and Newburyport, Massachusetts and Portsmouth, Exeter, Bedford, and Seabrook, New Hampshire. The Bank also has loan production offices in Boston, Massachusetts and Ponte Vedra, Florida. The Bank's primary deposit products are checking, savings, and term certificate accounts and its primary lending products are commercial real estate, commercial, enterprise value, and mortgage warehouse loans. BankProv is also a commercial bank for corporate clients, specializing in offering adaptive and technology-first banking solutions to niche markets.

(3) Risks and Uncertainties

Digital Asset Lending

The Company's digital asset loan segment includes loans to digital asset customers, which can be secured by a security interest in the digital assets, cash, a security in the purchased mining equipment or a combination of these. As of September 30, 2023, we had one loan remaining in the portfolio totaling $15.2 million. The loan is on non-accrual and was individually analyzed for reserves, which totaled $7.2 million. The $15.2 million loan relationship was modified to provide a term extension during the quarter ended June 30, 2023.

The estimates and assumptions that went into the valuation of the collateral on the individually analyzed loan secured by cryptocurrency mining rigs was based on market data as of September 30, 2023. These estimates and assumptions affect the amounts reported in the financial statements and the disclosures provided, and actual results could differ. The Bitcoin markets as well as the markets for cryptocurrency mining rigs are highly volatile and speculative and subject to a variety of risks, including market and liquidity risks. Changes in market driven factors, among others, could have a material impact on the values reported at September 30, 2023.

In the event of further deterioration in the value of the collateral of the individually analyzed digital asset loan, the Company could recognize additional increases in credit loss expense and the allowance for credit losses as well as increases in loan workout expenses.

Current Banking Environment

Industry events have led to a greater focus by institutions, investors and regulators on liquidity positions of and funding sources for financial institutions, the composition of their deposits, including the amount of uninsured deposits, the amount of accumulated other comprehensive loss, capital levels and interest rate risk management.

The Company believes it is well insulated from the fallout resulting from the market turmoil due to the following considerations:

- The Bank's deposit and loan portfolios were and continue to be well-diversified;
- As of September 30, 2023, the Federal Deposit Insurance Fund ("FDIC") insured 57.1% of our customers' deposits and the remaining 42.9% were insured through the Depositors Insurance Fund ("DIF");
- We have access to multiple funding sources and sufficient capacity to borrow, if needed. As of September 30, 2023 between the Federal Home Loan Bank of Boston and the Federal Reserve Bank of Boston's borrower-in-custody program, we had the ability to borrow an additional $197.2 million;
- Our securities portfolio represented only 1.4% of total assets as of September 30, 2023 and the accumulated other comprehensive loss on the portfolio was $2.4 million, or 1.1% of shareholders' equity as of that date. Management believes that the unrealized losses on these debt security holdings are a function of changes in investment spreads and interest rate movements and not changes in credit quality. Based on our ability to borrow, cash position and low deposit outflows there is no expected reliance on security sales to meet operational needs.

(4) Recent Accounting Pronouncements

On January 1, 2023, the Company adopted Accounting Standards Update ("ASU") 2016-13 *Financial Instruments – Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, as amended, which replaces the incurred loss methodology with an expected loss methodology that is referred to as the current expected credit lost ("CECL") methodology. The measurement of expected credit losses under the CECL methodology is applicable to financial assets measured at amortized cost, including loan receivables and held-to-maturity debt securities. It also applies to off-balance-sheet ("OBS") credit exposures not accounted for as insurance (loan commitments, standby letters of credit, financial guarantees, and other similar instruments) and net investments in leases recognized by a lessor in accordance with Topic 842 on leases. In addition, Accounting Standards Codification ("ASC") 326 made changes to the accounting for available-for-sale debt securities. One such change is to require credit losses to be presented as an allowance rather than as a write-down on available-for-sale debt securities management does not intend to sell or believes that it is more likely than not they will be required to sell.

The Company adopted ASC 326 using the modified retrospective method for all financial assets measured at amortized cost and OBS credit exposures. Results for reporting periods beginning after January 1, 2023 are presented under ASC 326 while prior period amounts continue to be reported in accordance with previously applicable GAAP. The Company reported a net increase to retained earnings of $696,000 as of January 1, 2023 for the cumulative effect of adopting ASC 326. The transition adjustment included a $2.6 million increase to retained earnings to adjust the allowance for credit losses on loans based on the new methodology offset by a decrease to retained earnings of $1.6 million to adjust the allowance for credit losses on OBS credit exposures based on the new methodology and a $249,000 decrease to retained earnings to account for the net tax impact of these adjustments.

The following table illustrates the impact of ASC 326.

	January 1, 2023		
(In thousands)	As Reported Under ASC 326	Pre-ASC 326 Adoption	Impact of ASC 326 Adoption
Assets:			
Loans			
Commercial real estate	$ 4,317	$ 5,062	$ (745)
Commercial	2,871	3,582	(711)
Enterprise value	7,442	7,712	(270)
Digital asset	10,336	10,493	(157)
Residential real estate	61	43	18
Construction and land development	396	909	(513)
Consumer	4	55	(51)
Mortgage warehouse	54	213	(159)
Allowance for credit loss on loans	25,481	28,069	(2,588)
Liabilities:			
Allowance for credit losses on off balance sheet credit exposures	1,864	221	1,643

Also on January 1, 2023, the Company adopted *ASU No. 2022-02, Financial Instruments – Credit Losses (Topic 326) – Troubled Debt Restructurings and Vintage Disclosures ("ASU 2022-02")*, which eliminates the accounting guidance on troubled debt restructurings ("TDRs") for creditors in ASC 310-40 and amends guidance on "vintage disclosures" to required disclosures of current-period gross write-offs by year of origination. The ASC also updates the requirements related to accounting for credit losses under ASC 326 and adds enhanced disclosures for creditors with respect to loan refinancings and restructurings for borrowers experiencing financial difficulty.

The Company adopted ASU 2022-02, using the modified retrospective approach, with no material impact to the financial statements. Results for reporting periods beginning after January 1, 2023 are presented under ASU 2022-02 while prior period amounts continue to be reported in accordance with previously applicable GAAP.

In March 2020, the Financial Accounting Standards Board ("FASB") issued *ASU No. 2020-04, Reference Rate Reform (Topic 848) - Facilitation of the Effects of Reference Rate Reform on Financial Reporting ("ASU 2020-04")*, to ease the potential burden in accounting for recognizing the effects of reference rate reform on financial reporting. Such challenges include the accounting and operational implications for contract modifications and hedge accounting. The provisions in ASU 2020-04 provide optional expedients and exceptions for applying GAAP to loan and lease agreements, contracts, hedging relationships, and other transactions affected by reference rate reform. These provisions apply to contract modifications that reference LIBOR or another reference rate expected to be discounted because of reference rate reform. Qualifying modifications of loan agreements should be accounted for by prospectively adjusting the effective interest rate and the modification would be considered "minor" so that any existing unamortized deferred loan origination fees and costs would carry forward and continue to be amortized. Qualifying modifications of lease agreements should be accounted for as a continuation of the existing agreement with no reassessments of the lease classification and the discount rate or remeasurements of lease payments that otherwise would be required for modifications not accounted for as separate contracts. ASU 2020-04 also provides numerous optional expedients for hedge accounting.

ASU 2020-04 is effective as of March 12, 2020 through December 31, 2022, with adoption permitted as of any date from the beginning of an interim period that includes or is subsequent to March 12, 2020, or prospectively from a date within an interim period that includes or is subsequent to March 12, 2020, up to the date that the financial statements are available to be issued. Once elected, the amendments must be applied prospectively for all eligible contract modifications. The Company selected the Secured Overnight Financing Rate ("SOFR") as its primary alternative to LIBOR and used alternative reference rates, based on the individual needs of its customers and the type of credit being extended, when necessary. Legacy LIBOR-based loans transitioned to an alternative reference rate on or before June 30, 2023. The adoption of ASU 2020-04 did not result in a material impact the Company's Consolidated Financial Statements.

(5) Debt Securities

Debt securities are classified as available-for-sale when they might be sold before maturity. Securities available-for-sale are valued at fair value, with unrealized holding gains and losses reported in other comprehensive income, net of tax.

The following table summarizes the amortized cost, allowance for credit losses, and fair value of debt securities available-for-sale at September 30, 2023 and the corresponding amounts of gross unrealized gains and losses recognized in accumulated other comprehensive income:

(In thousands)	Amortized Cost Basis	Gross Unrealized Gains	Gross Unrealized Losses	Allowance for Credit Losses	Fair Value
September 30, 2023					
State and municipal securities	$ 11,813	$ 2	$ 1,028	$ —	$ 10,787
Asset-backed securities	6,609	—	954	—	5,655
Government mortgage-backed securities	10,858	—	1,121	—	9,737
Total debt securities available-for-sale	$ 29,280	$ 2	$ 3,103	$ —	$ 26,179

The following table summarizes the amortized cost and fair value of securities available-for-sale at December 31, 2022 and the corresponding amounts of gross unrealized gains and losses recognized in accumulated other comprehensive income:

(In thousands)	Amortized Cost Basis	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2022				
State and municipal securities	$ 11,894	$ 2	$ 825	$ 11,071
Asset-backed securities	7,197	—	923	6,274
Government mortgage-backed securities	12,366	—	1,111	11,255
Total debt securities available-for-sale	$ 31,457	$ 2	$ 2,859	$ 28,600

Interest income includes amortization of purchase premium or discount. Premiums and discounts on securities are generally amortized on the level-yield method without anticipating prepayments, except for mortgage-backed securities where prepayments are anticipated.

Premiums on callable debt securities are amortized to their earliest call date. Gains and losses on sales are recorded on the trade date and determined using the specific identification method.

There were no realized gains or losses on sales and calls of securities during the three or nine months ended September 30, 2023 or September 30, 2022.

Securities with carrying amounts of $8.4 million and $9.8 million were pledged to secure available borrowings with the Federal Home Loan Bank at September 30, 2023 and December 31, 2022, respectively.

The scheduled maturities of debt securities at September 30, 2023 are summarized in the table below. Actual maturities of asset and mortgage-backed securities may differ from contractual maturities because the assets and mortgages underlying the securities may be repaid without any penalties. Because asset- and mortgage-backed securities are not due at a single maturity date, they are not included in the maturity categories in the following maturity summary.

	Available-for-Sale	
(In thousands)	Amortized Cost	Fair Value
Due after one year through five years	$ 860	$ 843
Due after five years through ten years	1,466	1,433
Due after ten years	9,487	8,511
Government mortgage-backed securities	10,858	9,737
Asset-backed securities	6,609	5,655
	$ 29,280	$ 26,179

A debt security is placed on non-accrual status at the time any principal or interest payments become more than 90 days delinquent or if full collection of interest or principal becomes uncertain. Interest accrued but not received for a security placed on non-accrual is reversed against interest income. There were no debt securities on non-accrual status and therefore there was no accrued interest related to debt securities reversed against interest income for the nine months ended September 30, 2023 or September 30, 2022.

The aggregate fair value and unrealized losses of securities that have been in a continuous unrealized loss position for less than twelve months and for twelve months or longer are as follows at September 30, 2023 and December 31, 2022:

	Less than 12 Months		12 Months or Longer		Total	
(In thousands)	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
September 30, 2023						
Temporarily impaired securities:						
State and municipal securities	$ 808	$ 24	$ 9,379	$ 1,004	$ 10,187	$ 1,028
Asset-backed securities	—	—	5,655	954	5,655	954
Government mortgage-backed securities	—	—	9,737	1,121	9,737	1,121
Total temporarily impaired debt securities	$ 808	$ 24	$ 24,771	$ 3,079	$ 25,579	$ 3,103
December 31, 2022						
Temporarily impaired securities:						
State and municipal	$ 8,174	$ 183	$ 2,297	$ 642	$ 10,471	$ 825
Asset-backed securities	2,322	182	3,951	741	6,273	923
Government mortgage-backed securities	7,428	474	3,827	637	11,255	1,111
Total temporarily impaired debt securities	$ 17,924	$ 839	$ 10,075	$ 2,020	$ 27,999	$ 2,859

The Company expects to recover its amortized cost basis on all debt securities. Furthermore, the Company does not intend to sell nor does it anticipate that it will be required to sell these securities in an unrealized loss position as of September 30, 2023, prior to this recovery. The Company’s ability and intent to hold these securities until recovery is supported by the Company’s strong capital and liquidity positions as well as its historically low portfolio turnover.

The following summarizes, by investment security type, the basis for the conclusion that the debt securities in an unrealized loss position were not other-than-temporarily impaired at September 30, 2023:

State and municipal securities: At September 30, 2023, 17 of the 19 securities in the Company’s portfolio of state and municipal securities were in unrealized loss positions. Aggregate unrealized losses represented 8.7% of the amortized cost of state and municipal securities. The Company continually monitors the state and municipal securities sector of the market carefully and periodically evaluates the appropriate level of exposure to the market. At this time, the Company believes the securities in this portfolio carry minimal risk of default and the Company is appropriately compensated for that risk. There were no material underlying downgrades during the quarter. All securities are performing.

Asset-backed securities: At September 30, 2023, all four of the securities in the Company’s portfolio of asset-backed securities were in unrealized loss positions. Aggregate unrealized losses represented 14.4% of the amortized cost of asset-backed securities. The U.S. Small Business Administration (“SBA”) guarantees the contractual cash flows of all of the Company’s asset-backed securities. The securities are investment grade rated and there were no material underlying credit downgrades during the quarter. All securities are performing.

Government mortgage-backed securities: At September 30, 2023, all 33 of the securities in the Company’s portfolio of government mortgage-backed securities were in unrealized loss positions. Aggregate unrealized losses represented 10.3% of the amortized cost of government mortgage-backed securities. The Federal National Mortgage Association (“FNMA”), Federal Home Loan Mortgage Corporation (“FHLMC”), and Government National Mortgage Association (“GNMA”) guarantee the contractual cash flows of all of the Company’s mortgage-backed securities. The securities are investment grade rated and there were no material underlying credit downgrades during the quarter. All securities are performing.

Allowance for Credit Losses – Available-For-Sale Securities:

For available-for-sale debt securities 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 a provision for credit losses charged to earnings. For debt securities available-for-sale that do not meet the aforementioned criteria, the Company evaluates 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 is less than the amortized cost basis, a credit loss exists and an allowance for credit losses 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 allowance for credit losses is recognized in other comprehensive income.

Changes in the allowance for credit losses are recorded as credit loss expense (or reversal). 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.

Accrued interest receivable on available-for-sale debt securities totaled $165,000 at September 30, 2023 and is excluded from the estimate of credit losses.

(6) Loans and Allowance for Credit Losses for Loans

Loans:

A summary of loans is as follows:

(In thousands)	At September 30, 2023 Amount	At December 31, 2022 Amount
Commercial real estate	$ 438,039	$ 453,592
Commercial	176,817	216,931
Enterprise value	432,449	438,745
Digital asset (1)	15,247	40,781
Residential real estate	7,444	8,165
Construction and land development	95,327	72,267
Consumer	315	391
Mortgage warehouse	172,051	213,244
	1,337,689	1,444,116
Allowance for credit losses - loans	(24,023)	(28,069)
Net loans	$ 1,313,666	$ 1,416,047

(1) Includes $15.2 million and $26.5 million in loans secured by cryptocurrency mining rigs at September 30, 2023 and December 31, 2022, respectively.

Loans that management has the intent and ability to hold for the foreseeable future or until maturity or payoff are reported at amortized cost net of the allowance for credit losses for loans. Amortized cost is the principal balance outstanding, net of purchase premiums and discounts and deferred loan fees and costs. Accrued interest receivable totaled $5.4 million and $6.4 million at September 30, 2023 and December 31, 2022, respectively, and was included in accrued interest receivable on the Consolidated Balance Sheets and is excluded from the estimate of credit losses. Interest income is accrued on unpaid principal balance. Loan origination fees, net of certain direct origination costs, are deferred and recognized in interest income using either the level-yield or straight-line method without anticipating prepayments.

All interest accrued but not received for loans placed on non-accrual is reversed against interest income. Interest received on such loans is accounted for on the cash-basis or cost-recovery method, until qualifying for return to accrual. Under the cost-recovery method, interest income is not recognized until the loan balance is reduced to zero. Under the cash-basis method income is recorded when the payment is received in cash. Loans are returned to accrual status when all the principal and interest amounts contractually due are brought current and future payments are reasonably assured.

Allowance for Credit Losses for Loans:

The allowance for credit losses for loans (“ACLL”) is a valuation account that is deducted from the amortized cost basis of the loans to present the net amount expected to be collected. Loans are charged off against the allowance when management believes the un-collectability of a loan balance is confirmed. Subsequent recoveries, if any, are credited to the allowance and do not exceed the aggregate of amounts previously charged-off.

The allowance for credit losses is measured on a collective (pool) basis when similar risk characteristics exist. The Company has identified the following portfolio segments:

Commercial real estate: Loans in this segment are primarily income-producing properties throughout Massachusetts and New Hampshire. The underlying cash flows generated by the properties can be adversely impacted by a downturn in the economy as evidenced by increased vacancy rates, which in turn, can have an effect on the credit quality in this segment. Management periodically obtains rent rolls and continually monitors the cash flows of these loans.

Commercial: Loans in this segment are made to businesses and are generally secured by assets of the business. Repayment is expected from the cash flows of the business. A weakened economy, and resultant decreased consumer spending, can have an effect on the credit quality in this segment.

Enterprise value: Loans in this segment are made to small- and medium-size businesses in a senior secure position and are generally secured by the enterprise value of the business. The enterprise value consists of the going concern value of the business and takes into account the value of business assets (both tangible and intangible). Repayment is expected from the cash flows of the business. Economic and industry specific conditions can affect on the credit quality of this segment.

Digital asset: Loans in this segment are made to businesses in the digital asset space and are generally secured by digital asset mining equipment or by the United States dollar value of digital currency assets of the business. Repayment is expected from the cash flows of the business. A weakened economy, resultant decreased consumer spending as well as decreases in the value of digital currency can have an effect on the credit quality in this segment.

Construction and land development: Loans in this segment primarily include speculative and pre-sold real estate development loans for which payment is derived from sale of the property and a conversion of the construction loans to permanent loans for which payment is then derived from cash flows of the property. Credit risk is affected by cost overruns, time to sell at an adequate price, and market conditions.

Mortgage warehouse: Loans in this segment are primarily facility lines to non-bank mortgage origination companies. The underlying collateral of these loans are residential real estate loans. Loans are originated by the mortgage companies for sale into secondary markets, which is typically within 15 days of the loan closure. The primary source of repayment is the cash flow upon the sale of the loans. The credit risk associated with this type of lending is the risk that the mortgage companies are unable to sell the loans.

Consumer: Loans in this segment are generally unsecured and repayment is dependent on the credit quality of the individual borrower.

Residential real estate: All loans in this segment are collateralized by owner-occupied residential real estate and repayment is dependent on the credit quality of the individual borrower. The overall health of the economy, including unemployment rates and housing prices, will have an effect on the credit quality in this segment. We no longer originate residential real estate loans, and previously we did not typically originate loans with a loan-to-value ratio greater than 80% or grant subprime loans. Loans with loan to value ratios greater than 80% require the purchase of private mortgage insurance.

Management estimates the ACLL balance using relevant available information, from internal and external sources, relating to past events, current conditions, and reasonable and supportable forecasts. Historical credit loss experience provides the basis for the estimation of expected credit losses. Adjustments to historical loss information are made for differences in current loan-specific risk characteristics such as portfolio mix, delinquency levels, or term as well as for changes in environmental conditions, such as changes in unemployment rates, property values, gross domestic product (“GDP”), home pricing index (“HPI”), or other relevant factors. Incorporated in the estimate for the ACLL is consideration of qualitative factors, which include the following for all loan pools:

- Changes in lending policies and procedures, including changes in underwriting standards and collections, charge offs, and recovery practices.
- Changes in the experience, depth, and ability of lending management.
- Changes in the quality of the organization's loan review system.
- The existence and effect of any concentrations of credit and changes in the levels of such concentrations.
- The effect of other external factors (i.e. legal and regulatory requirements) on the level of estimated credit losses.

In addition to the above, the mortgage warehouse pool includes a qualitative factor for changes in international, national, regional, and local conditions as the ACLL model for this loan pool does not apply an economic regression model in the calculation of the historical loss rate.

The allowance for unfunded commitments is maintained at a level by the Company to be sufficient to absorb expected lifetime losses related to unfunded credit facilities (including unfunded loan commitments and letters of credit).

The Company measures the ACLL using the following methods:

Portfolio Segment	Measurement Method	Loss Driver
Commercial real estate	Discounted cash flow	National unemployment rate, national GDP
Commercial	Discounted cash flow	National unemployment rate, national GDP
Enterprise value	Discounted cash flow	National unemployment rate, national GDP
Digital asset	Discounted cash flow	National unemployment rate, national GDP
Residential real estate	Discounted cash flow	National unemployment rate, national HPI
Construction and land development	Discounted cash flow	National unemployment rate, national GDP
Consumer	Discounted cash flow	National unemployment rate, national GDP
Mortgage warehouse	Remaining life method	Not applicable

When the discounted cash flow method is used to determine the allowance for credit losses, management adjusts the effective interest rate used to discount expected cash flows to incorporate expected prepayments. Expected credit losses are estimated over the contractual term of the loans, adjusted for expected prepayments when appropriate. The contractual term excludes expected extensions, renewals, and modifications unless either of the following applies: management has a reasonable expectation at the reporting date that a restructuring will be executed with an individual borrower or the extension or renewal options are included in the original or modified contract at the reporting date and are not unconditionally cancellable by the Company.

When the remaining life method is used to determine the allowance for credit losses, a calculated loss rate is applied to the pool of loans based on the remaining life expectation of the pool. The remaining life expectation is based on management's reasonable expectation at the reporting date.

Loans that do not share risk characteristics, whether or not they are performing in accordance with their loan terms, are evaluated on an individual basis. Loans evaluated individually are not included in the collective evaluation. The Company will individually evaluate a loan when, based on current information and events, it is probable that it will be unable to collect the scheduled payments of principal or interest when due according to the contractual terms of the loan agreement. Factors considered by management in making this determination include payment status, collateral value, and the probability of collecting scheduled principal and interest payments when due. Insignificant payment delays and payment shortfalls generally are not considered reason enough to individually analyze a loan. Management determines the significance of payment delays and payment shortfalls on a case-by-case basis, taking into consideration the circumstances surrounding the loan and the borrower, including the length of the delay, the reasons for the delay, the borrower's prior payment record, and the amount of the shortfall in relation to the principal and interest owed. When management determines that a loan should be individually analyzed, expected credit losses are based on either the present value of expected future cash flows discounted at the loan's effective interest rate or the fair value of the collateral at the reporting date, adjusted for selling costs, as appropriate.

The following table presents the activity in the allowance for credit losses for loans by portfolio segment for the three and nine months ended September 30, 2023 and 2022:

	For the three months ended September 30,								
(In thousands)	Commercial Real Estate	Commercial	Enterprise value	Digital asset	Residential Real Estate	Construction and Land Development	Consumer	Mortgage Warehouse	Total
Balance at June 30, 2023	$ 4,069	$ 2,377	$ 9,694	$ 7,219	$ 55	$ 521	$ 2	$ 44	$ 23,981
Charge-offs	(1)	(1)	(5)	—	—	—	(7)	—	(14)
Recoveries	—	150	4	—	5	—	2	—	161
Provision (credit)	(93)	(239)	248	—	(6)	(22)	7	—	(105)
Balance at September 30, 2023	$ 3,975	$ 2,287	$ 9,941	$ 7,219	$ 54	$ 499	$ 4	$ 44	$ 24,023
Balance at June 30, 2022	$ 4,802	$ 4,236	$ 6,483	$ 2,370	$ 14	$ 738	$ 89	$ 240	$ 18,972
Charge-offs	—	—	—	(46,350)	—	—	(17)	—	(46,367)
Recoveries	—	126	—	—	—	—	5	—	131
Provision (credit)	100	(31)	623	55,472	31	147	(10)	(22)	56,310
Balance at September 30, 2022	$ 4,902	$ 4,331	$ 7,106	$ 11,492	$ 45	$ 885	$ 67	$ 218	$ 29,046

(In thousands)	Commercial Real Estate	Commercial	Enterprise value	Digital asset	Residential Real Estate	Construction and Land Development	Consumer	Mortgage Warehouse	Total
	For the nine months ended September 30,								
Balance at December 31, 2022	$ 5,062	$ 3,582	$ 7,712	$ 10,493	$ 43	$ 909	$ 55	$ 213	$ 28,069
Impact of adopting ASC 326	(745)	(711)	(270)	(157)	18	(513)	(51)	(159)	(2,588)
Charge-offs	(1)	(168)	(3,566)	—	—	—	(36)	—	(3,771)
Recoveries	—	160	49	—	5	—	9	—	223
Provision (credit)	(341)	(576)	6,016	(3,117)	(12)	103	27	(10)	2,090
Balance at September 30, 2023	$ 3,975	$ 2,287	$ 9,941	$ 7,219	$ 54	$ 499	$ 4	$ 44	$ 24,023
Balance at December 31, 2021	$ 4,889	$ 5,371	$ 6,158	$ 2,012	$ 38	$ 479	$ 168	$ 381	$ 19,496
Charge-offs	—	(1,338)	(351)	(46,350)	—	—	(52)	—	(48,091)
Recoveries	—	131	88	—	—	—	24	—	243
Provision (credit)	13	167	1,211	55,830	7	406	(73)	(163)	57,398
Balance at September 30, 2022	$ 4,902	$ 4,331	$ 7,106	$ 11,492	$ 45	$ 885	$ 67	$ 218	$ 29,046

The following table presents loan delinquencies by portfolio segment at September 30, 2023 and December 31, 2022:

(In thousands)	30 - 59 Days	60 - 89 Days	90 Days or More Past Due	Total Past Due	Total Current	Total Loans
September 30, 2023						
Commercial real estate	$ —	$ —	$ —	$ —	$ 438,039	$ 438,039
Commercial	644	—	205	849	175,968	176,817
Enterprise value	—	—	91	91	432,358	432,449
Digital asset	—	—	—	—	15,247	15,247
Residential real estate	225	25	212	462	6,982	7,444
Construction and land development	—	—	—	—	95,327	95,327
Consumer	1	—	4	5	310	315
Mortgage warehouse	—	—	—	—	172,051	172,051
Total	$ 870	$ 25	$ 512	$ 1,407	$ 1,336,282	$ 1,337,689
December 31, 2022						
Commercial real estate	$ 240	$ —	$ 1	$ 241	$ 453,351	$ 453,592
Commercial	—	—	41	41	216,890	216,931
Enterprise value	—	—	92	92	438,653	438,745
Digital asset	—	—	—	—	40,781	40,781
Residential real estate	—	—	73	73	8,092	8,165
Construction and land development	—	—	—	—	72,267	72,267
Consumer	—	9	—	9	382	391
Mortgage warehouse	—	—	—	—	213,244	213,244
Total	$ 240	$ 9	$ 207	$ 456	$ 1,443,660	$ 1,444,116

The following table presents the amortized cost basis of loans on non-accrual and loans past due over 89 days but still accruing as of September 30, 2023 and December 31, 2022:

(In thousands)	Non-accrual With No Allowance for Credit Loss	Non-accrual Loans	90 Days or More Past Due and Accruing
September 30, 2023			
Commercial real estate	$ 155	$ 155	$ —
Commercial	235	235	—
Enterprise value	90	4,114	—
Digital asset	—	15,247	—
Residential real estate	—	381	—
Construction and land development	—	—	—
Consumer	—	4	—
Mortgage warehouse	—	—	—
Total	$ 480	$ 20,136	$ —
December 31, 2022			
Commercial real estate	$ 56	$ 56	$ —
Commercial	101	101	—
Enterprise value	92	92	—
Digital asset	—	26,488	—
Residential real estate	(70)	227	—
Construction and land development	—	—	—
Consumer	—	—	—
Mortgage warehouse	—	—	—
Total	$ 179	$ 26,964	$ —

The Company did not recognize interest income on non-accrual loans during the nine months ended September 30, 2023.

The following tables present the amortized cost basis of collateral-dependent loans by class of loans as of September 30, 2023:

(In thousands)	Commercial Real Estate	Business Assets	Cryptocurrency Mining Rigs and Other (1)	Cash
Commercial real estate	$ 19,812	$ —	$ —	$ —
Commercial	30	—	—	—
Enterprise value	—	4,024	—	91
Digital asset	—	—	15,247	—
Residential real estate	—	—	—	—
Construction and land development	—	—	—	—
Consumer	—	—	—	—
Mortgage warehouse	—	—	—	—
	$ 19,842	$ 4,024	$ 15,247	$ 91

(1) Other collateral includes the United States dollar value of Bitcoin held in control accounts as well as cash accounts held at the Bank.

Occasionally, the Company modifies loans to borrowers experiencing financial difficulty by providing the following modifications: principal forgiveness, other-than-insignificant payment delays, term extensions, interest rate reductions, or a combination of modifications. When principal forgiveness is provided, the amount of forgiveness is charged-off against the allowance for credit losses on loans.

In some cases, the Company provides multiple types of concessions on one loan. Typically, one type of concession, such as a term extension, is granted initially. If the borrower continues to experience financial difficulty, another concession, such as principal forgiveness, may be granted.

The following table presents the amortized cost basis of loans at September 30, 2023 that were both experiencing financial difficulty and modified during the nine months ended September 30, 2023, by class and by type of modification. The percentage of the amortized cost basis of loans that were modified to borrowers experiencing financial difficulty as compared to the amortized cost basis of each class of financing receivable is also presented below.

(Dollars in thousands)	Principal Forgiveness	Other-Than-Insignificant Payment Delay	Term Extension	Interest Rate Reduction	Term Extension and Interest Rate Reduction	Total Class of Financing Receivable $	Total Class of Financing Receivable %
September 30, 2023							
Commercial	$ —	$ —	$ —	$ —	$ 20	$ 20	0.01 %
Enterprise value	—	20,950	—	—	—	20,950	4.84
Digital asset	—	—	15,247	—	—	15,247	100.00
Total	$ —	$ 20,950	$ 15,247	$ —	$ 20	$ 36,217	2.71 %

The Company has committed to lend an additional $155,000 based on fund availability through an existing line of credit to a borrower experiencing financial difficulty whose loans had been modified during the nine months ended September 30, 2023.

The following table presents the financial effect of the loan modifications presented above to borrowers experiencing financial difficulty for the nine months ended September 30, 2023:

	Weighted-Average Payment Delay	Weighted-Average Term Extension	Weighted-Average Term Extension and Interest Rate Reduction	
	Months	Months	Months	Percentage
September 30, 2023				
Commercial	—	—	4	3.25 %
Enterprise value	5	—	—	— %
Digital asset	—	3	—	— %

The Company closely monitors the performance of loans that are modified to borrowers experiencing financial difficulty to understand the effectiveness of its modification efforts. As of September 30, 2023, there were no past due balances or subsequent defaults related to loans modified during the nine months ended September 30, 2023.

Prior to the Company's adoption of ASU 2022-02 on January 1, 2023 (see Note 4 for additional information), loans were considered TDRs when the Company granted concessions to a borrower due to the borrower's financial condition that it otherwise would not have considered. These concessions could include modifications of the terms of the debt such as deferral of payments, extension of maturity, reduction of principal balance, reduction of the stated interest rate other than normal market rate adjustments, or a combination of these concessions. Debt could be bifurcated with separate terms for each tranche of the restructured debt. Restructuring of a loan in lieu of aggressively enforcing the collection of the loan could benefit the Company by increasing the ultimate probability of collection.

There were no new TDRs entered into during the nine months ended September 30, 2022. The total recorded investment in TDRs was $20.5 million at September 30, 2022 and as of that date there were no material commitments to lend additional funds to borrowers whose loans had been restructured.

Credit Quality Information

The Company utilizes a seven grade internal loan risk rating system for commercial real estate, construction and land development, and commercial loans as follows:

Loans rated 1-3: Loans in these categories are considered "pass" rated loans with low to average risk.

Loans rated 4: Loans in this category are considered "special mention." These loans are starting to show signs of potential weakness and are being closely monitored by management.

Loans rated 5: Loans in this category are considered "substandard." Generally, a loan is considered substandard if it is inadequately protected by the current net worth and paying capacity of the obligors and/or the collateral pledged. There is a distinct possibility that the Company will sustain some loss if the weakness is not corrected.

Loans rated 6: Loans in this category are considered "doubtful." Loans classified as doubtful have all the weaknesses inherent in those classified substandard with the added characteristic that the weaknesses make collection or liquidation in full, on the basis of currently existing facts, highly questionable and improbable.

Loans rated 7: Loans in this category are considered uncollectible "loss" and of such little value that their continuance as loans is not warranted.

On an annual basis, or more often if needed, the Company formally reviews the ratings on all commercial real estate, construction and land development, and commercial loans.

On an annual basis, or more often if needed, the Company completes a credit recertification on all mortgage warehouse originators.

For residential real estate loans, the Company initially assesses credit quality based upon the borrower's ability to pay and rates such loans as pass. Ongoing monitoring is based upon the borrower's payment activity.

Consumer loans are not formally rated.

Based on the most recent analysis performed, the risk category of loans by class of loans is as follows:

	Term Loans at Amortized Cost by Origination Year								
(In thousands)	2023	2022	2021	2020	2019	Prior	Revolving Loans Amortized Cost	Revolving Loans Converted to Term Loans	Total
Commercial Real Estate									
Pass	$ 24,126	$ 53,616	$ 81,019	$ 30,682	$ 60,347	$ 131,400	$ 19,265	$ —	$ 400,455
Special mention	—	—	—	—	2,917	7,637	—	—	10,554
Substandard	—	—	—	1,023	4,466	21,541	—	—	27,030
Doubtful	—	—	—	—	—	—	—	—	—
Loss	—	—	—	—	—	—	—	—	—
Total commercial real estate	24,126	53,616	81,019	31,705	67,730	160,578	19,265	—	438,039
Commercial real estate									
Current period gross write offs	—	—	1	—	—	—	—	—	1
Commercial									
Pass	5,238	14,270	49,198	13,914	17,008	27,327	38,568	—	165,523
Special mention	—	—	—	—	—	8,848	—	—	8,848
Substandard	—	—	205	—	1,815	201	225	—	2,446
Doubtful	—	—	—	—	—	—	—	—	—
Loss	—	—	—	—	—	—	—	—	—
Total commercial	5,238	14,270	49,403	13,914	18,823	36,376	38,793	—	176,817
Commercial									
Current period gross write offs	—	—	—	—	—	101	67	—	168
Enterprise Value									
Pass	67,450	102,788	125,165	51,700	24,712	6,994	12,566	—	391,375
Special mention	—	12,608	6,429	4,561	2,557	1,539	9,266	—	36,960
Substandard	—	—	—	—	—	—	—	—	—
Doubtful	—	—	—	—	—	3,456	658	—	4,114
Loss	—	—	—	—	—	—	—	—	—

Total enterprise value	67,450	115,396	131,594	56,261	27,269	11,989	22,490	—	432,449
Enterprise value									
Current period gross write offs	—	3,561	—	2	—	3	—	—	3,566
Digital Asset									
Pass	—	—	—	—	—	—	—	—	—
Special mention	—	—	—	—	—	—	—	—	—
Substandard	—	15,247	—	—	—	—	—	—	15,247
Doubtful	—	—	—	—	—	—	—	—	—
Loss	—	—	—	—	—	—	—	—	—
Total digital asset	—	15,247	—	—	—	—	—	—	15,247
Digital asset									
Current period gross write offs	—	—	—	—	—	—	—	—	—
Residential Real Estate									
Pass	—	—	—	5	186	3,327	2,654	916	7,088
Substandard	—	—	—	—	—	287	69	—	356
Total residential real estate	—	—	—	5	186	3,614	2,723	916	7,444
Residential real estate									
Current period gross write offs	—	—	—	—	—	—	—	—	—
Construction and Land Development									
Pass	114	50,629	42,838	—	—	1,434	312	—	95,327
Special mention	—	—	—	—	—	—	—	—	—
Substandard	—	—	—	—	—	—	—	—	—
Doubtful	—	—	—	—	—	—	—	—	—
Loss	—	—	—	—	—	—	—	—	—
Total construction and land development	114	50,629	42,838	—	—	1,434	312	—	95,327
Construction and land development									
Current period gross write offs	—	—	—	—	—	—	—	—	—
Consumer									
Not formally rated	—	—	—	—	—	263	51	1	315
Total consumer	—	—	—	—	—	263	51	1	315
Consumer									
Current period gross write offs	24	—	—	—	—	12	—	—	36
Mortgage Warehouse									
Pass	—	—	—	—	—	—	172,051	—	172,051
Special mention	—	—	—	—	—	—	—	—	—
Substandard	—	—	—	—	—	—	—	—	—
Doubtful	—	—	—	—	—	—	—	—	—
Loss	—	—	—	—	—	—	—	—	—
Total mortgage warehouse	—	—	—	—	—	—	172,051	—	172,051
Mortgage warehouse									
Current period gross write offs	—	—	—	—	—	—	—	—	—

The following table presents the Company's loans by risk rating and portfolio segment at December 31, 2022:

(In thousands)	Commercial Real Estate	Commercial	Enterprise Value	Digital Asset	Residential Real Estate	Construction and Land Development	Consumer	Mortgage Warehouse	Total
December 31, 2022									
Grade:									
Pass	$ 399,455	$ 202,895	$ 408,616	$ 4,724	$ 7,938	$ 72,267	$ —	$ 213,244	$ 1,309,139
Special mention	26,995	11,015	20,091	9,569	—	—	—	—	67,670
Substandard	27,141	2,854	9,946	26,488	227	—	—	—	66,656
Doubtful	—	165	92	—	—	—	—	—	257
Loss	1	2	—	—	—	—	—	—	3
Not formally rated	—	—	—	—	—	—	391	—	391
Total	$ 453,592	$ 216,931	$ 438,745	$ 40,781	$ 8,165	$ 72,267	$ 391	$ 213,244	$ 1,444,116

(7) Deposits

A summary of deposit balances, by type is as follows:

(In thousands)	At September 30, 2023	At December 31, 2022
Noninterest-bearing:		
Demand (1)	$ 385,488	$ 520,226
Interest-bearing:		
NOW	111,786	145,533
Regular savings	177,865	141,802
Money market deposits	541,200	318,417
Certificates of deposit:		
Certificate accounts of $250,000 or more	21,027	11,449
Certificate accounts less than $250,000	252,359	142,155
Total interest-bearing (2)	1,104,237	759,356
Total deposits (3)	$ 1,489,725	$ 1,279,582

(1) Noninterest-bearing deposits included $15.6 million and $40.2 million in Banking as a Service ("BaaS") deposits as of September 30, 2023 and December 31, 2022, respectively. Noninterest-bearing deposits included $52.5 million and $40.3 million in digital asset deposits as of September 30, 2023 and December 31, 2022, respectively.

(2) Interest-bearing deposits included $198.3 million in BaaS deposits and no digital assets deposits as of September 30, 2023. As of December 31, 2022, there were $5.0 million and $17.2 million interest-bearing BaaS and digital asset deposits, respectively.

(3) Of total deposits as of September 30, 2023 and December 31, 2022, the Federal Deposit Insurance Corporation ("FDIC") insured approximately 57% and 55%, respectively, and the remaining 43% and 45%, respectively, were insured through the Depositors Insurance Fund ("DIF"). The DIF is a private, industry-sponsored insurance fund that insures all deposits above FDIC limits at member banks.

(8) Borrowings

Advances consist of funds borrowed from the Federal Home Loan Bank (the "FHLB"). Maturities of advances from the FHLB as of September 30, 2023 are summarized as follows:

(In thousands)		
Fiscal Year-End		
2023	$	80,033
2024		134
2025		5,136
2026		138
2027		139
Thereafter		4,150
Total	$	89,730

Borrowings from the FHLB are secured by qualified collateral, consisting primarily of certain commercial real estate loans, qualified mortgage-backed government securities and certain loans with mortgages secured by one- to four-family properties. At September 30, 2023, borrowings from the FHLB consisted of short-term borrowings, with original maturities of less than one year, totaling $80.0 million and long-term borrowings, with original maturities more than one year, totaling $9.7 million. The interest rate on FHLB short-term borrowings was 5.57% at September 30, 2023. The interest rates on FHLB long-term advances ranged from 1.21% to 1.32%, with a weighted average interest rate of 1.28% at September 30, 2023.

(9) Other Repossessed Assets

During 2022, the Company repossessed cryptocurrency mining rigs in exchange for the forgiveness of a loan relationship. The repossessed cryptocurrency mining rigs were reported as other repossessed assets at their fair value less costs to sell. These other repossessed assets were subsequently accounted for at lower of cost or fair value less estimated costs to sell. The estimates and assumptions that went into the valuation of the repossessed cryptocurrency mining rigs held as repossessed assets, were based on market data and sales reported by the company.

Activity related to other repossessed assets, which consists of cryptocurrency mining rigs, was as follows:

(In thousands)		Amount
Net balance of other repossessed assets at December 31, 2022	$	6,051
Direct write-downs		(21)
Sales of other repossessed assets		(6,030)
Net balance of other repossessed assets at September 30, 2023	$	—

Activity in the valuation allowance was as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
(In thousands)	2023		2022		2023		2022	
Beginning balance	$	—	$	—	$	597	$	—
Reductions from sales of other repossessed assets		—		—		(597)		—
Ending balance	$	—	$	—	$	—	$	—

There were no other repossessed assets outstanding for the three months ended September 30, 2023 therefore there were no related gains or expenses recognized during that period. For the nine months ended September 30, 2023, the Company recognized $166,000 in net gain on sales of other repossessed assets and $115,000 in operating expenses. For the three and nine months ended September 30, 2022, the Company recognized no gain on sales of other repossessed assets and $145,000 in operating expenses.

(10) Fair Value Measurements

The Company reports certain assets at fair value in accordance with GAAP, which defines fair value and establishes a framework for measuring fair value in accordance with generally accepted accounting principles. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (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 guidance establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair values:

Basis of Fair Value Measurements

- Level 1 – Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities;
- Level 2 – Quoted prices in markets that are not active, or inputs that are observable either directly or indirectly, for substantially the full term of the asset or liability;
- Level 3 – Prices or valuation techniques that require inputs that are both significant to the fair value measurement and unobservable (i.e., supported by little or no market activity).

An asset's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement.

Fair Values of Assets Measured on a Recurring Basis

The Company's investments in state and municipal, asset-backed and government mortgage-backed debt securities available-for-sale are generally classified within Level 2 of the fair value hierarchy. For these investments, the Company obtains fair value measurements from independent pricing services. The fair value measurements consider observable data that may include dealer quotes, market spreads, cash flows, the U.S. Treasury yield curve, trading levels, market consensus prepayment speeds, credit information and the instrument's terms and conditions.

The following summarizes financial instruments measured at fair value on a recurring basis at September 30, 2023 and December 31, 2022:

	Fair Value Measurements at Reporting Date Using			
(In thousands)	Total	Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
September 30, 2023				
State and municipal securities	$ 10,787	$ —	$ 10,787	$ —
Asset-backed securities	5,655	—	5,655	—
Government mortgage-backed securities	9,737	—	9,737	—
Totals	$ 26,179	$ —	$ 26,179	$ —
December 31, 2022				
State and municipal securities	$ 11,071	$ —	$ 11,071	$ —
Asset-backed securities	6,274	—	6,274	—
Government mortgage-backed securities	11,255	—	11,255	—
Totals	$ 28,600	$ —	$ 28,600	$ —

Fair Values of Assets Measured on a Non-Recurring Basis

The Company may also be required, from time to time, to measure certain other assets at fair value on a non-recurring basis in accordance with generally accepted accounting principles. These adjustments to fair value usually result from the application of lower-of-cost-or market accounting or write-downs of individual assets.

Certain loans were adjusted to fair value, less cost to sell, of the underlying collateral securing these loans resulting in losses. The loss is not recorded directly as an adjustment to current earnings, but rather as a component in determining the allowance for loan losses. Fair value was measured using appraised values of collateral and adjusted as necessary by management based on unobservable inputs for specific properties.

Other repossessed assets, which consists of repossessed cryptocurrency mining rigs, were accounted for at fair value. Future adjustments, if any, will be recorded directly as an adjustment to current earnings. Fair value was measured using the appraised values of the cryptocurrency mining rigs and adjusted as necessary by management based on unobservable inputs.

The following summarizes assets measured at fair value on a nonrecurring basis at September 30, 2023 and December 31, 2022:

(In thousands)	Total	Fair Value Measurements at Reporting Date Using: Quoted Prices in Active Markets for Identical Assets Level 1	Significant Other Observable Inputs Level 2	Significant Unobservable Inputs Level 3
September 30, 2023				
Loans				
Enterprise value	$ 1,156	$ —	$ —	$ 1,156
Digital asset	8,028	—	—	8,028
Totals	$ 9,184	$ —	$ —	$ 9,184
December 31, 2022				
Loans				
Commercial	$ 16,817	$ —	$ —	$ 16,817
Other repossessed assets	6,051	—	—	6,051
Totals	$ 22,868	$ —	$ —	$ 22,868

The following is a summary of the valuation methodology and unobservable inputs for Level 3 assets measured at fair value on a nonrecurring basis at September 30, 2023 and December 31, 2022:

(In thousands)	Fair Value	Valuation Technique	Unobservable Input	Range
September 30, 2023				
Loans				
Enterprise value	$ 1,156	Business or collateral valuation	Comparable company or collateral evaluations	0% - 10%
Digital asset	8,028	Asset valuation	Comparable asset evaluations	0% - 1%
December 31, 2022				
Loans				
Commercial	$ 16,817	Business or collateral valuation	Comparable company or collateral evaluations	0% - 10%
Other repossessed assets	6,051	Asset valuation	Comparable asset evaluations	0% - 3%

At September 30, 2023, the contractual balance of loans measured at fair value on a nonrecurring basis was $6.1 million, net of reserves of $3.0 million, charge-offs of $1.7 million, and interest paid to principal of $237,000 for the enterprise value segment, and $16.9 million, net of reserves of $7.2 million, and interest paid to principal of $1.6 million for the digital asset segment. At December 31, 2022, the contractual balance of commercial loans measured at fair value on a nonrecurring basis was $28.7 million, net of reserves of $10.1 million and charge-offs of $1.8 million.

During 2022, the Company repossessed cryptocurrency mining rigs in exchange for the forgiveness of a loan relationship. The repossessed cryptocurrency mining rigs were reported as other repossessed assets and are accounted for at the lower of cost or fair value less estimated costs to sell. At December 31, 2022, other repossessed assets were $6.1 million.

Fair Values of Financial Instruments

GAAP requires disclosure of fair value information about financial instruments, whether or not recognized in the balance sheet, for which it is practicable to estimate that value. Certain financial instruments and all nonfinancial instruments are excluded from the disclosure requirements. Accordingly, the aggregate fair value amounts presented do not represent the underlying value of the Company.

The carrying amounts and estimated fair values of the Company's financial instruments, all of which are held or issued for purposes other than trading, are as follows at September 30, 2023 and December 31, 2022:

(In thousands)	Carrying Amount	Fair Value Level 1	Fair Value Level 2	Fair Value Level 3	Fair Value Total
September 30, 2023					
Financial assets:					
Cash and cash equivalents	$ 366,369	$ 366,369	$ —	$ —	$ 366,369
Available-for-sale debt securities	26,179	—	26,179	—	26,179
Federal Home Loan Bank of Boston stock	3,607	N/A	N/A	N/A	N/A
Loans, net	1,313,666	—	—	1,215,797	1,215,797
Accrued interest receivable	5,585	—	5,585	—	5,585
Financial liabilities:					
Deposits	1,489,725	—	1,489,475	—	1,489,475
Borrowings	89,730	—	89,714	—	89,714
December 31, 2022					
Financial assets:					
Cash and cash equivalents	$ 80,629	$ 80,629	$ —	$ —	$ 80,629
Available-for-sale debt securities	28,600	—	28,600	—	28,600
Federal Home Loan Bank of Boston stock	4,266	N/A	N/A	N/A	N/A
Loans, net	1,416,047	—	—	1,341,633	1,341,633
Accrued interest receivable	6,597	—	6,597	—	6,597
Other repossessed assets	6,051	—	—	6,051	6,051
Financial liabilities:					
Deposits	1,279,582	—	1,279,665	—	1,279,665
Borrowings	126,829	—	124,590	—	124,590

(11) Regulatory Capital

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

The Bank is subject to capital regulations that require a Common Equity Tier 1 ("CET1") capital ratio of 4.5%, a minimum Tier 1 capital to risk-weighted assets ratio of 6.0%, a minimum total capital to risk-weighted assets ratio of 8.0% and a minimum Tier 1 leverage ratio of 4.0%. CET1 generally consists of common stock and retained earnings, subject to applicable adjustments and deductions. In order to be considered "well capitalized," the Bank must maintain a CET1 capital ratio of 6.5% and a Tier 1 ratio of 8.0%, a total risk-based capital ratio of 10% and a Tier 1 leverage ratio of 5.0%. As of September 30, 2023 and December 31, 2022, the FDIC categorized the Bank as well capitalized under the regulatory framework for prompt corrective action.

Applicable regulations limit capital distributions and certain discretionary bonus payments to management if the institution does not hold a "capital conservation buffer" consisting of 2.5% of common equity Tier 1 capital to risk-weighted asset above the amount necessary to meet its minimum risk-based capital requirements. At September 30, 2023, the Bank exceeded the regulatory requirement for the capital conservation buffer.

Federal banking agencies regulations establish a community bank leverage ratio ("CBLR") framework for community banking organizations having total consolidated assets of less than $10 billion, having a leverage ratio of greater than 9%, and satisfying other criteria, such as limitations on the amount of off-balance sheet exposures and on trading assets and liabilities. A community banking organization that qualifies for and elects to use the CBLR framework and that maintains a leverage ratio of greater than 9% will be considered to have satisfied the generally applicable risk-based and leverage capital requirements in the banking agencies' generally applicable capital rules and, if applicable, will be considered to have met the well-capitalized ratio requirements for federal law. As of September 30, 2023, the Bank has not opted into the CBLR framework.

The Bank's actual capital amounts and ratios are presented in the following table.

(Dollars in thousands)	Actual		For Capital Adequacy Purposes		To Be Well Capitalized Under Prompt Corrective Action Provisions	
	Amount	Ratio	Amount	Ratio	Amount	Ratio
September 30, 2023						
Total Capital (to Risk Weighted Assets)	$ 208,303	14.23 %	$ 117,107	≥ 8.0 %	$ 146,384	≥ 10.0 %
Tier 1 Capital (to Risk Weighted Assets)	189,931	12.97	87,830	≥ 6.0	117,107	≥ 8.0
Common Equity Tier 1 Capital (to Risk Weighted Assets)	189,931	12.97	65,873	≥ 4.5	95,149	≥ 6.5
Tier 1 Capital (to Average Assets)	189,931	11.07	68,644	≥ 4.0	85,805	≥ 5.0
December 31, 2022						
Total Capital (to Risk Weighted Assets)	$ 204,354	12.62 %	$ 129,492	≥ 8.0 %	$ 161,865	≥ 10.0 %
Tier 1 Capital (to Risk Weighted Assets)	184,025	11.37	97,119	≥ 6.0	129,492	≥ 8.0
Common Equity Tier 1 Capital (to Risk Weighted Assets)	184,025	11.37	72,839	≥ 4.5	105,212	≥ 6.5
Tier 1 Capital (to Average Assets)	184,025	11.17	65,916	≥ 4.0	82,395	≥ 5.0

Liquidation Accounts

Upon the completion of the Company's initial stock offering in 2015 and the second step offering in 2019, liquidation accounts were established for the benefit of certain depositors of the Bank in amounts equal to:

1. The product of (i) the percentage of the stock issued in the initial stock offering in 2015 to persons other than Provident Bancorp, the top tier mutual holding company ("MHC") of the Company and (ii) the net worth of the mid-tier holding company as of the date of the latest balance sheet contained in the prospectus utilized in connection with the offering; and
2. The MHC's ownership interest in the retained earnings of the Company as of the date of the latest balance sheet contained in the 2019 prospectus plus the MHC's net assets (excluding its ownership of the Company).

The Company and the Bank are not permitted to pay dividends on their capital stock if the shareholders' equity of the Company, or the shareholder's equity of the Bank, would be reduced below the amount of the respective liquidation accounts. The liquidation accounts will be reduced annually to the extent that eligible account holders have reduced their qualifying deposits. Subsequent increases will not restore an eligible account holder's interest in the liquidation accounts.

Other Restrictions

The Company's principal source of funds for dividend payments is dividends received from the Bank. Federal and state banking regulations restrict the amount of dividends that may be paid by the Bank in a year, without prior approval of regulatory agencies, to the amount by which net income of the Bank for the year plus the retained net income of the previous two years exceeds any net loss reported in those respective periods. For the nine months ended September 30, 2023, the Bank reported net income of $7.9 million. For the years ended December 31, 2022 and 2021, the Bank reported a net loss of $21.5 million and net income of $16.1 million, respectively.
No dividends were paid during the nine months ended September 30, 2023.

The Company may, at times, repurchase its own shares in the open market. Such transactions are subject to the Federal Reserve Board's notice provisions for stock repurchases. In March 2021, the Company announced its plan to repurchase 1,400,000 shares of its common stock. The repurchase program was adopted following the receipt of non-objection from the Federal Reserve Bank of Boston, and in compliance with applicable state and federal regulations. As of September 30, 2023, the Company had repurchased 1,145,479 shares of its outstanding common stock under this program, however, the Company did not repurchase any shares of its outstanding common stock under this program during the nine months ended September 30, 2023.

(12) Employee Stock Ownership Plan

The Bank established an employee stock ownership plan (the "ESOP") to provide eligible employees the opportunity to own Company stock. The plan is a tax-qualified plan for the benefit of all Bank employees. Contributions are allocated to eligible participants on the basis of compensation, subject to federal tax law limits. The ESOP acquired 1,538,868 shares between the initial and second-step stock offerings with the proceeds of a loan totaling $11.8 million. The loan is payable over 15 years at a rate per annum equal to 5.00%. Shares used as collateral to secure the loan are released and available for allocation to eligible employees as the principal and interest on the loan is paid. The number of shares committed to be released per year through 2033 is 89,758.

Shares held by the ESOP include the following:

	September 30, 2023	December 31, 2022
Allocated	551,530	461,772
Committed to be released	67,318	89,758
Unallocated	920,020	987,338
Total	1,538,868	1,538,868

The fair value of unallocated shares was approximately $8.9 million at September 30, 2023.

Total compensation expense recognized in connection with the ESOP for the three months ended September 30, 2023 and 2022 was $213,000 and $334,000, respectively. Total compensation expense recognized for the nine months ended September 30, 2023 and 2022 was $568,000 and $1.1 million, respectively.

(13) Earnings Per Common Share

Basic earnings per share represents income available to common stockholders divided by the weighted-average number of common shares outstanding during the period. Diluted earnings per share is computed in a manner similar to that of basic earnings per share except that the weighted-average number of common shares outstanding is increased to include the number of incremental common shares (computed using the treasury method) that would have been outstanding if all potentially dilutive common stock equivalents were issued during the period. Unallocated ESOP shares, treasury stock and unvested restricted stock is not deemed outstanding for earnings per share calculations.

	Three Months Ended		Nine Months Ended	
(Dollars in thousands, except per share dollar amounts)	September 30, 2023	September 30, 2022	September 30, 2023	September 30, 2022
Net Income (Loss) attributable to common shareholders	$ 2,466	$ (35,309)	$ 8,030	$ (24,165)
Average number of common shares issued	17,684,143	17,725,523	17,686,334	17,782,139
Less:				
average unallocated ESOP shares	(927,582)	(1,017,339)	(949,803)	(1,039,560)
average unvested restricted stock	(151,675)	(251,910)	(168,200)	(264,646)
Average number of common shares outstanding to calculate basic earnings per common share	16,604,886	16,456,274	16,568,331	16,477,933
Effect of dilutive unvested restricted stock and stock option awards	43,771	—	1,195	—
Average number of common shares outstanding to calculate diluted earnings per common share	16,648,657	16,456,274	16,569,526	16,477,933
Earnings (Loss) per common share:				
Basic	$ 0.15	$ (2.15)	$ 0.48	$ (1.47)
Diluted	$ 0.15	$ (2.15)	$ 0.48	$ (1.47)

Stock options for 1,199,154 and 1,305,805 shares of common stock were not considered in computing diluted earnings per common share for the three and nine months ended September 30, 2023, respectively, because they were anti-dilutive, meaning the exercise price for such options were higher than the average price for the Company for such period. Diluted earnings per share for the three and nine months ended September 30, 2022 was equal to the basic earnings per share due to the Company’s net loss position.

(14) Share-Based Compensation

The Company maintains the Provident Bancorp, Inc. 2020 Equity Incentive Plan (the "2020 Equity Plan") and the Provident Bancorp, Inc. 2016 Equity Incentive Plan (the "2016 Equity Plan", and collectively with the 2020 Equity Plan, the "Equity Plans"). Under the Equity Plans, the Company may grant options, restricted stock, restricted units or performance awards to its directors, officers and employees. Both incentive stock options and non-qualified stock options may be granted under the Equity Plans, with 902,344 and 1,021,239 shares reserved for options under the 2016 Equity Plan and the 2020 Equity Plan, respectively. The exercise price of each option equals the market price of the Company's stock on the date of grant and the maximum term of each option is ten years. The total number of shares reserved for restricted stock or restricted units is 360,935 and 408,495 under the 2016 Equity Plan and the 2020 Equity Plan, respectively. The value of restricted stock grants is based on the market price of the stock on grant date. Options and awards vest ratably over three to five years. The Company has elected to recognize forfeitures of awards as they occur.

Expense related to options and restricted stock granted to directors is recognized in directors' compensation within non-interest expense.

Stock Options

The fair value of each option is estimated on the date of the grant using the Black-Scholes option-pricing model with the following assumptions:

- Expected volatility is based on historical volatility of the Company's common stock price.
- Expected life represents the period of time that the option is expected to be outstanding, taking into account the contractual term, and the vesting period.
- The dividend yield assumption is based on the Company's expectation of dividend payouts.
- The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of grant for a period equivalent to the expected life of the option.

The fair value of options granted was determined using the following weighted-average assumptions as of grant date:

	2023
Vesting period (years)	5
Expiration date (years)	10
Expected volatility	36.56%
Expected life (years)	7.5
Expected dividend yield	1.67%
Risk free interest rate	3.45%
Fair value per option	$ 3.58

A summary of the status of the Company's stock option grants for the nine months ended September 30, 2023 is presented below:

	Stock Option Awards	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding at December 31, 2022	1,467,876	$ 11.00		
Granted	158,100	9.55		
Forfeited	(55,200)	14.62		
Expired	(150,448)	11.67		
Exercised	(226,565)	8.61		
Outstanding at September 30, 2023	1,193,763	$ 11.01	6.26	$ 368,000
Outstanding and expected to vest at September 30, 2023	1,193,763	$ 11.01	6.26	$ 368,000
Vested and Exercisable at September 30, 2023	648,989	$ 10.45	4.76	$ 346,000
Unrecognized compensation cost	$ 1,776,000			
Weighted average remaining recognition period (years)	3.13			

For the three months ended September 30, 2023 and 2022, expense for the stock options was $163,000 and $223,000, respectively. For the nine months ended September 30, 2023 and 2022, total expense for the stock options was $483,000 and $650,000, respectively. For the three months ended September 30, 2023 and 2022, the intrinsic value of options exercised was $1,000 and $6,000, respectively. The intrinsic value of options exercised was $98,000 and $431,000 for the nine months ended September 30, 2023 and 2022, respectively. There was no tax benefit recognized from options exercised for the three months ended September 30, 2023. For the three months ended September 30, 2022, the tax benefit from options exercised was $2,000. The tax benefit from options exercised was $27,000 and $103,000 for the nine months ended September 30, 2023 and 2022, respectively.

Restricted Stock

Shares issued upon the granting of restricted stock may be either from authorized but unissued shares or reacquired shares held by the Company. Any shares forfeited because vesting requirements are not met will again be available for issuance under the Equity Plans. The fair market value of shares awarded, based on the market prices at the date of grant, is recorded as unearned compensation and amortized over the applicable vesting period.

The following table presents the activity in restricted stock awards under the Equity Plans for the nine months ended September 30, 2023:

	Unvested Restricted Stock Awards	Weighted Average Grant Date Price
Unvested restricted stock awards at December 31, 2022	192,748	$ 13.16
Granted	29,515	9.55
Forfeited	(22,094)	14.62
Vested	(21,447)	15.18
Unvested restricted stock awards at September 30, 2023	178,722	$ 12.15
Unrecognized compensation cost	$ 1,744,000	
Weighted average remaining recognition period (years)	2.94	

For the three months ended September 30, 2023 and 2022, expense for the restricted stock awards was $166,000 and $257,000, respectively. For the nine months ended September 30, 2023 and 2022, expense for the restricted stock awards was $498,000 and $743,000, respectively. The tax benefit from restricted awards was $48,000 and $71,000 for the three months ended September 30, 2023 and 2022, respectively. The tax benefit from restricted awards was $149,000 and $206,000 for the nine months ended September 30, 2023 and 2022, respectively. The total fair value of shares vested during the three months ended September 30, 2023 and 2022 was $57,000 and $30,000, respectively. The total fair value of shares vested during the nine months ended September 30, 2023 and 2022 was $178,000 and $214,000, respectively.

(15) Leases

The Company recognized right-of-use assets (“ROU”) totaling $3.8 million at September 30, 2023 and $3.9 million at December 31, 2022, and operating lease liabilities totaling $4.2 million and $4.3 million at September 30, 2023 and December 31, 2022, respectively. The lease liabilities recognized by the Company represent two leased branch locations and one loan production office.

Lease expense for lease payments is recognized on a straight-line basis over the lease term. Variable lease components, such as fair market value adjustments, are expensed as incurred and are not included in ROU assets and operating lease liabilities. Leases with an initial term of 12 months or less are not recorded on the balance sheet; we recognize lease expense for the leases on a straight-line basis over the lease term. For the nine months ended September 30, 2023 and 2022, rent expense for the operating leases totaled $236,000.

The following table presents information regarding the Company’s operating leases:

	September 30, 2023	December 31, 2022
Weighted-average discount rate	3.61%	3.59%
Range of lease expiration dates	1 - 12 years	1 - 13 years
Range of lease renewal options	0 - 20 years	5 - 20 years
Weighted-average remaining lease term	25.9 years	26.4 years

The following table presents the undiscounted annual lease payments under the terms of the Company's operating leases at September 30, 2023 and December 31, 2022, including a reconciliation to the present value of operating lease liabilities recognized in the Consolidated Balance Sheets:

Fiscal Year-End	September 30, 2023	December 31, 2022
(In thousands)		
2023	$ 66	$ 264
2024	270	270
2025	280	280
2026	291	291
2027	294	293
Thereafter	5,740	5,740
Total lease payments	6,941	7,138
Less imputed interest	(2,742)	(2,856)
Total lease liabilities	$ 4,199	$ 4,282

The lease liabilities recognized include certain lease extensions as it is expected that the Company will use substantially all lease renewal options.

(16) Revenue Recognition

Revenue from contracts with customers in the scope of Accounting Standards Codification ("ASC Topic 606") is measured based on the consideration specified in the contract with a customer and excludes amounts collected on behalf of third parties. The Company recognizes revenue from contracts with customers when it satisfies its performance obligations.

The Company's performance obligations are generally satisfied as services are rendered and can either be satisfied at a point in time or over time. Unsatisfied performance obligations at the report date are not material to our consolidated financial statements.

The Company recognizes revenue that is transactional in nature and such revenue is earned at a point in time. Revenue that is recognized at a point in time includes card interchange fees (fee income related to debit card transactions), ATM fees, wire transfer fees, overdraft charge fees, and stop-payment and returned check fees. Additionally, revenue is collected from loan fees, such as letters of credit, line renewal fees and application fees. Such revenue is derived from transactional information and is recognized as revenue immediately as the transactions occur or upon providing the service to complete the customer's transaction.

(17) Qualified Affordable Housing Project Investments

The Bank invests in qualified affordable housing projects. At September 30, 2023 and December 31, 2022, the balance of the investment for qualified affordable housing projects was $6.3 million and $7.3 million, respectively. These balances are reflected in the other assets line on the Consolidated Balance Sheets. Under the proportional amortization method, the Company recognized amortization expense of $179,000 and tax credits of $220,000 for the three months ended September 30, 2023. The Company recognized amortization expense of $1.6 million and tax credits of $1.9 million for the nine months ended September 30, 2023. The Company did not recognize any amortization expense or tax credits for the three or nine months ended September 30, 2022.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Management's discussion and analysis of financial condition and results of operations at September 30, 2023 and December 31, 2022 and for the three and nine months ended September 30, 2023 and 2022 is intended to assist in understanding our financial condition and results of operations. Operating results for the three- and nine- month periods ended September 30, 2023 may not be indicative of results for all of 2023 or any other period. The information contained in this section should be read in conjunction with the Unaudited Consolidated Financial Statements and the notes thereto, appearing in Part 1, Item 1 of this report.

Forward-Looking Statements

This document may contain certain forward-looking statements, such as statements of the Company's or the Bank's plans, objectives, expectations, estimates and intentions. Forward-looking statements may be identified by the use of words such as "expects," "subject," "believes," "will," "intends," "may," "will be," "would" or similar expressions. Readers should not place undue reliance on any forward-looking statements, which reflect management's analysis of factors only as of the date of which they are given. These statements are subject to change based on various important factors (some of which are beyond the Company's or the Bank's control) and actual results may differ materially. Accordingly, readers should not place any undue reliance on any forward-looking statements (which reflect management's analysis of factors only as of the date of which they are given). These factors include: general economic conditions; the impact of the COVID-19 pandemic, or any other pandemic, on our operations and financial results and those of our customers; global and national war and terrorism; trends in interest rates; inflation; potential recessionary conditions; levels of unemployment; legislative, regulatory and accounting changes; monetary and fiscal policies of the U.S. Government, including policies of the U.S. Treasury and the Board of Governors of the Federal Reserve System; a potential government shutdown; deposit flows; our ability to access cost-effective funding; changes in liquidity, including the size and composition of our deposit portfolio and the percentage of uninsured deposits in the portfolio; changes in consumer spending, borrowing and saving habits; competition; real estate values in the market area; loan demand; the adequacy of our allowance for credit losses; changes in the quality of our loan and securities portfolios; the ability of our borrowers to repay their loans; our ability to remediate identified material weaknesses; an unexpected adverse financial, regulatory or bankruptcy event experienced by our cryptocurrency, digital asset or financial technology ("fintech") customers; our ability to retain key employees; failures or breaches of our IT systems, including cyber attacks; the failure to maintain current technologies; and the ability of the Company or the Bank to effectively manage its growth and results of regulatory examinations, among other factors.

The foregoing list of important factors is not exclusive. Readers should carefully review the factors described in other documents the Company files from time to time with the Securities and Exchange Commission, including Annual and Quarterly Reports on Forms 10-K and 10-Q, and Current Reports on Form 8-K.

Except as required by applicable law and regulation, the Company does not undertake — and specifically disclaims any obligation — to update any forward-looking statements after the date of this quarterly report.

Critical Accounting Policies

Critical accounting estimates are necessary in the application of certain accounting policies and procedures and are particularly susceptible to significant change. Critical accounting policies are defined as those involving significant judgments and assumptions by management that could have a material impact on the carrying value of certain assets or on income under different assumptions or conditions. Management believes that the most critical accounting policies, which involve the most complex or subjective decisions or assessments, are as follows:

Allowance for Credit Losses. The allowance for credit losses represents management's estimate of expected losses over the life of the loan portfolio. Loan losses are charged against the allowance when management believes the un-collectability of a loan balance is confirmed. Subsequent recoveries, if any, are credited to the allowance. See Note 4 of the Notes to the Unaudited Consolidated Financial Statements for additional information.

Income Taxes. The Company recognizes income taxes under the asset and liability method. Under this method, deferred tax assets and liabilities are established for the temporary differences between the accounting basis and the tax basis of our assets and liabilities at enacted tax rates expected to be in effect when the amounts related to such temporary differences are realized or settled. A tax valuation allowance is established, as needed, to reduce net deferred tax assets to the amount expected to be realized.

The Company examines its significant income tax positions quarterly to determine whether a tax benefit is more likely than not to be sustained upon examination by tax authorities.

Balance Sheet Analysis

Recent Developments. Results for the quarter ended September 30, 2023 reflect the Bank's continued focus on its revised business plan, operations and risk tolerance in light of the events and the losses that occurred in late 2022. Concerted efforts have been made to revise the Bank's business practices and strategies so as to better monitor and manage its risk position, capital position, liquidity, and the growth of the Bank's BaaS operations and overall asset growth. In this regard, the Bank re-established metrics and limitations in these areas to better manage and monitor the Bank's overall risk position, including managing overall asset growth to no more than 5% per year, and adopting more comprehensive capital management policies and procedures.

Assets. Total assets were $1.81 billion at September 30, 2023, representing an increase of $172.1 million, or 10.5%, from $1.64 billion at December 31, 2022. The increase resulted primarily from an increase in cash and cash equivalents driven by the volatile deposits being held as cash in short-term investments, partially offset by decreases in net loans and other repossessed assets.

Cash and Cash Equivalents. Cash and cash equivalents increased $285.8 million, or 354.4%, to $366.4 million at September 30, 2023 from $80.6 million at December 31, 2022 due to increased deposit balances and a decrease in net loans. Included in cash and cash equivalents are volatile deposits the Company is currently holding as cash in short-term investments. The Company deems deposits as volatile when they meet any of the following criteria: management believes the deposits may not be suitable for funding long-term assets, management has received notice that the deposit customer will exit the Bank, or management believes the deposit amount poses a concentration risk. New BaaS relationships that contribute any deposit amount exceeding 2% of total deposits are deemed volatile. In addition, existing BaaS deposit relationships are individually reviewed for volatility due to the size of the relationships and the need to have access to deposits in a shorter timeframe than traditional deposits. The Bank held $249.7 million volatile deposits as of September 30, 2023 as cash in short-term investments. No deposits were held as volatile as of December 31, 2022.

Loans. At September 30, 2023, net loans were $1.31 billion, or 72.6% of total assets, compared to $1.42 billion, or 86.5% of total assets, at December 31, 2022. The decrease was primarily driven by decreases in mortgage warehouse loans of $41.2 million, or 19.3%, commercial loans of $40.1 million, or 18.5%, commercial real estate loans of $15.6 million, or 3.4%, enterprise value loans of $6.3 million, or 1.4%, and digital asset loans. The decrease in our mortgage warehouse loan portfolio was primarily due to decreased usage of the mortgage warehouse lines as sales and refinances of single-family homes has declined in 2023. The decrease in our commercial loan portfolio was primarily related to payoffs in our traditional in-market loan portfolio. The decrease in the commercial real estate and enterprise value loan portfolios was primarily due to routine payoffs, paydowns, and loan payments. Decreased usage of lines of credit also contributed to the decrease in the commercial, commercial real estate, enterprise value, and digital asset portfolio, and partially offset the increase in the construction and land development portfolio. The Bank's continued efforts to reduce its digital asset portfolio resulted in a decrease of $25.5 million, or 62.6%. The decrease in the digital asset loan portfolio was driven by paydowns on outstanding lines of credit as well as the payoff of a $4.8 million loan secured by cryptocurrency mining rigs during the first quarter of 2023 and the payoff of a $5.7 million line of credit during the second quarter of 2023. The decrease in net loans was partially offset by an increase in the construction and land development portfolio of $23.1 million, or 31.9%.

The following table sets forth the composition of our loan portfolio by type of loan at the dates indicated:

	At September 30, 2023		At December 31, 2022	
(In thousands)	Amount	Percent	Amount	Percent
Commercial real estate	$ 438,039	32.74%	$ 453,592	31.41%
Commercial	176,817	13.22%	216,931	15.02%
Enterprise value	432,449	32.33%	438,745	30.38%
Digital asset (1)	15,247	1.14%	40,781	2.82%
Residential real estate	7,444	0.56%	8,165	0.57%
Construction and land development	95,327	7.13%	72,267	5.00%
Consumer	315	0.02%	391	0.03%
Mortgage warehouse	172,051	12.86%	213,244	14.77%
	1,337,689	100.00%	1,444,116	100.00%
Allowance for credit losses - loans	(24,023)		(28,069)	
Net loans	$ 1,313,666		$ 1,416,047	

(1) Includes $15.2 million and $26.5 million in loans secured by cryptocurrency mining rigs at September 30, 2023 and December 31, 2022, respectively. The remaining balances consist of digital asset lines of credit.

Other Repossessed Assets. Other repossessed assets decreased $6.1 million due to the sale of repossessed cryptocurrency mining rigs. There were no other repossessed assets at September 30, 2023.

Deposits. Total deposits increased $210.1 million, or 16.4%, to $1.49 billion at September 30, 2023 from $1.28 billion at December 31, 2022. This increase included an increase in interest-bearing deposits of $344.9 million, or 45.4%, offset by a decrease in noninterest-bearing deposits of $134.7 million, or 25.9%. The increase in interest-bearing deposits and the decrease in noninterest-bearing deposits was primarily driven by the rising rate environment and customers seeking returns on their deposits. To retain customers, the Bank has increased deposit rates on certain products and seen a shift between noninterest-bearing and interest-bearing deposit accounts as a result.

Interest-bearing deposits increased primarily due to an increase in money market deposits, which increased $222.8 million, or 70.0%, an increase in certificates of deposit of $119.8 million, or 78.0%, and an increase in regular savings deposits of $36.1 million, or 25.4%. The increase in money market deposits was primarily driven by an increase in deposits from BaaS customers. The increase in certificates of deposit was primarily driven by increased utilization of brokered certificates of deposit, which increased $99.9 million, or 83.2%, and were $220.0 million at September 30, 2023, compared to $120.1 million at December 31, 2022. Regular savings deposits increased, primarily due to the Bank obtaining deposits on a national exchange.

Included in the increase in total deposits was an increase of $163.6, or 159.2% million in specialty deposits, which were $266.4 million as of September 30, 2023, compared to $102.8 million as of December 31, 2022. Specialty deposits consist of deposits from BaaS and digital asset customers and span various product types, including demand, money market, and savings deposits. BaaS deposits totaled $213.9 million as of September 30, 2023 which represents a $168.6 million increase from December 31, 2022. Digital asset deposits totaled $52.5 million as of September 30, 2023, which represents a $5.0 million, or 8.7%, decrease from $57.5 million as of December

31, 2022. Management continues to refine the eligibility criteria for specialty deposit relationships and will exit when deemed appropriate. As a result of review and refinement of eligibility criteria, three specialty deposit relationships totaling $136.9 million as of September 30, 2023, will be exiting the Bank prior to year-end at the Bank's request. The relationships are currently deemed volatile and are included in the amount being held as cash in short-term investments.

The following table is a summary of deposit balances by account type at the dates indicated:

(In thousands)	At September 30, 2023	At December 31, 2022
Noninterest-bearing:		
Demand (1)	$ 385,488	$ 520,226
Interest-bearing:		
NOW	111,786	145,533
Regular savings	177,865	141,802
Money market deposits	541,200	318,417
Certificates of deposit:		
Certificate accounts of $250,000 or more	21,027	11,449
Certificate accounts less than $250,000	252,359	142,155
Total interest-bearing (2)	1,104,237	759,356
Total deposits (3)	$ 1,489,725	$ 1,279,582

(1) Noninterest-bearing deposits included $15.6 million and $40.2 million in BaaS deposits as of September 30, 2023 and December 31, 2022, respectively. Noninterest-bearing deposits included $52.5 million and $40.3 million in digital assets deposits as of September 30, 2023 and December 31, 2022, respectively.
(2) Interest-bearing deposits included $198.3 million in BaaS deposits and no digital assets deposits as of September 30, 2023. As of December 31, 2022, there were $5.0 million and $17.2 million interest-bearing BaaS and digital asset deposits, respectively.
(3) Of total deposits as of September 30, 2023 and December 31, 2022, the FDIC insured approximately 57% and 55%, respectively, and the remaining 43% and 45%, respectively, were insured through the DIF. The DIF is a private, industry-sponsored insurance fund that insures all deposits above FDIC limits at member banks.

Borrowings. Borrowings decreased $37.1 million, or 29.3%, to $89.7 million at September 30, 2023, from $126.8 million at December 31, 2022. The decrease was primarily driven by a decrease in overnight borrowings. During 2023 we have been able to use excess cash from loan repayments to fund our operations.

Shareholders' Equity. As of September 30, 2023, shareholders' equity was $217.6 million compared to $207.5 million at December 31, 2022, which represented an increase of $10.1 million, or 4.8%. The increase was primarily due to net income of $8.0 million. Also contributing to the increase was a one-time, cumulative-effect adjustment for the adoption of CECL which increased retained earnings by $696,000. Shareholders' equity also increased due to stock-based compensation expense of $981,000, and employee stock ownership plan shares earned of $568,000, partially offset by other comprehensive loss of $193,000.

Asset Quality.

The following table sets forth information regarding our non-performing assets at the dates indicated:

(Dollars in thousands)	At September 30, 2023	At December 31, 2022
Non-accrual loans:		
Commercial real estate	$ 155	$ 56
Commercial	235	101
Enterprise value	4,114	92
Digital asset	15,247	26,488
Residential real estate	381	227
Construction and land development	—	—
Consumer	4	—
Mortgage warehouse	—	—
Total non-accrual loans	20,136	26,964
Accruing loans past due 90 days or more	—	—
Other repossessed assets	—	6,051
Total non-performing assets	$ 20,136	$ 33,015
Total loans (1)	$ 1,337,689	$ 1,444,116
Total assets	$ 1,808,440	$ 1,636,381
Total non-performing loans to total loans (1)	1.51%	1.87%
Total non-performing assets to total assets	1.11%	2.02%

(1) Loans are presented at amortized cost.

The increase in the non-accrual enterprise value loan balances for the nine-month period ended September 30, 2023 was primarily related to the downgrade of one $4.0 million enterprise value loan relationship. The decrease in the non-accrual digital asset balance at September 30, 2023, was primarily related to paydowns in our portfolio of loans secured by cryptocurrency mining rigs, the payoff of a $4.8 million loan secured by cryptocurrency mining rigs during the first quarter of 2023, and the payoff of a $5.7 million line of credit during the second quarter of 2023.

Repayment of non-performing loans is largely dependent on the return of such loans to performing status or the liquidation of the underlying collateral. The Company pursues the resolution of all non-performing loans through collections, restructures, voluntary liquidation of collateral by the borrower and, where necessary, legal action. When attempts to work with a customer to return a loan to performing status, including restructuring the loan, are unsuccessful, the Company will initiate appropriate legal action seeking to acquire property by deed in lieu of foreclosure or through foreclosure, or to liquidate business assets.

The following table sets forth activity in our allowance for credit losses for the periods indicated:

	Nine Months Ended September 30,	
(Dollars in thousands)	2023	2022
Allowance at beginning of period	$ 28,069	$ 19,496
Impact of adopting ASC 326	(2,588)	—
Credit loss expense - loans	2,090	57,398
Charge-offs:		
Commercial real estate	1	—
Commercial	168	1,338
Enterprise value	3,566	351
Digital asset	—	46,350
Residential real estate	—	—
Construction and land development	—	—
Consumer	36	52
Mortgage warehouse	—	—
Total charge-offs	3,771	48,091
Recoveries:		
Commercial real estate	—	—
Commercial	160	131
Enterprise value	49	88
Digital asset	—	—
Residential real estate	5	—
Construction and land development	—	—
Consumer	9	24
Mortgage warehouse	—	—
Total recoveries	223	243
Net charge-offs	3,548	47,848
Allowance at end of period	$ 24,023	$ 29,046
Non-performing loans at end of period	$ 20,136	$ 21,567
Total loans outstanding at end of period (1)	1,337,689	1,507,497
Average loans outstanding during the period (1)	1,355,086	1,487,273
Allowance to non-performing loans	119.30%	134.68%
Allowance to total loans outstanding at end of period	1.80%	1.93%
Net charge-offs to average loans outstanding during the period (annualized)	0.35%	4.29%

(1) Loans are presented at amortized cost.

A credit loss expense for loans of $2.1 million was recognized for the nine months ended September 30, 2023, compared to a credit loss expense of $57.4 million for the nine months ended September 30, 2022, which represents a decrease of $55.3 million, or 96.4%. The credit loss expense for the nine months ended September 30, 2023 was primarily driven by the need to replenish the allowance due to net charge-offs of $3.6 million that occurred during the quarter ended March 31, 2023 in the enterprise value portfolio. The expense was partially offset by improvements in the near-term Gross Domestic Product ("GDP") and unemployment rate forecasts, as well as a reduction of the loan balances in the commercial real estate, commercial, and enterprise value loan portfolios. The credit loss expense of $57.4 million for the nine months ended September 30, 2022 was primarily caused by volatility in the Bitcoin markets during the second half of 2022, resulting in net charge-offs of $47.8 million for the nine months ended September 30, 2022.

Net charge-offs decreased $44.3 million, to $3.5 million for the nine months ended September 30, 2023 from $47.8 million for the nine months ended September 30, 2022. The reduction in net charge-offs was due primarily to the digital asset portfolio charge-offs caused by volatility in the Bitcoin markets in 2022, partially offset by $3.6 million in charge-offs related to the enterprise value loan portfolio during the first quarter of 2023.

Results of Operations for the Quarter Ended September 30, 2023 and 2022

General. Net income for the quarter ended September 30, 2023 was $2.5 million compared to net loss of $35.3 million for the quarter ended September 30, 2022, which represented an increase of $37.8 million, or 107.0%. The increase in net income was primarily driven by a decrease in the credit loss expense, partially offset by an increase in interest expense.

Interest and Dividend Income. Interest and dividend income increased $2.5 million, or 12.2%, to $23.2 million for the quarter ended September 30, 2023 from $20.7 million for the quarter ended September 30, 2022 due to rising interest rates and an increase in the average balance of short-term investments. The rising interest rates and increased balances of short-term investments resulted in interest earned on short-term investments of $3.2 million for the quarter ended September 30, 2023, compared to $357,000 for the quarter ended September 30, 2022. Interest earned on loans decreased $336,000, or 1.7%, to $19.8 million for the quarter ended September 30, 2023, compared to $20.1 million for the quarter ended September 30, 2022. The decrease in interest earned on loans was due to the $200.0 million, or 13.1%, reduction in the average balance of loans to $1.33 billion for the quarter ended September 30, 2023 from $1.53 billion for the quarter ended September 30, 2022. The decrease in interest earned on loans was partially offset by a 69 basis point increase in the yield on loans to 5.97% for the quarter ended September 30, 2023, compared to 5.28% for the quarter ended September 30, 2022.

Interest Expense. Interest expense increased $8.4 million to $9.3 million for the quarter ended September 30, 2023, from $952,000 for the quarter ended September 30, 2022. The increase was primarily due to rising interest rates and a larger proportion of higher-cost money market accounts, certificates of deposit, and savings accounts in the portfolio. Rising interest rates resulted in an increase in the cost of interest-bearing deposits of 297 basis points to 3.41% for the quarter ended September 30, 2023, compared to 0.44% for the quarter ended September 30, 2022. The increase in interest expense was also driven by an increase in the average balance of interest-bearing deposits of $305.0 million, or 39.8%, to $1.07 billion for the quarter ended September 30, 2023, compared to $765.4 million for the quarter ended September 30, 2022.

Net Interest and Dividend Income. Net interest and dividend income decreased by $5.9 million, or 29.7%, to $13.9 million for the quarter ended September 30, 2023, from $19.8 million for the quarter ended September 30, 2022. The decrease in net interest and dividend income was primarily the result of an increase in the average balance of interest-bearing liabilities of $310.6 million, or 39.6%, and a decrease in the average balance of interest-earning assets of $15.6 million, or 1.0%, coupled with a decrease in net interest margin of 141 basis points to 3.44% for the quarter ended September 30, 2023, compared to 4.85% for the quarter ended September 30, 2022.

Credit loss benefit/expense. A credit loss benefit of $156,000 was recognized for the quarter ended September 30, 2023, compared to a credit loss expense of $56.3 million for the quarter ended September 30, 2022. The credit loss benefit derived from loans was primarily due to reduced loan balances in the commercial and enterprise value loan portfolios and improvements in the near-term GDP and unemployment rate forecasts. The credit loss benefit was partially offset by an increase in the reserve for individually analyzed loans of $483,000 within the enterprise value portfolio. The credit loss expense of $56.3 million for the quarter ended September 30, 2022 was driven by volatility in the Bitcoin markets during the second half of 2022, resulting in net charge-offs of $46.2 million relating to loans secured by cryptocurrency mining rigs. The credit loss benefit derived from off-balance sheet credit exposure was primarily due to the funding of construction and land development loans as well as the closure of unutilized lines of credit.

Noninterest Income. Noninterest income was $1.8 million for the quarter ended September 30, 2023, which represents an increase of $426,000, or 31.8%, compared to the quarter ended September 30, 2022. The increase was due to increases in service charges and fees and customer service fees on deposit accounts. Service charges and fees increased $289,000, or 130.2%, to $511,000 for the quarter ended September 30, 2023, compared to $222,000 for the quarter ended September 30, 2022, primarily due to income from loan payoff charges on commercial real estate loans. Customer service fees on deposit accounts increased $114,000, or 14.4%, to $903,000 for the quarter ended September 30, 2023, compared to $789,000 for the quarter ended September 30, 2022, primarily due to increased implementation and activity fees charged to BaaS customers, partially offset by fees generated from customer debit card usage. BaaS implementation and activity fees on deposit accounts was $357,000 for the quarter ended September 30, 2023, compared to $105,000 for the quarter ended September 30, 2022.

Noninterest Expense. Noninterest expense was $12.7 million, which represents an increase of $671,000, or 5.6%, compared to the quarter ended September 30, 2022. The increase in noninterest expense was primarily due to increases in deposit insurance expense, professional fees, marketing expense, salaries and employee benefits, and software depreciation and implementation, partially offset by a decrease in other expenses. Deposit insurance increased $339,000, or 210.6%, to $500,000 for the quarter ended September 30, 2023, from $161,000 for the quarter ended September 30, 2022, due to an increase in the FDIC's insurance assessment rate schedules. Professional fees increased $298,000, or 40.5%, to $1.03 million for the quarter ended September 30, 2023, from $736,000 for the quarter ended September 30, 2022, primarily due to an increase in audit and compliance costs. Marketing fees increased $137,000, or 207.6%, to $203,000 for the quarter ended September 30, 2023, from $66,000 for the quarter ended September 30, 2022, primarily due to increased advertising. Salaries and employee benefits increased $123,000, or 1.6%, to $7.8 million for the quarter ended September 30, 2023, from $7.7 million for the quarter ended September 30, 2022, due to increased staff. Software depreciation and implementation increased $111,000, or 27.9%, to $509,000 for the quarter ended September 30, 2023, due to software licenses needed for increased staff to support strategic initiatives within the deposit products and services. Other expenses decreased $291,000, or 25.8%, to $837,000 for the quarter ended September 30, 2023, primarily due to elevated loan servicing expenses relating to loans secured by cryptocurrency mining rigs for the quarter ended September 30, 2022.

Income Tax Benefit. We recorded income tax expense of $628,000 for the quarter ended September 30, 2023, reflecting an effective tax rate of 20.3%, compared to an income tax benefit of $12.0 million for the quarter ended September 30, 2022, reflecting an effective tax rate of 25.3%.

Average Balance Sheet and Related Yields and Rates

The following table sets forth the average balance sheets, annualized average yields and costs, and certain other information for the periods indicated. No tax-equivalent yield adjustments have been made, as the amount of tax-free interest-earning assets is immaterial. All average balances are daily average balances. Non-accrual loans were included in the computation of average balances. The yields set forth below include the effect of deferred fees, discounts, and premiums that are amortized or accreted to interest income or interest expense.

	For the Three Months Ended					
	September 30, 2023			September 30, 2022		
(Dollars in thousands)	Average Balance	Interest Earned/ Paid	Yield/ Rate (6)	Average Balance	Interest Earned/ Paid	Yield/ Rate (6)
Assets:						
Interest-earning assets:						
Loans (1)(2)	$ 1,327,373	$ 19,811	5.97%	$ 1,526,917	$ 20,147	5.28%
Short-term investments	257,580	3,184	4.94%	70,178	357	2.03%
Debt securities available-for-sale	27,363	188	2.75%	30,950	190	2.46%
Federal Home Loan Bank stock	1,902	45	9.46%	1,752	13	2.97%
Total interest-earning assets	1,614,218	23,228	5.76%	1,629,797	20,707	5.08%
Non-interest earning assets	103,453			97,342		
Total assets	$ 1,717,671			$ 1,727,139		
Liabilities and shareholders' equity:						
Interest-bearing liabilities:						
Savings accounts	$ 184,239	$ 1,021	2.22%	$ 157,096	$ 80	0.20%
Money market accounts	551,344	5,207	3.78%	299,214	428	0.57%
NOW accounts	103,966	181	0.70%	243,426	171	0.28%
Certificates of deposit	230,884	2,704	4.68%	65,689	167	1.02%
Total interest-bearing deposits	1,070,433	9,113	3.41%	765,425	846	0.44%
Borrowings						
Short-term borrowings	14,897	196	5.26%	5,564	34	2.44%
Long-term borrowings	9,741	31	1.27%	13,500	72	2.13%
Total borrowings	24,638	227	3.69%	19,064	106	2.22%
Total interest-bearing liabilities	1,095,071	9,340	3.41%	784,489	952	0.49%
Noninterest-bearing liabilities:						
Noninterest-bearing deposits	391,917			681,681		
Other noninterest-bearing liabilities	13,864			17,343		
Total liabilities	1,500,852			1,483,513		
Total equity	216,819			243,626		
Total liabilities and equity	$ 1,717,671			$ 1,727,139		
Net interest income		$ 13,888			$ 19,755	
Interest rate spread (3)			2.35%			4.59%
Net interest-earning assets (4)	$ 519,147			$ 845,308		
Net interest margin (5)			3.44%			4.85%
Average interest-earning assets to interest-bearing liabilities	147.41%			207.75%		

(1) Interest earned/paid on loans includes mortgage warehouse loan origination fee income of $199,000 and $260,000 for the quarters ended September 30, 2023 and September 30, 2022, respectively.
(2) Includes loans held for sale.
(3) Net interest rate spread represents the difference between the weighted average yield on interest-bearing assets and the weighted average of interest-bearing liabilities.
(4) Net interest-earning assets represent total interest earning assets less total interest-bearing liabilities.
(5) Net interest margin represents net interest income divided by average total interest-earning assets.
(6) Annualized.

Rate/Volume Analysis

The following table sets forth the effects of changing rates and volumes on our net interest income. The rate column shows the effects attributable to changes in rate (changes in rate multiplied by prior volume). The volume column shows the effect attributable to changes in volume (changes in volume multiplied by prior 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 proportionately based on the changes due to rate and the changes due to volume.

	For the Three Months Ended September 30, 2023 Compared to the Three Months Ended September 30, 2022		
	Increase (Decrease) Due to		Total
(In thousands)	Rate	Volume	Increase (Decrease)
Interest-earning assets:			
Loans	$ 2,469	$ (2,805)	$ (336)
Short-term investments	986	1,841	2,827
Debt securities available-for-sale	21	(23)	(2)
Federal Home Loan Bank stock	31	1	32
Total interest-earning assets	3,507	(986)	2,521
Interest-bearing liabilities:			
Savings accounts	925	16	941
Money market accounts	4,154	625	4,779
NOW accounts	148	(138)	10
Certificates of deposit	1,495	1,042	2,537
Total interest-bearing deposits	6,722	1,545	8,267
Borrowings			
Short-term borrowings	66	96	162
Long-term borrowings	(24)	(17)	(41)
Total borrowings	42	79	121
Total interest-bearing liabilities	6,764	1,624	8,388
Change in net interest income	$ (3,257)	$ (2,610)	$ (5,867)

Results of Operations for the Nine Months Ended September 30, 2023 and 2022

General. Net income for the nine months ended September 30, 2023 was $8.0 million compared to net loss of $24.2 million for the nine months ended September 30, 2022, which represented an increase of $32.2 million, or 133.2%. The increase in net income was primarily driven by a decrease in the credit loss expense, partially offset by an increase in interest expense.

Interest and Dividend Income. Interest and dividend income increased $8.4 million, or 14.4%, to $66.7 million for the nine months ended September 30, 2023, compared to $58.3 million for the nine months ended September 30, 2022. The increase was primarily driven by an increase in interest on short-term investments of $5.7 million and an increase in interest and fees on loans of $2.6 million, or 4.5%. The yield on short-term investments increased 410 basis points to 4.87% for the nine months ended September 30, 2023, compared to 0.77% for the nine months ended September 30, 2022. The yield on loans increased 75 basis points to 5.85% for the nine months ended September 30, 2023, compared to 5.10% for the nine months ended September 30, 2022. The average balance of loans decreased $132.2 million, or 8.9%, to $1.36 billion for the nine months ended September 30, 2023, from $1.49 billion for the nine months ended September 30, 2022.

Interest Expense. Interest expense increased $20.1 million to $22.1 million for the nine months ended September 30, 2023, from $2.0 million for the nine months ended September 30, 2022. The increase was primarily due to rising interest rates, which resulted in increased costs of interest-bearing deposits and borrowings. The cost of interest-bearing deposits increased of 260 basis points to 2.90% for the nine months ended September 30, 2023, compared to 0.30% for the nine months ended September 30, 2022. The increase in interest expense was also driven by an increase in the average balance of interest-bearing deposits of $159.4 million, or 20.2%, to $950.2 million for the nine months ended September 30, 2023, compared to $790.8 million for the nine months ended September 30, 2022. The cost of borrowings increased 184 basis points to 3.94% for the nine months ended September 30, 2023, compared to 2.10% for the nine months ended September 30, 2022, primarily due to higher interest rates and an increase in the average total borrowings of $33.1 million, or 211.6%, to $48.8 million for the nine months ended September 30, 2023.

Net Interest and Dividend Income. Net interest and dividend income decreased by $11.7 million, or 20.7%, to $44.6 million for the nine months ended September 30, 2023 from $56.3 million for the nine months ended September 30, 2022. The decrease in net interest and dividend income was primarily the result of an increase in the average balance of interest-bearing liabilities of $192.6 million, or 23.9%, for the nine months ended September 30, 2023, and a decrease in the average balance of interest-earning assets of $99.2 million, or 6.0%, coupled with a decrease in net interest margin of 71 basis points to 3.80%.

Credit loss expense. A credit loss expense of $556,000 was recognized for the nine months ended September 30, 2023, compared to a credit loss expense of $57.4 million for the nine months ended September 30, 2022, which represents a decrease of $56.8 million, or 99.0%. The credit loss expense of $556,000 for the nine months ended September 30, 2023 was based on the current expected credit loss model, as opposed to the incurred loss model utilized prior to 2023, and was due to charge-offs in the enterprise value portfolio during the first quarter of 2023, followed by reduced loan balances and improving near-term GDP and unemployment rate forecasts causing a credit loss benefit during the second and third quarter of 2023. The credit loss expense of $57.4 million for the nine months ended September 30, 2022 was primarily caused by net charge-offs of $47.8 million.

Noninterest Income. Noninterest income was $5.4 million for the nine months ended September 30, 2023, which represents an increase of $1.2 million, or 28.6%, compared to the nine months ended September 30, 2022. The increase was due to customer service fees on deposit accounts, service charges and fees, and other income, partially offset by a decrease in gain on loans sold. Customer service fees on deposit accounts increased $662,000, or 33.3%, to $2.7 million for the nine months ended September 30, 2023, due to implementation and activity fees charges to BaaS customers. BaaS implementation and activity fees on deposit accounts were $840,000 for the nine months ended September 30, 2023, compared to $184,000 for the nine months ended September 30, 2022. Service charges and fees increased $439,000 to $1.5 million for the nine months ended September 30, 2023, due to income from loan payoff charges on commercial real estate loans. Other income increased $330,000 primarily due to gains on sales of other repossessed assets and insurance proceeds received for replacement of damaged equipment. Gain on loans sold decreased $272,000 primarily due to the sale of residential mortgage loans in June 2022. No loans were sold in 2023.

Noninterest Expense. Noninterest expense was $38.7 million for the nine months ended September 30, 2023, which represents an increase of $3.9 million, or 11.3%, compared to $34.8 million for the nine months ended September 30, 2022. The increase was due to salaries and employee benefits, professional fees, deposit insurance expense, and software depreciation and implementation expense, partially offset by decreases in write downs of other assets and receivables and other expenses. Salaries and employee benefits increased $2.3 million, or 10.2%, for the nine months ended September 30, 2023, primarily due to an increase in staff to support strategic initiatives within the deposit products and services. Professional fees increased $1.2 million, or 54.4%, for the nine months ended September 30, 2023 due to increased legal, audit, and compliance costs which were elevated for the first quarter of 2023, due to the events that led to losses recorded during 2022. Deposit insurance increased $680,000, or 145.9%, for the nine months ended September 30, 2023, primarily due to an increase in the FDIC’s insurance assessment rate schedules. Software depreciation and implementation expenses increased $390,000, or 38.3%, for the nine months ended September 30, 2023 primarily due to software licenses needed for increased staff. Write downs of other assets and receivables decreased $395,000 due to a write down of an SBA receivable in the first quarter of 2022. Other expenses decreased $355,000, or 13.0%, for the nine months ended September 30, 2023, primarily due to elevated loan servicing expenses relating to loans secured by cryptocurrency mining rigs for the nine months ended September 30, 2022.

Income Tax Benefit. We recorded income tax expense of $2.8 million for the nine months ended September 30, 2023, reflecting an effective tax rate of 25.6%, compared to an income tax benefit of $7.5 million for the nine months ended September 30, 2022, reflecting an effective tax rate of 23.8%.

Average Balance Sheet and Related Yields and Rates

The following table sets forth the average balance sheets, annualized average yields and costs, and certain other information for the periods indicated. No tax-equivalent yield adjustments have been made, as the amount of tax-free interest-earning assets is immaterial. All average balances are daily average balances. Non-accrual loans were included in the computation of average balances. The yields set forth below include the effect of deferred fees, discounts, and premiums that are amortized or accreted to interest income or interest expense.

	For the Nine Months Ended September 30,					
	2023			2022		
(Dollars in thousands)	Average Balance	Interest Earned/ Paid	Yield/ Rate (6)	Average Balance	Interest Earned/ Paid	Yield/ Rate (6)
Assets:						
Interest-earning assets:						
Loans (1)(2)	$ 1,355,086	$ 59,469	5.85%	$ 1,487,273	$ 56,917	5.10%
Short-term investments	179,086	6,545	4.87%	141,984	816	0.77%
Debt securities available-for-sale	28,118	577	2.74%	33,135	555	2.23%
Federal Home Loan Bank stock	2,262	140	8.25%	1,312	21	2.13%
Total interest-earning assets	1,564,552	66,731	5.69%	1,663,704	58,309	4.67%
Non-interest earning assets	106,722			90,648		
Total assets	$ 1,671,274			$ 1,754,352		
Liabilities and shareholders' equity:						
Interest-bearing liabilities:						
Savings accounts	$ 158,927	$ 1,540	1.29%	$ 154,516	$ 171	0.15%
Money market accounts	460,129	11,669	3.38%	341,019	888	0.35%
NOW accounts	115,568	529	0.61%	233,529	389	0.22%
Certificates of deposit	215,625	6,946	4.30%	61,717	329	0.71%
Total interest-bearing deposits	950,249	20,684	2.90%	790,781	1,777	0.30%
Borrowings						
Short-term borrowings	34,098	1,250	4.89%	2,161	34	2.10%
Long-term borrowings	14,701	191	1.73%	13,500	213	2.10%
Total borrowings	48,799	1,441	3.94%	15,661	247	2.10%
Total interest-bearing liabilities	999,048	22,125	2.95%	806,442	2,024	0.33%
Noninterest-bearing liabilities:						
Noninterest-bearing deposits	441,006			688,784		
Other noninterest-bearing liabilities	17,880			19,311		
Total liabilities	1,457,934			1,514,537		
Total equity	213,340			239,815		
Total liabilities and equity	$ 1,671,274			$ 1,754,352		
Net interest income		$ 44,606			$ 56,285	
Interest rate spread (3)			2.74%			4.34%
Net interest-earning assets (4)	$ 565,504			$ 857,262		
Net interest margin (5)			3.80%			4.51%
Average interest-earning assets to interest-bearing liabilities	156.60%			206.30%		

(1) Interest earned/paid on loans includes mortgage warehouse loan origination fee income of $674,000 and $841,000 for the nine months ended September 30, 2023 and September 30, 2022, respectively.
(2) Includes loans held for sale.
(3) Net interest rate spread represents the difference between the weighted average yield on interest-bearing assets and the weighted average rate of interest-bearing liabilities.
(4) Net interest-earning assets represent total interest-earning assets less total interest-bearing liabilities.
(5) Net interest margin represents net interest income divided by average total interest-earning assets.
(6) Annualized.

Rate/Volume Analysis

The following table sets forth the effects of changing rates and volumes on our net interest income. The rate column shows the effects attributable to changes in rate (changes in rate multiplied by prior volume). The volume column shows the effect attributable to changes in volume (changes in volume multiplied by prior 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 proportionately based on the changes due to rate and the changes due to volume.

	For the Nine Months Ended September, 2023 Compared to the Nine Months Ended September 30, 2022		
	Increase (Decrease) Due to		Total
(In thousands)	Rate	Volume	Increase (Decrease)
Interest-earning assets:			
Loans	$ 7,891	$ (5,339)	$ 2,552
Short-term investments	5,463	266	5,729
Debt securities available-for-sale	114	(92)	22
Federal Home Loan Bank stock	95	24	119
Total interest-earning assets	13,563	(5,141)	8,422
Interest-bearing liabilities:			
Savings accounts	1,364	5	1,369
Money market accounts	10,367	414	10,781
NOW accounts	413	(273)	140
Certificates of deposit	4,428	2,189	6,617
Total interest-bearing deposits	16,572	2,335	18,907
Borrowings			
Short-term borrowings	100	1,116	1,216
Long-term borrowings	(40)	18	(22)
Total borrowings	60	1,134	1,194
Total interest-bearing liabilities	16,632	3,469	20,101
Change in net interest income	$ (3,069)	$ (8,610)	$ (11,679)

Management of Market Risk

Net Interest Income Simulation. We analyze our sensitivity to changes in interest rates through a net interest income simulation model. Net interest income is the difference between the interest income we earn on our interest-earning assets, such as loans and securities, and the interest we pay on our interest-bearing liabilities, such as deposits and borrowings. We estimate what our net interest income would be for a 12-month period in the current interest rate environment. We then calculate what the net interest income would be for the same period under the assumption that interest rates increase 100, 200, and 300 basis points from current market rates and under the assumption that interest rates decrease 100, 200 and 300 basis points from current market rates, with changes in interest rates representing immediate and permanent, parallel shifts in the yield curve.

The following table presents the estimated changes in net interest income of the Company that would result from changes in market interest rates over twelve-month periods beginning September 30, 2023:

	At September 30, 2023	
(Dollars in thousands)	Estimated Net Interest Income Over Next 12 Months	Change
Changes in Interest Rates (Basis Points)		
300	$ 56,289	1.30%
200	56,045	0.90%
100	55,800	0.50%
0	55,540	—
(100)	55,158	(0.70)%
(200)	54,276	(2.30)%
(300)	52,892	(4.80)%

Economic Value of Equity Simulation. We also analyze the sensitivity of our financial condition to changes in interest rates through an economic value of equity ("EVE") model. EVE represents the present value of the expected cash flows from our assets less the present value of the expected cash flows arising from our liabilities adjusted for the value of off-balance sheet contracts. We estimate what our EVE would be as of a specific date. We then calculate what EVE would be as of the same date throughout a series of interest rate scenarios representing immediate and permanent, parallel shifts in the yield curve. We currently calculate EVE under the assumptions that interest rates increase 100, 200, and 300 basis points from current market rates, and under the assumption that interest rates decrease 100, 200 and 300 basis points from current market rates.

The following table presents the estimated changes in EVE of the Company that would result from changes in market interest rates as of September 30, 2023:

	At September 30, 2023	
(Dollars in thousands)	Economic Value of Equity	Change
Changes in Interest Rates (Basis Points)		
300	$ 254,573	(4.36)%
200	257,138	(3.39)%
100	262,394	(1.42)%
0	266,175	—
(100)	266,357	0.07%
(200)	262,283	(1.46)%
(300)	250,899	(5.74)%

Certain shortcomings are inherent in the methodologies used in the above interest rate risk measurements. Modeling changes require making certain assumptions that may or may not reflect the manner in which actual yields and costs respond to changes in market interest rates. In this regard, the tables presented above assume that the composition of our interest-sensitive assets and liabilities existing at the beginning of a period remains constant over the period being measured and assume that a particular change in interest rates is reflected uniformly across the yield curve regardless of the duration or repricing of specific assets and liabilities. Accordingly, although the tables provide an indication of our interest rate risk exposure at a particular point in time, such measurements are not intended to and do not provide a precise forecast of the effect of changes in market interest rates on our net interest income and will differ from actual results.

Liquidity and Capital Resources

Liquidity is the ability to meet current and future financial obligations of a short-term nature. Our primary sources of funds consist of deposit inflows, borrowings, loan repayments and maturities, and sales of securities. While maturities and scheduled amortization of loans and securities are predictable sources of funds, deposit flows, mortgage prepayments and sales of securities are greatly influenced by general interest rates, economic conditions and competition.

We regularly review the need to adjust our investments in liquid assets based upon our assessment of: (1) expected loan demand, (2) expected deposit flows, (3) yields available on interest-earning deposits and securities, (4) the objectives of our asset/liability management program, and (5) the amount of volatile deposits. Excess liquid assets are generally invested in interest-earnings deposits and short- and intermediate-term securities.

Our most liquid assets are cash and cash equivalents. The levels of these assets are dependent on our operating, financing, lending and investing activities during any given period. At September 30, 2023, cash and cash equivalents totaled $366.4 million. Included in cash and cash equivalents are volatile deposits the Company is currently holding as cash in short-term investments. The Company deems deposits as volatile when they meet any of the following criteria: management believes the deposits may not be suitable for funding long-term assets, management has received notice that the deposit customer will exit the Bank, or management believes the deposit amount poses a concentration risk. New BaaS relationships that contribute any deposit amount exceeding 2% of total deposits are deemed volatile. In addition, existing BaaS deposit relationships are individually reviewed for volatility due to the size of the relationships and the need to have access to deposits in a shorter timeframe than traditional deposits.

The Bank deemed $249.7 million deposits as volatile as of September 30, 2023, compared to no deposits deemed volatile as of December 31, 2022. As a result of review of the specialty deposit relationships, three relationships totaling $136.9 million deemed volatile as of September 30, 2023 will be exiting the bank prior to year-end at the Bank's request.

Securities classified as available-for-sale provide additional sources of liquidity, which totaled $26.2 million at September 30, 2023. Mortgage warehouse loans that have a short-term duration also provide additional sources of liquidity. The balance of mortgage warehouse loans that meets the definition of liquid assets totaled $138.9 million as of September 30, 2023.

At September 30, 2023, we had the ability to borrow $128.9 million from the Federal Home Loan Bank of Boston. On that date, we had $89.7 million in advances outstanding. At September 30, 2023, we also had an available line of credit with the Federal Reserve Bank of Boston's borrower-in-custody program of $158.0 million, none of which was outstanding as of that date.

We have no material commitments or demands that are likely to affect our liquidity other than as set forth below. In the event loan demand were to increase faster than expected, or any unforeseen demand or commitment were to occur, we could access our borrowing capacity with the Federal Home Loan Bank of Boston or obtain additional funds through brokered certificates of deposit.

We are a party to financial instruments with off-balance sheet risk in the normal course of business to meet the financing needs of our customers. These financial instruments include commitments to extend credit, which involve elements of credit and interest rate risk in excess of the amount recognized in the consolidated balance sheets. At September 30, 2023 and December 31, 2022, we had $18.1 million and $6.1 million in loan commitments outstanding, respectively. In addition to commitments to originate loans, at September 30, 2023 and December 31, 2022, we had $190.5 million and $347.7 million in unadvanced funds to borrowers, respectively. We also had $1.1 million and $1.7 million in outstanding letters of credit at September 30, 2023 and December 31, 2022, respectively.

A significant decrease in deposits could result in the Company having to seek other sources of funds, including brokered certificates of deposit, deposits obtained from national exchanges, Federal Home Loan Bank of Boston advances, and borrowings through the borrower-in-custody program with the Federal Reserve Bank of Boston. Depending on market conditions, we may be required to pay higher rates on such deposits or other borrowings than we currently pay. We believe, however, based on past experience that a significant portion of our deposits will remain with us. We have the ability to attract and retain deposits by adjusting the interest rates offered.

The Company maintains access to multiple sources of liquidity. If funding costs are elevated for an extended period of time, it could have an adverse effect on the Company's net interest margin. If an extended recession causes large numbers of the Company's deposit customers to withdraw their funds, the Company might become more reliant on volatile or more expensive sources of funding.

The Bank is subject to various regulatory capital requirements administered by the Massachusetts Commissioner of Banks and the FDIC. At September 30, 2023, BankProv exceeded all applicable regulatory capital requirements, and was considered "well capitalized" under regulatory guidelines. See Note 11 of the Notes to the Unaudited Consolidated Financial Statements for additional information.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

See Item 2. "Management's Discussion and Analysis of Financial Condition and Results of Operations – Management Market Risk".

Item 4. Controls and Procedures

An evaluation was performed under the supervision and with the participation of the Company's management, including (i) the Co-President and Co-Chief Executive Officer and (ii) the Co-President and Co-Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) promulgated under the Securities and Exchange Act of 1934, as amended) as of September 30, 2023. Based on that evaluation, the Company's management, including (i) the Co-President and Co-Chief Executive Officer and (ii) the Co-President and Co-Chief Executive Officer and Chief Financial Officer, concluded that the Company's disclosure controls and procedures were not effective because of the material weakness in internal control over financial reporting as described in Management's Report Regarding Internal Control Over Financial Reporting in "Item 9A. Controls and Procedures" in its Annual Report on Form 10-K for the year ended December 31, 2022.

Other than the measures described below taken in response to the material weakness, no change in the Company's internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) occurred during the fiscal quarter covered by this report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Remediation

The Company has commenced the implementation of the remediation measures with respect to the material weakness outlined in its Annual Report on Form 10-K for the year ended December 31, 2022 related to digital asset lending practices. As part of its remediation efforts, the Company has:

- been deploying its revised strategic plan approved in the first quarter of 2023 that ceases the origination of new loans secured by cryptocurrency mining rigs;
- developed an appropriate onboarding process for internal conflicts of interest that establishes proper internal controls to sufficiently address the related risks; and
- implemented enhanced procedures, including the annual review and disclosure to the Board of identified internal conflicts of interest as they relate to officers of the Company, and the timely disclosure to the Board of identified potential internal conflicts related to officers of the Company, which should include detail regarding management's assessment of related risks.

Although Management feels the remediation plan is sufficiently designed to address the material weakness, it cannot determine when all of its remediation plans will be fully completed or provide assurance that these remediation efforts will be successful or that our internal control over financial reporting will be effective as a result of these efforts. The material weakness will be considered fully remediated once the enhanced controls operate for a sufficient period of time and Management has concluded, through testing, that these controls are designed and operating effectively.

Changes in Internal Control over Financial Reporting

Other than the remediation efforts with respect to the material weakness as described above, there were no changes in the Company's internal control over financial reporting during the quarter ended September 30, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Part II – Other Information

Item 1. Legal Proceedings

Not applicable.

Item 1A. Risk Factors

There have been no material changes in risk factors applicable to the Company from those disclosed in "Risk Factors" in Item 1A of the Company's Annual Report on Form 10-K for the year ended December 31, 2022 and Item 1A of the Company's Quarterly Report on form 10-Q for the three months ended March 31, 2023.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(a) Not applicable.

(b) Not applicable.

(c) On March 12, 2021, the Company announced that its Board of Directors had adopted a stock repurchase program under which it would repurchase up to 1,400,000 shares of its common stock, or approximately 7.5% of the then-current outstanding shares. The repurchase program has no expiration date. The Company did not repurchase common stock under the repurchase program during the third quarter of 2023. At September 30, 2023, the Company had 254,521 shares of its common stock available for purchase under this program.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

Not applicable.

Item 5. Other Information

None.

Item 6. Exhibits

3.1	Articles of Incorporation of Provident Bancorp, Inc. (1)
3.2	Bylaws of Provident Bancorp, Inc. (1)
3.3	Amendment to Bylaws (2)
31.1	Certification of Co-Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certification of Co-Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32	Certification of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	The following financial statements from the Provident Bancorp, Inc. Quarterly Report on Form 10-Q for the quarter ended September 30, 2023, formatted in Inline Extensible Business Reporting Language (iXBRL): (i) Consolidated Balance Sheets; (ii) Consolidated Statements of Operations; (iii) Consolidated Statements of Comprehensive Income; (iv) Consolidated Statements of Changes in Shareholders' Equity; (v) Consolidated Statements of Cash Flows; and (vi) Notes to Unaudited Consolidated Financial Statements.
104	Cover Page Interactive Data File (formatted as iXBRL and contained in exhibit 101).

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(1) Incorporated by reference to the Company's Registration Statement on Form S-1 (file no. 333-232018), initially filed with the Securities and Exchange Commission on June 7, 2019.
(2) Incorporated by reference to the Company's Current Report on Form 8-K (file no. 001-39090), filed with the Securities and Exchange Commission on March 29, 2021.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

	PROVIDENT BANCORP, INC.
Date: November 13, 2023	/s/ Joseph B. Reilly Joseph B. Reilly Co-President and Co-Chief Executive Officer
Date: November 13, 2023	/s/ Carol L. Houle Carol L. Houle Co-President and Co-Chief Executive Officer, and Chief Financial Officer

Exhibit 31.1

Certification of Co-Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Joseph B. Reilly, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Provident Bancorp, Inc.;

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

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

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

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

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

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 13, 2023	/s/ Joseph B. Reilly
	Joseph B. Reilly Co-President and Co-Chief Executive Officer

Exhibit 31.2

Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Carol L. Houle, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Provident Bancorp, Inc.;

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

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

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

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

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

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 13, 2023	/s/ Carol L. Houle
	Carol L. Houle
	Co-President and Co-Chief Executive Officer, and Chief Financial Officer

Exhibit 32

Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Joseph B. Reilly, Co-President and Co-Chief Executive Officer of Provident Bancorp, Inc. (the “Company”), and Carol L. Houle, Co-President and Co-Chief Executive Officer, and Chief Financial Officer of the Company, each certify in his or her capacity as an officer of the Company that they have reviewed the quarterly report on Form 10-Q for the quarter ended September 30, 2023 (the “Report”) and that to the best of their knowledge:

1. The Report fully complies with the requirements of Sections 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 13, 2023	/s/ Joseph B. Reilly
	Joseph B. Reilly Co-President and Co-Chief Executive Officer
Date: November 13, 2023	/s/ Carol L. Houle
	Carol L. Houle Co-President and Co-Chief Executive Officer, and Chief Financial Officer

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