ANNUAL REPORT 2019

CortlandBancorp

2019 Letter to Shareholders

Dear Fellow Shareholders:

I am pleased to tell you that Cortland Bank finished another successful year, meeting our profitability goals and achieving solid financial performance in several notable areas. Despite a changing rate environment that challenged the profitability of many banks, we expanded our net interest margin and our return on assets and equity were in line with those of all publicly traded Ohio Banks.

Throughout calendar year 2019 we achieved modest loan growth despite a higher-than-normal level of loan payoffs, while core deposits and overall average deposits continued to grow. Highlights of such success are best exemplified by deposit growth in two of our newer branches in the communities of Hudson and Canfield, which recorded deposit growth rates of 40% and 9% respectively. Our mortgage lending team also receives special recognition for wrapping up a banner year, demonstrated by strong volume, improved margin and an overall increase in income from secondary market sales.

Since it has worked so well for us in the past, we continued our focus last year on organic growth through branch expansion. In early 2019, we opened our branch in Strongsville, which became our 14th location and allowed us to extend our geographic footprint westward. We continued our long legacy—more than 30 years—in the Hubbard Ohio community by breaking ground on a new contemporary branch facility which opened in early 2020. The new branch is not only a visibly appealing upgrade from the previous location, but it is also strategically located for growth in the heart of the community.

A highlight of the year was our transition to the Nasdaq Capital Market stock exchange. This move significantly enhances our visibility on the national exchange level and allows us to attract more institutional investors in order to better diversify our shareholder base.

Enhancing shareholder value remained a top priority for our Board which rewarded our investors for their continued loyalty to the bank by authorizing a special $.05 dividend at year end and increasing the regular quarterly dividend (effectively raising the dividend yield to 2.7%). Such return is highly attractive in light of expectations of margin compression and revenue and earnings pressures, resulting from a low-interest rate environment. The Bank is working to continue to increase earnings per share through its aggressive stock repurchase program.

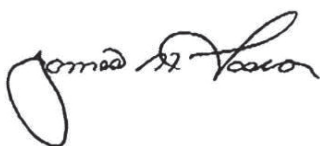
As we look to enhance shareholder value, we are working to bring added value to our customers in other ways, as well. Over the last three years, Cortland Bank has launched online account opening, online mortgage application processing, and online financial education. We also plan to implement technology solutions to streamline processing of certain small business credits and automated boarding of loans which will reduce turnaround time for loan approvals and improve the overall customer experience. Ever alert to changes in the market that could threaten the security of our customers' finances, we recruited a new board member in 2019—Hicham Chahine—who previously served as an information systems and security executive. His expertise has proven invaluable in helping us to identify vulnerabilities and put in place new security safeguards designed to protect customers, as well as the Bank.

As a community bank, we take great pride in reinvesting in the communities that have served us so well for so long. We do that by providing volunteers and financial support to area schools, as well as multiple nonprofits and community-based organizations. We continue to be recognized as a United Way Change Maker and, in 2019, Junior Achievement of the Mahoning Valley honored Cortland Bank with its Special Events Partner award. We sponsored the Mahoning Valley Economic Development Corp's Edge Revolving Loan Fund that provides access to capital for small business owners in economically disadvantaged populations. These are just a few of the many examples of our Bank giving back to the community.

Between our strong track record of solid financial performance, our ability to compete with the larger regional and national banks, and our long-standing reputation for supporting the neighborhoods where we do business, we have continued to demonstrate our superior value proposition.

On behalf of our directors, officers and employees, we thank you for your ownership, confidence in and commitment to our community bank. I look forward to updating you as this year unfolds and hope to see you at our annual shareholder meeting on April 29, 2020.

Sincerely,



James M. Gasior
President and Chief Executive Officer

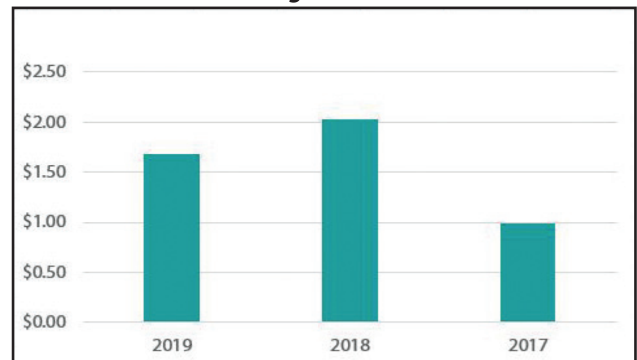
Photography by Libby Greene/Nasdaq, Inc.

Financial Highlights

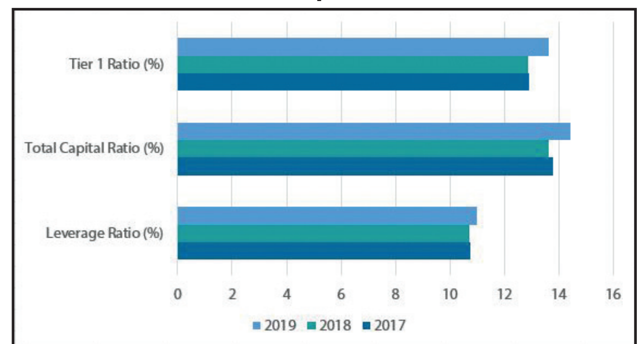
Amounts in thousands, except per share data

SUMMARY OF OPERATIONS	2019	2018	2017
Net interest income	$ 24,089	$ 23,366	$ 20,302
Provision for loan losses	$ 715	$ 725	$ 100
Non-interest income	$ 5,022	$ 5,692	$ 5,166
Non-interest expense	$ 19,755	$ 18,083	$ 18,601
Income before income tax	$ 8,641	$ 10,250	$ 6,767
Federal income tax expense	$ 1,359	$ 1,415	$ 2,417
Net income	$ 7,282	$ 8,835	$ 4,350
PER COMMON SHARE DATA			
Earnings per share	$ 1.68	$ 2.03	$ 0.99
Dividends per share	$ 0.50	$ 0.49	$ 0.39
Book value	$ 17.19	$ 14.92	$ 13.94
BALANCE SHEET DATA			
Assets	$ 737,162	$ 714,666	$ 711,101
Investment securities	$ 138,966	$ 139,504	$ 162,422
Total loans	$ 518,716	$ 514,392	$ 487,490
Total deposits	$ 618,381	$ 604,419	$ 585,851
Borrowings	$ 31,077	$ 35,361	$ 53,833
Shareholders' equity	$ 74,338	$ 64,918	$ 61,630
FINANCIAL RATIOS			
Return on average equity	10.32%	14.36%	7.25%
Return on average assets	1.04%	1.31%	0.68%
Net interest margin	3.79%	3.76%	3.59%
Efficiency ratio	67.01%	64.82%	72.92%
Dividend payout	29.76%	24.14%	39.39%
ASSET QUALITY RATIOS			
Net charge-offs to average loans	0.09%	0.23%	0.09%
Non-performing assets as a % of assets	1.16%	1.42%	0.85%
CAPITAL RATIOS			
Tier 1 capital	13.63%	12.88%	12.91%
Total capital	14.43%	13.63%	13.79%
Tier 1 leverage capital	10.98%	10.72%	10.77%
Common Equity tier 1 capital	12.76%	12.01%	11.97%

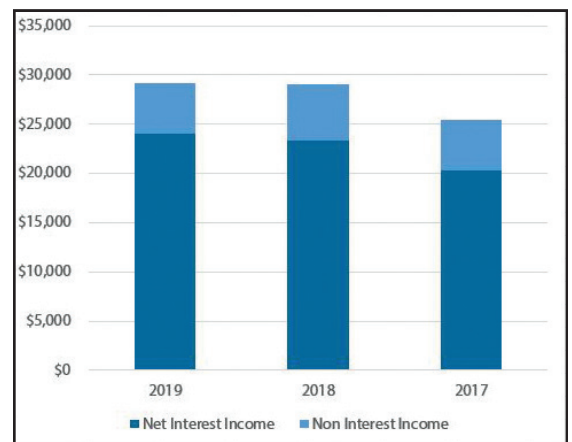
Earnings Per Share



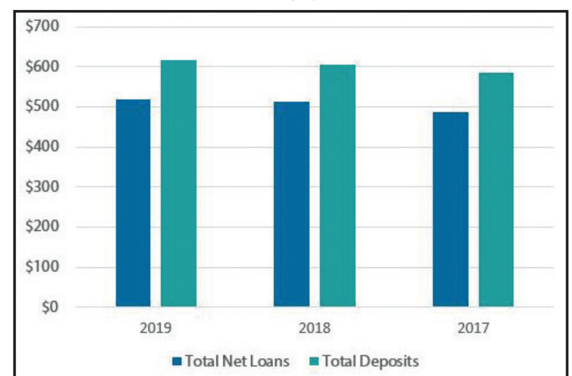
Well Capitalized



Total Revenues
in thousands



Loans and Deposits
in millions



Board of Directors

TIMOTHY K. WOOFTER
Chairman of the Board
President and Chief Executive Officer, Stan-Wade Metal Products
Tank Manufacturer and Oil Equipment Distributor

THOMAS P. PERCIAK
Vice Chairman of the Board
Mayor, Strongsville, OH
Government

TIMOTHY CARNEY
Executive Vice President and Chief Operating Officer
Cortland Bancorp and The Cortland Savings and Banking Company

DAVID C. COLE
Partner and President, Cole Valley Motor Company
Automobile Dealership

HICHAM CHAHINE
Retired Principal
Crowe LLP.

JAMES M. GASIOR
President and Chief Executive Officer
Cortland Bancorp and The Cortland Savings and Banking Company

JAMES E. HOFFMAN, III
Attorney, Hoffman and Walker
Law Firm

NEIL J. KABACK
Vice President, Cohen & Company, Ltd.
Accounting Firm

JOSEPH E. KOCH
President, Joe Koch Construction
Homebuilding, Developing and Remodeling Company

JOSEPH P. LANGHENRY
Managing Principal, Langhenry Venture Partners
Investment Firm

RICHARD B. THOMPSON
Executive, Therm-O-Link, Inc.
Electrical Wire and Cable Manufacturer

ANTHONY R. VROSS
Executive, Simon Roofing
Commercial Roofing and Industrial Roof Maintenance

DIRECTOR EMERITUS
K. RAY MAHAN

Executive Officers

JAMES M. GASIOR
President
& Chief Executive Officer

TIMOTHY CARNEY
Executive Vice President
& Chief Operating Officer

DAVID J. LUCIDO
Senior Vice President
& Chief Financial Officer

STANLEY P. FERET
Senior Vice President
& Chief Lending Officer

Shareholder Information

Shareholder Contact Information

Cortland Bancorp
194 West Main Street
Cortland, OH 44410
330.282.4132
www.cortlandbank.com/invest

Quarterly Financial Releases

Cortland Bancorp's financial results are available quarterly. Releases are available on Cortland Bancorp's website, www.cortlandbank.com/invest. Copies can also be obtained by calling 330.282.4132.

Annual Meeting of Shareholders

The Company's 2020 Annual Meeting of Shareholders will be held at 10:00 a.m. on Wednesday, April 29, 2020 at Squaw Creek, 761 Youngstown Kingsville Road SE, Vienna, OH 44473.

American Stock Transfer

Mailing Address and Registered Overnight Packages:
American Stock Transfer & Trust Company, LLC., 6201 15th Avenue , Brooklyn, NY 11219
Toll Free: (800) 934-5449 or (888) 509-4619 **Local & International:** (718) 921-8124
TDD: (866) 703-9077 (toll free for hearing impaired) **TDD:** (718) 921-8124 (local & international for hearing impaired)
Email: help@astfinancial.com
Website: ASTFinancial.com

Dividend Reinvestment and Direct Stock Purchase Plan

Cortland Bancorp offers an Amended and Restated Dividend Reinvestment Plan (DRIP) that allows for the automatic investment of dividends into additional shares of stock without incurring a brokerage commission or service fee. Interested shareholders should contact our investor relations department, 330.232.4132.

Direct Deposit of Dividends

Shareholders of record may have their dividends directly deposited into their bank accounts. Interested shareholders should contact our investor relations department, 330.232.4132.

NASDAQ: CLDB

2019 Performance

The foundation of our corporate strategy is to build a significant community business bank and cater to small and medium-sized companies, their owners and professionals.

Market Expansion

Cortland Bank operates across Cuyahoga, Trumbull, Mahoning, Portage, and Summit counties, with a financial services center in Fairlawn. In **February of 2019, the Bank opened its 14th branch in Strongsville, Ohio**. This location offers full-service consumer and personal banking services, mortgage lending, commercial lending, private banking, and treasury management. Since its opening, the Strongsville office has seen **positive deposit and loan growth.**

Construction on a **new**, **freestanding** and **customer friendly office in Hubbard, Ohio was completed** and opened on January 6, 2020.

In 2019, **total core deposits for the bank grew by 7.1%**. The **innovative** rewards checking account program was **expanded to include a new, higher rate** checking and savings account.

Lending

The Bank's **core loan portfolio grew by more than 4.2%, led by 4.3% core growth in commercial and industrial loans.**

The mortgage lending team originated over **$87 million in residential real estate loans** in 2019, while the **commercial lending team originated more than $119 million in new loans.**

Wealth Partner

Cortland Private Wealth Management offers customers access to a robust line of services, expanding investment and wealth management options to include private asset management, financial and estate planning and advisory services.

Your Partner in Technology

Cortland Bank **strives to implement the latest technologies** consumers seek while still providing face-to-face interactions and assistance with everyday banking transactions. In the last three years, Cortland Bank has launched **online account opening**, an **online mortgage application process**, and **online financial education.** Providing these services online allows consumers to manage their finances anywhere at any time.

As technology continues to evolve, so does the sophistication of cybercrime incidents and data breaches. As businesses expand their focus on system securities, in 2019 **Cortland recruited to its Board of Directors, an information systems and security executive. Hicham Chahine**, who recently retired as a principal from a professional service firm which provides security and information systems consulting services to the banking industry, brings a valued skill set to the Cortland Board.

Strongsville Branch

Hubbard Branch

Supporting our Community

Cortland Bank takes pride in supporting the community through advocating, giving, partnering, volunteering and engaging with a variety of non-profit and local organizations. Cortland Bank's commitment to serving our community is highlighted below in three key areas.

Leaders in Community Service

Our Executives and Officers serve as board members at the following:

• BRITE Energy Innovation Center • Eastern Gateway Community College • Eastern Gateway Community College Foundation •
• Fairhaven Foundation • Ohio Foundation of Independent Colleges • Trumbull Regional Medical Center • Upward Bound •
• South Range Schools Foundation • Community Improvement Corporation of Warren and Trumbull County •
• United Way of Trumbull County • United Way of Youngstown and the Mahoning Valley •
• Youngstown Warren Regional Chamber of Commerce •

Commitment to Education

The Bank is committed to supporting and furthering the educational opportunities for our employees, students and families. Partnering with Junior Achievement, our staff has taught financial literacy and career readiness lessons to elementary, middle and high school students. Over the past five years, Cortland Bank has sent more than 30 volunteers into local classrooms, reaching nearly 1,300 students.

Cortland Bank continues to offer a scholarship program to assist students attending one of the 33 Ohio Independent Colleges or Youngstown State University in the fields of business, finance, accounting, information technology or human resource management.

Contributions and Stewardship

The Bank is proud to provide contributions and volunteers for local organizations such as:

• American Heart Association • Akron Children's Hospital • Beatitude House • BRITE Energy Innovation Center • Cortland Rotary •
• Junior Achievement of the Mahoning Valley • Relay for Life • Second Harvest Food Bank • The Salvation Army • Someplace Safe •
• Trumbull Family Fitness • United Way •

Additionally, the Bank has invested in affordable housing initiatives in partnership with the Ohio Capital Corporation for Housing.

The ringing of either the opening or closing stock market bell is a time-honored tradition for companies trading on the Nasdaq capital market stock exchange. On May 17, 2019, Bank officers and directors participated in that long-standing tradition by ringing the closing bell to officially mark the Nasdaq listing.

Photography by Libby Greene/Nasdaq, Inc.

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2019

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

For the transition period from ______ to ______

Commission File Number 001-38827

CORTLAND BANCORP

(Exact Name of Registrant as Specified in its Charter)

Ohio **(State or Other Jurisdiction of Incorporation or Organization)**	**34-1451118** **(I.R.S. Employer Identification No.)**
194 West Main Street, Cortland, Ohio **(Address of Principal Executive Offices)**	**44410** **(Zip Code)**

Registrant's telephone number, including area code: (330) 637-8040

Securities registered pursuant to Section l2(g) of the Act: None

Securities registered pursuant to Section l2(b) of the Act:

Common Stock, no par value
(Title of Class)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, No Par Value	CLDB	NASDAQ Capital Market

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

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

Indicate by check mark whether the registrant (l) has filed all reports required to be filed by Section l3 or l5(d) of the Securities Exchange Act of l934 during the preceding l2 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically Interactive Data File required to be submitted pursuant to Rule405 of Regulation S-T(§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

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

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

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

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

Based upon the closing price of the registrant's common stock on June 30, 2019, the aggregate market value of the voting stock held by non-affiliates of the registrant was approximately $90,812,857. For purposes of this response, directors and executive officers are considered the affiliates of the issuer at that date.

The number of shares outstanding of the issuer's classes of common stock as of February 28, 2020: 4,196,483 shares

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the 2020 Annual Meeting of Shareholders to be held on April 29, 2020 are incorporated by reference into Part III.

Form 10-K for the Year Ended December 31, 2019
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PART I

Item l. Business

THE CORPORATION

CORTLAND BANCORP

Cortland Bancorp (the Company) was incorporated under the laws of the State of Ohio in 1984, as a one bank holding company registered under the Bank Holding Company Act of 1956, as amended (BHC Act). The principal activity of the Company is to own, manage and supervise The Cortland Savings and Banking Company (Cortland Bank or the Bank). The Company owns all of the outstanding shares of the Bank.

The Company has made an election to be a financial holding company. The Company is regulated by the Board of Governors of the Federal Reserve System (Federal Reserve) and the Consumer Financial Protection Bureau (CFPB). The BHC Act provides generally for "umbrella" regulation of financial holding companies such as the Company by the Federal Reserve Board, and for functional regulation of banking activities by bank regulators, securities activities by securities regulators, and insurance activities by insurance regulators. The Company is also under the jurisdiction of the Securities and Exchange Commission (SEC) and is subject to the disclosure and regulatory requirements of the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, as administered by the SEC.

The business of the Company and the Bank is not seasonal to any significant extent and is not dependent on any single customer or group of customers. The Company operates as a single line of business.

NEW RESOURCES LEASING CO.

New Resources Leasing Co. was formed in December 1987 under Ohio law as a separate entity to handle the function of commercial and consumer leasing. The wholly owned subsidiary has been inactive since incorporation.

CORTLAND BANK

Cortland Bank is a full service, state-chartered bank engaged in commercial and retail banking. The Bank's services include checking accounts, savings accounts, time deposit accounts, commercial, mortgage and installment loans, night depository, automated teller services, safe deposit boxes and other miscellaneous services normally offered by commercial banks. Commercial lending includes commercial, financial loans, real estate construction and development loans, commercial real estate loans, small business lending and trade financing. Consumer lending includes residential real estate, home equity and installment lending. Cortland Bank also offers a variety of Internet and mobile banking options.

Full-service banking business is conducted at a total of fourteen offices, seven of which are located in Trumbull County, Ohio. The remaining offices are located throughout Portage, Ashtabula, Summit, Cuyahoga and Mahoning Counties in Ohio. There is also a financial service center located in Fairlawn, Ohio, in Summit County.

The Bank's main administrative and banking office is located at 194 West Main Street, Cortland, Ohio.

The Bank, as a state-chartered banking organization and member of the Federal Reserve, is subject to periodic examination and regulation by the Federal Reserve, the State of Ohio Division of Financial Institutions (Ohio Division) and the CFPB. These examinations, which include such areas as capital, liquidity, asset quality, management practices and other aspects of the Bank's operations, are primarily for the protection of the Bank's depositors. In addition to these regular examinations, the Bank must furnish periodic reports to regulatory authorities containing a full and accurate statement of its affairs. The Bank's deposits are insured by the Federal Deposit Insurance Corporation (FDIC).

The Bank provides brokerage and investment services through an arrangement with LPL Financial. Under this arrangement, financial advisors can offer customers an extensive range of investment products and services, including estate planning, qualified retirement plans, mutual funds, annuities, life insurance, fixed income and equity securities, equity research and recommendations, and asset management services to customers through the brand Cortland Private Wealth Management.

CSB MORTGAGE COMPANY, INC.

CSB Mortgage Company, Inc. (CSB) was formed as an Ohio corporation in December 2011. It is a wholly-owned subsidiary of Cortland Bank and functioned as the originator of wholesale mortgage loans and the seller of company-wide mortgage loans in the secondary mortgage market. It has been inactive since 2013.

COMPETITION

The Bank actively competes with state and national banks located in Northeastern Ohio and Western Pennsylvania. It also competes for deposits, loans and other service business with a large number of other financial institutions, such as savings and loan associations, credit unions, insurance companies, consumer finance companies and commercial finance companies. Also, money market mutual funds, brokerage houses and similar institutions provide in a relatively unregulated environment many of the financial services offered by banks. In the opinion of management, the principal methods of competition are the rates of interest charged on loans, the rates of interest paid on deposit funds, the fees charged for services, and the convenience, availability, timeliness and quality of the customer services offered.

EMPLOYEES

As of December 31, 2019, the Company, through the Bank, employed 142 full-time and 22 part-time employees. The Company provides its employees with a full range of benefit plans and considers its relations with its employees to be satisfactory.

GENERAL LENDING POLICY

The Bank's lending policy is designed to provide a framework which will meet the credit needs and interests of the community and the Bank. It is the Bank's objective to make loans to credit-worthy customers that benefit their interests. The loans made by the Bank are subject to the guidelines established in the loan policy that is approved by the Bank's Board of Directors.

There are times when the Bank will go beyond its lending territory to accommodate people who have been customers of the Bank and have moved out of the lending area. There are also times when excess funds are available and it is profitable to participate in loans with other banks or to participate in large projects for community development.

Each lending relationship is reviewed and graded in 6 categories, which are (1) ability to pay, (2) financial condition, (3) management ability, (4) collateral and guarantors, (5) loan structure, and (6) industry and economics.

Further information can be found in Item 7 - Management's Discussion and Analysis of Financial Condition and Results of Operations.

SUPERVISION AND REGULATION

The Company and the Bank are subject to federal and state banking laws that are intended to protect depositors and borrowers, not shareholders. Changes in federal and state banking laws, including statutes, regulations, and policies of the bank regulatory agencies, could have a material adverse impact on our business and prospects. Federal and state laws applicable to bank holding companies and their financial institution subsidiaries regulate the range of permissible business activities, investments, reserves against deposits, capital levels, lending activities and practices, the nature and amount of collateral for loans, the establishment of branches, business combinations, dividends, and a variety of other important matters. The Company and the Bank are subject to detailed, complex, and sometimes overlapping federal and state statutes and regulations affecting routine banking operations. These statutes and regulations include, but are not limited to, state usury and consumer credit laws, the Truth-in-Lending Act and Regulation Z, the Equal Credit Opportunity Act and Regulation B, the Fair Credit Reporting Act, the Truth in Savings Act, and the Community Reinvestment Act as the same have been amended from time to time. In addition to minimum capital requirements, federal law imposes other safety and soundness standards governing factors such as internal controls, information systems, internal audit systems, loan documentation, credit underwriting, interest rate risk exposure, asset growth, asset quality, earnings, and compensation and benefits. The following discussion of bank supervision and regulation is qualified in its entirety by reference to the statutory and regulatory provisions discussed herein.

The Company is a bank holding company that has elected to become a financial holding company within the meaning of the BHC Act. As such, the Company is subject to regulation, supervision, and examination by the Federal Reserve, acting primarily through the Federal Reserve Bank of Cleveland. The Company is required to file annual reports and other information with the Federal Reserve. The Bank is subject to regulation and supervision by the Ohio Division and, as a member bank of the Federal Reserve, by the Federal Reserve. The Bank is examined periodically by the Federal Reserve and by the Ohio Division to test compliance with various

regulatory requirements. If as a result of examination, the Federal Reserve or the Ohio Division determines that a bank's financial condition, capital resources, asset quality, earnings prospects, management, liquidity, or other aspects of the bank's operations are unsatisfactory, or that the bank or its management is in violation of any law or regulation, the bank regulatory agencies may take a number of remedial actions. In addition, the Bank is subject to the regulations of the CFPB, established by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, as amended (the Dodd-Frank Act). The CFPB has broad powers to adopt and enforce consumer protection regulations. Bank regulatory agencies make regular use of their authority to take formal and informal supervisory actions against banks and bank holding companies for unsafe or unsound practices in the conduct of their businesses and for violations of any law, rule, or regulation, or any condition imposed in writing by the appropriate federal banking regulatory authority. Potential supervisory and enforcement actions include appointment of a conservator or receiver, issuance of a cease-and-desist order that could be judicially enforced, termination of a bank's deposit insurance, imposition of civil money penalties, issuance of directives to increase capital, entry into formal or informal agreements, including memoranda of understanding, issuance of removal and prohibition orders against institution-affiliated parties, and enforcement of these actions through injunctions or restraining orders.

Regulation of financial holding companies. A bank holding company must serve as a source of financial and managerial strength for its subsidiary banks and must not conduct operations in an unsafe or unsound manner. The Federal Reserve requires all bank holding companies to maintain capital at or above prescribed levels. Federal Reserve policy requires that a bank holding company provide capital to its subsidiary banks during periods of financial stress or adversity and that the bank holding company maintain the financial flexibility and capital-raising capacity to obtain additional resources for assisting its subsidiary banks. Bank holding companies may also be required under certain circumstances to give written notice to and receive approval from the Federal Reserve before purchasing or redeeming common stock or other equity securities or paying dividends.

Acquisitions. The BHC Act requires every bank holding company to obtain approval of the Federal Reserve to: directly or indirectly acquire ownership or control of any voting shares of another bank or bank holding company, if after the acquisition the acquiring company would own or control more than 5% of the shares of the other bank or bank holding company (unless the acquiring company already owns or controls a majority of the shares); acquire all or substantially all of the assets of another bank; or merge or consolidate with another bank holding company. The Federal Reserve will consider anticompetitive effects and public benefits of the proposed transaction, the capital position of the combined organization, the applicant's performance record under the Community Reinvestment Act of 1977, as amended (the CRA) and other financial and managerial factors. Approval of the Ohio Division is also necessary to acquire control of an Ohio-chartered bank.

The BHC Act, the Change in Bank Control Act, and the Federal Reserve Regulation Y require advance approval of the Federal Reserve to acquire "control" of a bank holding company. Control is conclusively presumed to exist if an individual or company acquires 25% or more of a class of voting securities of the bank holding company. Under certain circumstances, control may also be presumed to exist if a person acquires 10% or more, but less than 25%, of any class of voting securities.

Interstate banking and branching. Section 613 of the Dodd-Frank Act amended the interstate branching provisions of the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994. The amendments authorize a state or national bank to open a de novo branch in another state if the law of the state where the branch is to be located would permit a bank chartered by that state to open the branch. Section 607 of the Dodd-Frank Act requires that a bank holding company be well capitalized and well managed as a condition to approval of an interstate bank acquisition and that an acquiring bank be and remain well capitalized and well managed as a condition to approval of an interstate bank merger.

Nonbanking activities. Generally, the BHC Act prohibits a bank holding company from acquiring or retaining direct or indirect ownership or control of more than 5% of the voting shares of any company that is not a bank or bank holding company or from engaging directly or indirectly in activities other than those of banking, managing or controlling banks, or providing services for its subsidiaries. The principal exceptions to these prohibitions involve non-bank activities that, by statute or by Federal Reserve regulation or order, are held to be closely related to the business of banking or of managing or controlling banks. A bank holding company may become a financial holding company if the holding company meets "well-capitalized" and "well-managed" requirements of the Federal Reserve. In addition, each of the bank holding company's subsidiary banks must be well capitalized under the Federal Deposit Insurance Corporation Improvement Act of 1991, as amended, prompt corrective action provisions, must be well managed, and must have at least a satisfactory rating under the CRA. The Company meets these requirements and has elected to become a financial holding company. No regulatory approval is required for a financial holding company to acquire a company, other than a bank or savings association, engaged in activities that are financial in nature or incidental to activities that are financial in nature, as determined by the Federal Reserve.

Activities that are "financial in nature" include:

- securities underwriting, dealing and market making;
- sponsoring mutual funds and investment companies;

- insurance underwriting and agency;
- merchant banking; and
- activities that the Federal Reserve Board has determined to be closely related to banking.

If a financial holding company or a subsidiary bank fails to meet all requirements for the holding company to maintain financial holding company status, material restrictions may be placed on the activities of the financial holding company and on the ability of the financial holding company to enter into certain transactions or obtain regulatory approvals. The financial holding company could also lose its financial holding company status and be required to divest ownership or control of all banks owned by the financial holding company. If restrictions are imposed on the activities of a financial holding company, such restrictions may not be made publicly available pursuant to confidentiality regulations of the banking regulators.

Economic Growth, Regulatory Relief and Consumer Protection Act

On May 25, 2018, the Economic Growth, Regulatory Relief and Consumer Protection Act (the Regulatory Relief Act) was enacted, which repealed or modified certain provisions of the Dodd-Frank Act and eased regulations on all but the largest banks (those with consolidated assets in excess of $250 billion). Bank holding companies with consolidated assets of less than $100 billion, including the Company, are no longer subject to enhanced prudential standards. The Regulatory Relief Act also relieves bank holding companies and banks with consolidated assets of less than $100 billion, including the Company, from certain record-keeping, reporting and disclosure requirements. Certain other regulatory requirements applied only to banks with assets in excess of $50 billion and so did not apply to Cortland even before the enactment of the Regulatory Relief Act.

Capital

Risk-based capital requirements. Financial institutions and their holding companies are required to maintain capital as a way of absorbing losses that can, as well as losses that cannot, be predicted. The Federal Reserve has adopted risk-based capital guidelines for financial holding companies as well as state banks that are members of the Federal Reserve Bank. The Office of the Comptroller of the Currency (the OCC) and the FDIC have adopted risk-based capital guidelines for national banks and state non-member banks, respectively. The guidelines provide a systematic analytical framework which makes regulatory capital requirements sensitive to differences in risk profiles among banking organizations, takes off-balance sheet exposures expressly into account in evaluating capital adequacy and minimizes disincentives to holding liquid, low-risk assets. Capital levels, as measured by these standards, are also used to categorize financial institutions for purposes of certain prompt corrective action regulatory provisions.

The risk-based capital guidelines adopted by the federal banking agencies are based on the “International Convergence of Capital Measurement and Capital Standard” (Basel I), published by the Basel Committee on Banking Supervision. Capital rules adopted by the United States banking regulators applicable to smaller banking organizations, including the Company and the Bank, became effective commencing on January 1, 2015. Compliance with the minimum capital requirements was required effective on January 1, 2015, whereas a new capital conservation buffer and deductions from common equity capital phased in from January 1, 2016, through January 1, 2019, and most deductions from common equity tier (CET1) capital phased in from January 1, 2015, through January 1, 2019.

The rules include (a) a minimum CET1 capital ratio of at least 4.5%, (b) a minimum tier 1 capital ratio of 6.0%, (c) a minimum total capital ratio of 8.0%, and (d) a minimum leverage ratio of 4%.

Common equity capital for the CET1 capital ratio includes common stock (plus related surplus), and retained earnings, plus limited amounts of minority interests in the form of common stock, less the majority of certain regulatory deductions.

Tier 1 capital includes common equity capital as defined for the CET1 capital ratio, plus certain non-cumulative preferred stock and related surplus, cumulative preferred stock and related surplus, trust preferred securities that have been grandfathered (but which are not otherwise permitted), and limited amounts of minority interests in the form of additional tier 1 capital instruments, less certain deductions.

Tier 2 capital, which can be included in the total capital ratio, includes certain capital instruments (such as subordinated debt) and limited amounts of the allowance for loan and lease losses, subject to specified eligibility criteria, less applicable deductions.

The deductions from CET1 capital include goodwill and other intangibles, certain deferred tax assets, mortgage-servicing assets above certain levels, gains on sale in connection with a securitization, investments in a banking organization’s own capital instruments and investments in the capital of unconsolidated financial institutions (above certain levels).

For institutions with less than $250 billion in assets, the final rules also allow a one-time opportunity to permanently opt-out of a requirement to include all components of accumulated other comprehensive income in the capital calculation. To avoid the possibility of extreme market volatility in determining capital adequacy, the Company and the Bank have elected to opt-out.

Under the guidelines, capital is compared to the relative risk included in the balance sheet. To derive the risk included in the balance sheet, one of several risk weights is applied to different balance sheet and off-balance sheet assets, primarily based on the relative credit risk of the counterparty. The capital amounts and classification are also subject to qualitative judgments by the regulators about components, risk weightings and other factors.

In determining the amount of risk-weighted assets for purposes of calculating risk-based capital ratios, a bank's assets, including certain off-balance sheet assets (e.g., recourse obligations, direct credit substitutes, residual interests), are multiplied by a risk weight factor assigned by the regulations based on perceived risks inherit in the type of asset. Higher levels of capital are required for asset categories believed to present greater risk. For example, a risk weight of 0% is assigned to cash and United States government securities, a risk weight of 50% is generally assigned to prudently unwritten first lien one-to four-family residential mortgages, a risk weight of 100% is assigned to commercial and consumer loans, a risk weight of 150% is assigned to certain past due loans and commercial loans that qualify as high-volatility commercial real estate (HVCRE) exposures under federal regulations, and a risk weight of between 0% and 600% is assigned to permissible equity interest, depending on certain specified factors.

Amendments included in the Economic Growth, Regulatory Relief, and Consumer Protection Act (the "Regulatory Relief Act"), enacted in May 2018, provide that federal banking regulators may not impose higher capital standards on HVCRE exposures unless they are for acquisition, development or construction (ADC) and expand the exclusions from the current definition of an HVCRE exposure by (1) including loans for (a) the acquisition or refinancing of existing income-producing real property if the cash flow of the property is sufficient to support the debt service and expenses of the property and (b) for improvements to existing income-producing real property if the cash flow of the property is sufficient to support the debt service and expenses of the property and (2) by counting paid development expenses and contributed real property or improvements towards the borrower's contributed capital. This new two-prong test provides lenders with the flexibility to terminate the HVCRE ADC designation and release the borrower's additional capital without the need for refinancing. The Regulatory Relief Act also gives lenders discretion to determinate when and if the two-prong test has been satisfied based on the lenders' own underwriting criteria.

The rules also place restrictions on the payment of capital distributions, including dividends, and certain discretionary bonus payments to executive officers if the company does not hold a capital conservation buffer of greater than 2.5% composed of CET1 capital above its minimum risk-based capital requirements, or if its eligible retained income is negative in that quarter and its capital conservation buffer ratio was less than 2.5% at the beginning of the quarter. The capital conservation buffer phased in starting on January 1, 2016, at 0.625% and, effective January 1, 2019, is currently fully phased in at 2.5%.

In November 2019, the Federal Reserve, the OCC, and the FDIC finalized a rule revising the definition of HVCRE exposure under the capital rules of each agency to conform to the statutory definition included in the Regulatory Relief Act enacted in May 2018. Specifically, the final rule conforms the agencies' "HVCRE exposure" definitions to the Regulatory Relief Act's definition of HVCRE ADC loans and maintains a risk weight of 150% for HVCRE exposures. The final rule becomes effective on April 1, 2020.

In addition to the capital requirements applicable to bank holding companies generally, the Federal Reserve requires financial holding companies to be "well-capitalized" under Federal Reserve standards. Pursuant to the Federal Reserve's Small Bank Holding Company Policy (SBHC Policy), however, a holding company with assets of less than $3 billion and meeting certain other requirements is not required to comply with the consolidated capital requirements. At December 31, 2019, the Company was deemed to be a small bank holding company under the SBHC Policy. The Bank must, however, comply with the capital requirements for banks.

In December 2018, the federal banking agencies issued a final rule to address regulatory treatment of credit loss allowances under the current expected credit loss (CECL) model (accounting standard). The rule revised the federal banking agencies' regulatory capital rules to identify which credit loss allowances under the CECL model are eligible for inclusion in regulatory capital and to provide banking organizations the option to phase in over three years the day one adverse effects on regulatory capital that may result from the adoption of the CECL model.

In September 2019, consistent with Section 201 of the Regulatory Relief Act, the Federal Reserve Board, along with the other federal bank regulatory agencies, issued a final rule, effective January 1, 2020, that gives community banks, including the Company, the option to calculate a simple leverage ratio to measure capital adequacy, if the community banks meet certain requirements. Under the rule, a community bank is eligible to elect the Community Bank Leverage Ratio (CBLR) framework if it has less than $10 billion in total consolidated assets, limited amounts of certain trading assets and liabilities, limited amounts of off-balance sheet exposures and a leverage ratio greater than 9.0%. The final rule adopts tier 1 capital and the existing leverage ratio into the CBLR framework. The tier 1 numerator takes into account the modifications made in relation to the capital simplifications and CECL methodology transitions rules as of the compliance dates of those rules. Qualifying institutions that elect to use the CBLR framework (each, a CBLR Bank) and that maintain a leverage ratio of greater than 9.0% will be considered to have satisfied the risk based and leverage capital requirements in the regulatory agencies' generally applicable capital rules and to have met the well capitalized ratio requirements. Each CBLR Bank will not be required to calculate or report risk based capital. A CBLR Bank may opt out of the framework at any time, without restriction, by reverting to the generally applicable risk based capital rule.

Prompt corrective action. In addition to the capital adequacy requirements set forth above, every insured financial institution is classified into one of five categories based upon the institution's capital ratios, the results of regulatory examinations of the institution and whether the institution is subject to enforcement agreements with its regulatory authorities. The categories are "well capitalized," "adequately capitalized," "undercapitalized," "significantly undercapitalized," and "critically undercapitalized."

The capital of the Company and the Bank as of December 31, 2019 were as follows:

(Amounts in thousands)

	Actual		Minimum required for capital adequacy purposes (1)		To be well-capitalized under prompt corrective action regulations	
December 31, 2019	Amount	Ratio	Amount	Ratio	Amount	Ratio
CET1 capital (to risk-weighted assets)						
Consolidated	$ **73,091**	**12.76%**	$ **25,775**	**4.5%**	**N/A**	**N/A**
Bank	**69,768**	**12.25%**	**25,633**	**4.5%**	$ **37,026**	**6.5%**
Tier 1 capital (to risk-weighted assets)						
Consolidated	**78,091**	**13.63%**	**34,367**	**6.0%**	**N/A**	**N/A**
Bank	**69,768**	**12.25%**	**34,178**	**6.0%**	**45,570**	**8.0%**
Total capital (to risk-weighted assets)						
Consolidated	**82,640**	**14.43%**	**45,823**	**8.0%**	**N/A**	**N/A**
Bank	**80,317**	**14.10%**	**45,570**	**8.0%**	**56,963**	**10.0%**
Tier 1 capital (to average assets)						
Consolidated	**78,091**	**10.98%**	**28,461**	**4.0%**	**N/A**	**N/A**
Bank	**69,768**	**9.85%**	**28,321**	**4.0%**	**35,401**	**5.0%**

(1) Currently not required for the Company as a small bank holding company under the SBHC Policy.

A bank with a capital level that might qualify for well capitalized or adequately capitalized status may nevertheless be treated as though the bank is in the next lower capital category if the bank's primary federal banking supervisory authority determines that an unsafe or unsound condition or practice warrants that treatment. A bank's operations can be significantly affected by its capital classification under the prompt corrective action rules. For example, a bank that is not well capitalized generally is prohibited from accepting brokered deposits and offering interest rates on deposits higher than the prevailing rate in its market without advance regulatory approval. These deposit-funding limitations can have an adverse effect on the bank's liquidity. At each successively lower capital category, an insured depository institution is subject to additional restrictions. Undercapitalized banks are required to take specified actions to increase their capital or otherwise decrease the risks to the federal Deposit Insurance Fund (DIF). Bank regulatory agencies generally are required to appoint a receiver or conservator within 90 days after a bank becomes critically undercapitalized, unless the bank's primary regulator determines, with the concurrence of the FDIC, that other action would better achieve regulatory purposes. The Federal Deposit Insurance Act, as amended, provides that a federal bank regulatory authority may require a bank holding company to divest itself of an undercapitalized bank subsidiary if the agency determines that divestiture will improve the bank's financial condition and prospects.

In order to be "well-capitalized," a bank must have a CET1 capital ratio of at least 6.5%, a total risk-based capital ratio of at least 10%, a tier 1 risk-based capital ratio of at least 8% and a leverage ratio of at least 5%, and the bank must not be subject to any written agreement, order, capital directive or prompt corrective action directive to meet and maintain a specific capital level or any capital measure. The Company's management believes that the Bank meets the ratio requirements to be deemed "well-capitalized" according to the guidelines described above.

Federal deposit insurance. Deposits in the Bank are insured by the FDIC up to applicable limits through the DIF. Insured banks must pay deposit insurance premiums assessed semiannually and paid quarterly. The general insurance limit is $250,000 per separately insured depositor. This insurance is backed by the full faith and credit of the United States Government.

As insurer, the FDIC is authorized to conduct examinations of and to require reporting by insured institutions, including the Bank, to prohibit any insured institution from engaging in any activity the FDIC determines by regulation or order to pose a threat to the DIF, and to take enforcement actions against insured institutions. The FDIC may terminate insurance of deposits of any institution if the FDIC finds that the institution has engaged in unsafe or unsound practices, is in an unsafe or unsound condition or has violated any applicable law, regulation, rule, order or condition imposed by the FDIC or other regulatory agency.

The FDIC assesses a quarterly deposit insurance premium on each insured institution based on risk characteristics of the institution and may also impose special assessments in emergency situations. The premiums fund the DIF. Pursuant to the Dodd-Frank Act, the FDIC has established 2.0% as the designated reserve ratio (DRR), which is the amount in the DIF as a percentage of all DIF insured deposits. In March 2016, the FDIC adopted final rules designed to meet the statutory minimum DRR of 1.35% by September 30, 2020, the deadline imposed by the Dodd-Frank Act. The Dodd-Frank Act requires the FDIC to offset the effect on institutions with assets of less than $10 billion of the increase in the statutory minimum DRR to 1.35% from the former statutory minimum of 1.15%. Although the FDIC's new rules reduced assessment rates on all banks, they imposed a surcharge on banks with assets of $10 billion or more to be paid until the DRR reaches 1.35%. The DRR reached 1.35% at September 30, 2018. As a result, the previous surcharge imposed on banks with assets of $10 billion or more was lifted. In addition, preliminary assessment credits have been determined by the FDIC for banks with assets of less than $10 billion for the portion of their assessments that contributed to the increase of the DRR to 1.35%. These credits are being applied currently since the DRR reached a minimum of 1.38%. The rules further changed the method of determining risk-based assessment rates for established banks with less than $10 billion in assets to better ensure that banks taking on greater risks pay more for deposit insurance than banks that take on less risk.

In addition, all FDIC-insured institutions are required to pay assessments to fund interest payments on bonds issued by the Financing Corporation, which was established by the government to recapitalize a predecessor to the DIF. These assessments continued until the Financing Corporation bonds matured in September 2019. The final assessment was collected on the March 29, 2019, FDIC invoice.

The FDIC may terminate the deposit insurance of any insured depository institution if the FDIC determines that the institution has engaged or is engaging in unsafe or unsound practices, is in an unsafe or unsound condition to continue operations, or has violated any applicable law, regulation, order, or any condition imposed in writing by or written agreement with the FDIC.

Reciprocal Deposits. The Regulatory Relief Act amended the Federal Deposit Insurance Act to exclude reciprocal deposits of an insured depository institution from certain limitations on prohibited brokered deposits. A well-capitalized and well-managed bank may now hold reciprocal deposits in an amount that does not exceed the lesser of $5 billion or 20% of the depository institution's total liabilities without those reciprocal deposits being treated as brokered deposits. Reciprocal deposits are defined in the Regulatory Relief Act as deposits that a bank receives through a deposit placement network with the same maturity (if any) and in the same aggregate amount as deposits (other than deposits obtained through a deposit broker) placed by the bank in another network bank. The amendment will also have the effect of lowering deposit insurance premiums for well-capitalized banks that use deposit placement networks.

Transactions with affiliates. The Bank must comply with Section 23A and Section 23B of the Federal Reserve Act and Federal Reserve Board Regulation W, which govern transactions by member banks with affiliates. These provisions protect banks from abuse in financial transactions with affiliates. Generally, Section 23A and Section 23B of the Federal Reserve Act: (1) limit the extent to which a bank or its subsidiaries may engage in "covered transactions" with any one affiliate to an amount equal to 10% of the bank's capital stock and surplus; (2) limit the aggregate of "covered transactions" with all affiliates to 20% of capital and surplus; (3) impose strict collateral requirements on loans or extensions of credit by a bank to an affiliate; (4) impose restrictions on investments by a subsidiary bank in the stock or securities of its holding company; (5) impose restrictions on the use of a holding company's stock as collateral for loans by the subsidiary bank; and (6) require that affiliate transactions be on terms substantially the same as those provided to a non-affiliate.

Loans to insiders. The authority of the Bank to extend credit to insiders — meaning executive officers, directors, and greater than 10% shareholders — or to entities those persons control, is subject to Section 22(g) and Section 22(h) of the Federal Reserve Act and Federal Reserve Board Regulation O. These laws require that insider loans be made on terms substantially similar to those offered to unaffiliated individuals, place limits on the amount of loans a bank may make to insiders based in part on the bank's capital position, and require specified approval procedures. Loans to an individual insider may not exceed the general legal limit on loans to any one borrower. The aggregate of all loans to all insiders may not exceed the bank's unimpaired capital and surplus. Insider loans exceeding the greater of 5% of capital or $25,000 must be approved in advance by a majority of the board, with any interested director not participating in the vote. Loans to executive officers are subject to additional limitations based on the purpose of the loan. A violation of these restrictions could result in the assessment of substantial civil money penalties, the imposition of a cease-and-desist order, or other regulatory sanctions.

Loans to one borrower. Under Ohio law, the total loans and extensions of credit by an Ohio-chartered bank to a person outstanding at any time generally may not exceed 15% of the bank's unimpaired capital, plus 10% of unimpaired capital for loans and extensions of credit fully secured by readily marketable collateral.

Dividends and Distributions. Current federal banking regulations impose restrictions on the Bank's ability to pay dividends to the Company. These restrictions include a limit on the amount of dividends that may be paid in a given year without prior approval of the Federal Reserve and a prohibition on paying dividends that would cause the Bank's total capital to be less than the required minimum levels under the capital requirements imposed by the Federal Reserve. The capital rules also limit the payment of dividends if the Bank does not maintain the capital conservation buffer. Ohio law also limits the amount of dividends that may be paid in any given year without prior approval of the Ohio Superintendent of Financial Institutions. The Bank's regulators may prohibit the payment of dividends at any time if the regulators determine the dividends represent unsafe and/or unsound banking practices, or reduce the Bank's total capital below adequate levels.

The Company's ability to pay dividends to its shareholders may also be restricted. A financial holding company is required by law and Federal Reserve policy to act as a source of financial strength to each of its banking subsidiaries. The Federal Reserve may require the Company to commit resources or contribute additional capital to the Bank, which could restrict the amount of cash available for dividends.

The Federal Reserve has also issued a policy statement with regard to the payment of cash dividends by financial holding companies and other bank holding companies. The policy statement provides that, as a matter of prudent banking, the holding company should not maintain a rate of cash dividends unless its net income available to common shareholders has been sufficient to fully fund the dividends, and the prospective rate of earnings retention appears to be consistent with the holding company's capital needs, asset quality and overall financial condition. Accordingly, a financial holding company should not pay cash dividends that exceed its net income or that can only be funded in ways that weaken the holding company's financial health, such as by borrowing.

Executive and incentive compensation. SEC regulations and certain stock exchange rules require the Company to provide various disclosures about executive compensation and require the Company to permit its shareholders to have non-binding votes on the same. In addition, the Company's Compensation Committee must meet certain independence standards and must consider the independence of its advisers. The Company is in compliance with all of these regulations and standards.

Consumer protection laws and regulations. Banks are subject to regular examination to ensure compliance with federal statutes and regulations applicable to their business, including consumer protection statutes and implementing regulations. Potential penalties under these laws include, but are not limited to, fines. The Dodd-Frank Act established the CFPB, which has extensive regulatory and enforcement powers over consumer financial products and services. The CFPB has adopted numerous rules with respect to consumer protection laws and has commenced related enforcement actions. The following are just a few of the consumer protection laws applicable to the Bank:

- The CRA: imposes a continuing and affirmative obligation to fulfill the credit needs of its entire community, including low- and moderate-income neighborhoods.
- Equal Credit Opportunity Act: prohibits discrimination in any credit transaction on the basis of any of various criteria.
- Truth in Lending Act: requires that credit terms be disclosed in a manner that permits a consumer to understand and compare credit terms more readily and knowledgeably.
- Fair Housing Act: makes it unlawful for a lender to discriminate in its housing-related lending activities against any person on the basis of any of certain criteria.
- Home Mortgage Disclosure Act: requires financial institutions to collect data that enables regulatory agencies to determine whether the financial institutions are serving the housing credit needs of the communities in which they are located.
- Real Estate Settlement Procedures Act: requires that lenders provide borrowers with disclosures regarding the nature and cost of real estate settlements and prohibits abusive practices that increase borrowers' costs.
- Privacy provisions of the Gramm-Leach-Bliley Act: requires financial institutions to establish policies and procedures to restrict the sharing of non-public customer data with non-affiliated parties and to protect customer information from unauthorized access.

The banking regulators also use their authority under the Federal Trade Commission Act to take supervisory or enforcement action with respect to unfair or deceptive acts or practices by banks that may not necessarily fall within the scope of specific banking or consumer finance law.

In October 2017, the CFPB issued a final rule (the Payday Rule) to establish regulations for payday loans, vehicle title loans, and certain high-cost installment loans. The Payday Rule addressed two discrete topics. First, it contained a set of provisions with respect to the underwriting of certain covered loans and related reporting and recordkeeping requirements (the Mandatory Underwriting Provisions). Second, it contained a set of provisions establishing certain requirements and limitations with respect to attempts to withdraw payments from consumers' checking or other accounts and related recordkeeping requirements (the Payment Provisions). The Payday Rule became effective on January 16, 2018. However, most provisions had a compliance date of August 19, 2019.

On February 6, 2019, the CFPB proposed delaying the August 19, 2019, compliance date for the Mandatory Underwriting Provisions to November 19, 2020. The CFPB proposed in a separate notice to rescind the Mandatory Underwriting Provisions.

On June 6, 2019, the CFPB issued a final rule delaying the compliance date for most Mandatory Underwriting Provisions until November 19, 2020. However, the final rule did not delay the compliance date for the Payment Provisions. The Company does not currently expect the Payday Rule to have a material effect on its financial condition or results of operations on a consolidated basis.

Monetary policy. The earnings of financial institutions are affected by the policies of regulatory authorities, including the monetary policy of the Federal Reserve. An important function of the Federal Reserve is the regulation of the aggregate national credit and money supply, relying on measures such as open market transactions in securities, establishment of the discount rate on bank borrowings, and changes in reserve requirements against bank deposits. These methods are used in varying combinations to influence overall growth and distribution of financial institutions' loans, investments, and deposits, and they also affect interest rates charged on loans or paid on deposits. Monetary policy is influenced by many factors, including inflation, unemployment, short-term and long-term changes in the international trade balance, and fiscal policies of the United States government. Federal Reserve Board monetary policy has had a significant effect on the operating results of financial institutions in the past and it will continue to influence operating results in the future.

Anti-money laundering and anti-terrorism legislation. The Bank Secrecy Act of 1970 requires financial institutions to maintain records and report transactions to prevent the financial institutions from being used to hide money derived from criminal activity and tax evasion. The Bank Secrecy Act establishes: (1) record-keeping requirements to assist government enforcement agencies with tracing financial transactions and flow of funds; (2) reporting requirements for Suspicious Activity Reports and Currency Transaction Reports to assist government enforcement agencies with detecting patterns of criminal activity; (3) enforcement provisions authorizing criminal and civil penalties for illegal activities and violations of the Bank Secrecy Act and its implementing regulations; and (4) safe harbor provisions that protect financial institutions from civil liability for their cooperative efforts.

The U.S. Treasury Department's Office of Foreign Assets Control (OFAC) administers and enforces economic and trade sanctions against targeted foreign countries and regimes, under authority of various laws, including designated foreign countries, nationals and others. OFAC publishes lists of specially designated targets and countries. The Company is responsible for, among other things, blocking accounts of, and transactions with, such targets and countries, prohibiting unlicensed trade and financial transactions with them and reporting blocked transactions after their occurrence. Failure to comply with these sanctions could have serious financial, legal and reputational consequences, including causing applicable bank regulatory authorities not to approve merger or acquisition transactions when regulatory approval is required or to prohibit such transactions even if approval is not required. Regulatory authorities have imposed cease and desist orders and civil money penalties against institutions found to be violating these obligations.

The USA PATRIOT Act of 2001 requires financial institutions to establish due diligence policies, procedures, and controls reasonably designed to detect and report money laundering through correspondent accounts and private banking accounts, share information with law enforcement about individuals, entities, and organizations engaged in or suspected of engaging in terrorist acts or money laundering activities, and comply with regulations setting forth minimum standards regarding customer identification. These regulations require financial institutions to implement reasonable procedures for verifying the identity of any person seeking to open an account, maintain records of the information used to verify the person's identity, and consult lists of known or suspected terrorists and terrorist organizations provided to the financial institution by government agencies.

Cybersecurity. In March 2015, federal regulators issued two related statements regarding cybersecurity. One statement indicates that financial institutions should design multiple layers of security controls to establish several lines of defense and to ensure that their risk management processes also address the risk posed by compromised customer credentials, including security measures to reliably authenticate customers accessing Internet-based services of the financial institution. The other statement indicates that a financial institution's management is expected to maintain sufficient business continuity planning processes to ensure the rapid recovery, resumption and maintenance of the financial institution's operations after a cyber-attack involving destructive malware. A financial institution is also expected to develop appropriate processes to enable recovery of data and business operations and address rebuilding network capabilities and restoring data if the financial institution or its critical service providers fall victim to this type of cyber-attack. If the Company fails to observe such regulatory guidance, it could be subject to various regulatory sanctions, including financial penalties.

In February 2018, the SEC published interpretive guidance to assist public companies in preparing disclosures about cybersecurity risks and incidents. These SEC guidelines, and any other regulatory guidance, are in addition to notification and disclosure requirements under state and federal banking law and regulations.

State regulators have also been increasingly active in implementing privacy and cybersecurity standards and regulations. Recently, several states have adopted regulations requiring certain financial institutions to implement cybersecurity programs and providing detailed requirements with respect to these programs, including data encryption requirements. Many states have also recently implemented or modified their data breach notification and data privacy requirements. The Company expects this trend of state-level activity in those areas to continue and is continually monitoring developments in the states in which its customers are located.

In the ordinary course of business, the Company relies on electronic communications and information systems to conduct its operations and to store sensitive data. The Company employs an in-depth, layered, defensive approach that leverages people, processes and technology to manage and maintain cybersecurity controls. The Company employs a variety of preventative and detective tools to monitor, block, and provide alerts regarding suspicious activity, as well as to report on any suspected advanced persistent threats. Notwithstanding the strength of the Company's defensive measures, the threat from cyber-attacks is severe, attacks are sophisticated and increasing in volume, and attackers respond rapidly to changes in defensive measures. While to date, the Company has not detected a significant compromise, significant data loss or any material financial losses related to cybersecurity attacks, the Company's systems and those of its customers and third-party service providers are under constant threat and it is possible that the Company could experience a significant event in the future. Risks and exposures related to cybersecurity attacks are expected to remain high for the foreseeable future due to the rapidly evolving nature and sophistication of these threats, as well as due to the expanding use of Internet banking, mobile banking and other technology-based products and services by us and our customers.

Volcker Rule. In December 2013, five federal agencies adopted a final regulation implementing the so-called Volcker Rule provision of the Dodd-Frank Act (the Volcker Rule). The Volcker Rule places limits on the trading activity of insured depository institutions and entities affiliated with depository institutions, subject to certain exceptions. Such trading activity includes the purchase or sale as principal of a security derivative, commodity future, option, or similar instrument in order to benefit from short-term price movements or to realize short-term profits. The Volcker Rule exempts trading in specified U.S. government, agency, state and/or municipal obligations. The Volcker Rule also excludes: (1) trading conducted in certain capacities, including as a broker or other agent, through a deferred compensation or pension plan, as a fiduciary on behalf of customers; (2) to satisfy a debt previously contracted; (3) trading under certain repurchase and securities lending agreements; and (4) trading in connection with risk-mitigating hedging activities. Further, the Volcker Rule prohibits a banking entity from having an ownership interest in, or certain relationships with, a hedge fund or private equity fund, subject to a number of exceptions.

On July 9, 2019, the five federal agencies that adopted the Volcker Rule issued a final rule to exempt certain community banks, including the Company, from the Volcker Rule, consistent with the Regulatory Relief Act. Under the final rule, community banks with $10 billion or less in total consolidated assets and total trading assets and liabilities of 5.0% or less of total consolidated assets are excluded from the restrictions of the Volcker Rule.

Ohio Banking Law. As a bank chartered under the laws of the State of Ohio, the Bank is governed by the laws of the State of Ohio and the regulations of the Ohio Department of Commerce Division of Financial Institutions (ODFI). In 2017, the State of Ohio completed a substantial re-writing of Ohio's banking laws that became effective on January 1, 2018. One of the primary purposes of the revision of the law was to adopt one universal bank charter for depository institutions chartered by the state, rather than having separate types of state depository institution charters with different powers and limitations for banks, savings banks and savings and loan associations. As a result, all Ohio-chartered depository institutions are now considered to have full commercial bank powers, unless an institution elects to continue to be governed by federal restrictions applicable to federal savings and loan associations and federal savings banks. While the most substantial changes in the law affect institutions chartered by Ohio as savings banks or savings and loan associations prior to the effectiveness of the new law, some changes also apply to institutions, like the Bank, that were chartered as commercial banks prior to the change in the law. The changes for all Ohio-chartered banks include provisions allowing Ohio-chartered banks to exercise the same powers, perform all acts, and provide all services that are permitted for federally chartered depository institutions, with the exception of laws and regulations dealing with interest rates, thereby enhancing opportunities for Ohio-chartered banks to compete with other financial institutions. Other provisions clarify previous laws addressing, or allow more flexibility with respect to, corporate governance matters, mergers and acquisitions and additional reliance on Ohio corporate law, generally.

AVAILABLE INFORMATION

The Company files an annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports with the SEC pursuant to Section 13(a) or 15(d) of the Exchange Act of 1934 Amended. The Company's website is www.cortlandbank.com. The Company makes available through its website, free of charge, the reports filed with the SEC, as soon as reasonably practicable after such material is electronically filed, or furnished to, the SEC. The SEC also maintains a website that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at www.sec.gov. The public may read and copy any materials filed with the Commission at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549, on official business days during the hours of 10:00 am to 3:00 pm. The public may obtain information on the operation of the Public Reference Room by calling the Commission at 1-800-SEC-0330.

Item 1A. Risk Factors

Like all financial companies, the Company's business and results of operations are subject to a number of risks, many of which are outside of our control. In addition to the other information in this report, readers should carefully consider that the following important factors could materially impact our business and future results of operations.

Economic, Political and Market Risks

Changes in national and local economic and political conditions could adversely affect our earnings through declines in deposits, quality of investment securities, loan demand, and our borrowers' ability to repay loans, and the value of the collateral securing our loans.

Our success depends, in part, on local and national economic and political conditions, as well as governmental fiscal and monetary policies. Conditions such as inflation, recession, unemployment, changes in interest rates, fiscal and monetary policy, tariffs, a United States withdrawal from a significant renegotiation of trade agreements, trade wars, the election of a new United States President in 2020, and other factors beyond our control may adversely affect our deposit levels and composition, the quality of our assets including investment securities available for purchase, and the demand for loans, which, in turn, may adversely affect our earnings and capital. Since substantially all of our loans are to individuals and businesses in Ohio, any decline in the economy of this market area could have a materially adverse effect on our credit risk and on our deposit and loan levels. In addition, such conditions may adversely affect the ability of our borrowers to repay their loans and the value of collateral securing the loans, which could adversely affect our earnings. Changes in government, including the election of a new United States President in 2020, could bring changes in all of such factors. Economic turmoil in Europe and Asia, trade negotiations and wars, and changes in oil production in the Middle East affect the economy and stock prices in the United States. The timing and circumstances of the United Kingdom leaving the European Union (Brexit) and their effects on the U.S. are unknown. Because we have a significant number of real estate loans, a decline in the value of real estate could have a material adverse effect on us. As of December 31, 2019, 78.2% of our loan portfolio consisted of commercial, commercial real estate, real estate construction and installment, all of which are generally viewed as having more risk of default than residential real estate loans and all of which, with the exception of installment loans, are typically larger than residential real estate loans. Residential real estate loans held in the portfolio are typically originated using conservative underwriting standards that do not include sub-prime lending.

Adverse changes in the financial markets may adversely impact our results of operations.

While we generally invest in securities issued by U.S. government agencies and sponsored entities and U.S. state and local governments with limited credit risk, certain investment securities we hold possess higher credit risk since they represent beneficial interests in structured investments collateralized by residential mortgages, debt obligations and other similar asset-backed assets. Regardless of the level of credit risk, all investment securities are subject to changes in market value due to changing interest rates, implied credit spreads and credit ratings.

Changes in interest rates could adversely affect our financial condition and results of operations.

Our results of operations depend substantially on our net interest income, which is the difference between: (1) the interest earned on loans, securities and other interest-earning assets; and (2) the interest paid on deposits and borrowings. These rates are highly sensitive to many factors beyond our control, including general economic conditions, inflation, recession, unemployment, money supply and the policies of various governmental and regulatory authorities, particularly those of the Federal Reserve Board. If the interest we pay on deposits and other borrowings increases at a faster rate than the interest we receive on loans and other investments, our net interest income, and therefore earnings, could be adversely affected. Earnings could also be adversely affected if the interest we receive on loans and other investments falls more quickly than the interest we pay on deposits and borrowings. While we have taken measures intended to manage the risks of operating in a changing interest rate environment, there can be no assurance that these measures will be effective in avoiding undue interest rate risk.

Increases in interest rates can also affect the value of loans and other assets, including our ability to realize gains on the sale of assets. We originate loans for sale and for our portfolio. Increasing interest rates may reduce the origination of loans for sale and consequently the fee income we earn on such sales. Further, increasing interest rates may adversely affect the ability of borrowers to pay the principal or interest on loans and leases, resulting in an increase in non-performing assets and a reduction of income recognized.

A transition away from London Interbank Offered Rate (LIBOR) as a reference rate for financial contracts could negatively affect our income and expenses and the value of various financial contracts.

LIBOR is used extensively in the U.S. and globally as a benchmark for various commercial and financial contracts, including adjustable rate mortgages, corporate debt, interest rate swaps and other derivatives. LIBOR is set based on interest rate information reported by certain banks, which may stop reporting such information after 2021. It is uncertain at this time whether LIBOR will change or cease to exist or the extent to which those entering into financial contracts will transition to any other particular benchmark. Other benchmarks may perform differently than LIBOR or alternative benchmarks have performed in the past or have other consequences that cannot currently be anticipated. It is also uncertain what will happen with instruments that rely on LIBOR for future interest rate adjustments and which remain outstanding if LIBOR ceases to exist.

Currently approximately 15% of the Company's loans are floating on a LIBOR index. When a LIBOR substitute becomes effective, our existing notes with those borrowers allow a conversion to another index. We are uncertain as to the performance of any substitute index compared to LIBOR and, therefore, cannot project any financial consequence to such conversion.

Operational Risks

The Company has operational risk.

The Company has many types of operational risk, including those discussed in more detail elsewhere in this Risk Factors section, such as cyber-related risks, insufficient allowances for loan losses, errors in estimates in the preparation of financial statements, and risks related to future expansion. The Company also has reputational risk, legal and compliance risk, the risk of fraud or theft by employees or outsiders and unauthorized transactions by employees, and operational errors, including clerical or record-keeping errors and errors resulting from faulty or disabled computer or telecommunications systems.

The Company's operations may be disrupted by events that are wholly or partially beyond our control, including computer viruses, cyber-attacks, spikes in transaction volume or customer activity, electrical or telecommunications outages or natural disasters. If our policies and systems designed to mitigate such problems fail to operate well, such failures could result in reputational damage, regulatory intervention and civil litigation, leading to financial loss or liability. Negative public opinion could result from the Company's actual or alleged conduct with respect to a variety of its activities, including lending practices, corporate governance and acquisitions. Negative public opinion can adversely affect the Company's ability to attract and retain customers.

The Company relies on vendors for certain processes. The Company is exposed to the risk that its vendors may be unable to fulfill their contractual obligations or will suffer from the same risks as the Company has and that their business continuity systems may be inadequate, resulting in damage to the Company's reputation, loss of business, regulatory enforcement actions and civil litigation.

Failures or material breaches in security of our systems or those of third-party service providers may have a significant effect on our business.

We collect, process and store sensitive consumer data by utilizing computer systems and telecommunications networks operated by both us and third-party service providers. The Bank's necessary dependence upon automated systems to record and process the Bank's transactions poses the risk that technical system flaws, employee errors, tampering or manipulation of those systems, or attacks by third parties will result in losses and may be difficult to detect. We have security and backup and recovery systems in place, as well as a business continuity plan, to ensure the computer systems will not be inoperable, to the extent possible. We also routinely review documentation of such controls and backups related to third-party service providers. Our inability to use or access these information systems at critical points in time could unfavorably impact the timeliness and efficiency of our business operations. In recent years, several banks have experienced denial of service attacks in which individuals or organizations flood the bank's website with extraordinarily high volumes of traffic, with the goal and effect of disrupting the ability of the bank to process transactions. Other businesses have been victims of ransomware attacks in which the business becomes unable to access its own information and is presented with a demand to pay a ransom in order to once again have access to its information. We could be adversely affected if one of our employees causes a significant operational break-down or failure, either as a result of human error or where an individual purposefully sabotages or fraudulently manipulates our operations or systems. We may not be able to prevent employee errors or misconduct, and the precautions we take to detect this type of activity might prove ineffective. The Bank is further exposed to the risk that the third-party service providers may be unable to fulfill their contractual obligations (or will be subject to the same risks as the Bank). These disruptions may interfere with service to the Bank's customers. We are also at risk of the impact of natural disasters, terrorism and international hostilities on our systems or for the effects of outages or other failures involving power or communications systems operated by others.

In addition, there have been instances where financial institutions have been victims of fraudulent activity in which criminals pose as customers to initiate wire and automated clearinghouse transactions out of customer accounts. The recent massive breach of the systems of a credit bureau presents additional threats as criminals now have more information than ever before about a larger portion of our country's population, which could be used by criminals to pose as customers initiating transfers of money from customer accounts. Although we have policies and procedures in place to verify the authenticity of our customers, we cannot assure that such policies and procedures will prevent all fraudulent transfers.

We have implemented security controls to prevent unauthorized access to our computer systems, and we require that our third-party service providers maintain similar controls. However, management cannot be certain that these measures will be successful. A security breach of the computer systems and loss of confidential information, such as customer account numbers and related information, could result in a loss of customers' confidence and, thus, loss of business. We could also lose revenue if competitors gain access to confidential information about our business operations and use it to compete with us.

Further, we may be affected by data breaches at retailers and other third parties who participate in data interchanges with us and our customers that involve the theft of customer credit and debit card data, which may include the theft of our debit card PIN numbers and commercial card information used to make purchases at such retailers and other third parties. Such data breaches could result in us incurring significant expenses to reissue debit cards and cover losses, which could result in a material adverse effect on our results of operations.

Our assets at risk for cyber-attacks include financial assets and non-public information belonging to customers. We use several third-party vendors who have access to our assets via electronic media. Certain cyber security risks arise due to this access, including cyber espionage, blackmail, ransom, and theft.

All of the types of cyber incidents discussed above could result in damage to our reputation, loss of customer business, costs of incentives to customers or business partners in order to maintain their relationships, litigation, increased regulatory scrutiny and potential enforcement actions, repairs of system damage, increased investments in cybersecurity (such as obtaining additional technology, making organizational changes, deploying additional personnel, training personnel and engaging consultants), increased insurance premiums, and loss of investor confidence and a reduction in our stock price, all of which could result in financial loss and material adverse effects on our results of operations and financial condition.

Our allowance for loan losses may be insufficient.

We maintain an allowance for loan losses to provide for probable loan losses based on management's quarterly analysis of the loan portfolio. The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States (GAAP) requires management to make significant estimates that affect the financial statements. One of our most critical estimates is the level of the allowance for loan losses. Due to the inherent nature of these estimates, we cannot provide absolute assurance that we will not be required to charge earnings for significant unexpected loan losses. For more information on the sensitivity of these estimates, refer to the discussion of our "Critical Accounting Policies" in this Form 10-K.

We maintain an allowance for loan losses that we believe is a reasonable estimate of known and inherent losses within the loan portfolio. We make various assumptions and judgments about the collectability of our loan portfolio, including the creditworthiness of our borrowers and the value of the real estate and other assets serving as collateral for the repayment of loans. In deciding whether to extend credit or enter into other transactions with customers and counterparties, we may rely on information provided to us by customers and counterparties, including financial statements and other financial information. We may also rely on representations of customers and counterparties as to the accuracy and completeness of that information and, with respect to financial statements, on reports of independent auditors. For example, in deciding whether to extend credit to a business, we may assume that the customer's audited financial statements conform with GAAP and present fairly, in all material respects, the financial condition, results of operations and cash flows of the customer. We may also rely on the audit report covering those financial statements. Our financial condition, results of operations and cash flows could be negatively impacted to the extent that we rely on financial statements that do not comply with GAAP or on financial statements and other financial information that are materially misleading.

Through a periodic review and consideration of the loan portfolio, management determines the amount of the allowance for loan losses by considering general market conditions, credit quality of the loan portfolio, the collateral supporting the loans and performance of customers relative to their financial obligations with us. The amount of future losses is susceptible to changes in economic, operating and other conditions, including changes in interest rates, which may be beyond our control, and these losses may exceed current estimates. We cannot fully predict the amount or timing of losses or whether the loss allowance will be adequate in the future. If our assumptions prove to be incorrect, our allowance for loan losses may not be sufficient to cover losses inherent in our loan portfolio, resulting in additions that could have a material adverse impact on our financial condition and results of operations. In addition, federal and state regulators periodically review our allowance for loan losses as part of their examination process and may require management to increase the allowance or recognize further loan charge-offs based on judgments different than those of management. Any increase in the provision for loan losses would decrease our pre-tax and net income. Moreover, the Financial Accounting Standards Board has changed its requirements for establishing the allowance for loan losses. The new guidance is effective for annual reporting periods and interim reporting periods within those annual periods, beginning after December 15, 2019. Management is currently evaluating the impact of the adoption of this accounting guidance on the Bank's allowance for loan losses.

When we loan money, we incur a risk of losses if our borrowers do not repay their loans.

In deciding whether to extend credit, we may rely on information provided by or on behalf of our borrowers, including financial statements and other financial information. Although we regularly review our credit exposure to specific clients, as well as industries, default risk may arise from events or circumstances that we have not detected, such as fraud. We may also fail to receive full information with respect to the risks of a borrower. In addition, when we have extended credit against collateral, such collateral could prove inadequate, such as when there are sudden declines in market value of the collateral or due to fraud with respect to such collateral. If such events occur, it could result in loss of revenue and have an adverse effect on our business, results of operations and financial condition.

If we foreclose on collateral property and own the underlying real estate, we may be subject to the increased costs associated with the ownership of real property, resulting in reduced revenues.

We may have to foreclose on collateral property to protect our investment and may thereafter own and operate such property, in which case we will be exposed to the risks inherent in the ownership of real estate. The amount that we, as a mortgagee, may realize after a default is dependent upon factors outside of our control, including, but not limited to: (i) general or local economic conditions; (ii) neighborhood values; (iii) interest rates; (iv) real estate tax rates; (v) operating expenses of the mortgaged properties; (vi) supply of and demand for rental units or properties; (vii) ability to obtain and maintain adequate occupancy of the properties; (viii) zoning laws; (ix) governmental rules, regulations and fiscal policies; and (x) acts of God. Certain expenditures associated with the ownership of real estate, principally real estate taxes and maintenance costs, may adversely affect the income from the real estate. Therefore, the cost of operating a real property may exceed the rental income earned from such property, and we may have to advance funds in order to protect our investment, or we may be required to dispose of the real property at a loss. The foregoing expenditures and costs could adversely affect our ability to generate revenues, resulting in reduced levels of profitability.

Environmental liability associated with commercial lending could have a material adverse effect on our business, financial condition and results of operations.

In the course of our business, we may acquire, through foreclosure, commercial properties securing loans that are in default. There is a risk that hazardous substances could be discovered on those properties. In this event, we could be required to remove the substances from and remediate the properties at our cost and expense. The cost of removal and environmental remediation could be substantial. We may not have adequate remedies against the owners of the properties or other responsible parties and could find it difficult or impossible to sell the affected properties. These events could have a material adverse effect on our financial condition and results of operation.

The Bank may be required to repurchase loans it has sold or indemnify loan purchasers under the terms of the sale agreements, which could adversely affect the Company's liquidity, results of operations and financial condition.

When the Bank sells a mortgage loan, it may agree to repurchase or substitute a mortgage loan if it is later found to have breached any representation or warranty the Bank made about the loan or if the borrower is later found to have committed fraud in connection with the origination of the loan. The Bank's underwriting policies and procedures may not prevent every breach or fraud. Repurchases or indemnifications may have an adverse effect on the Company's financial condition and results of operations.

We may lose business due to trends of consumers deciding not to use banks to complete financial transactions or depositing funds electronically with banks outside of our market area, which could negatively affect our net financial condition and results of operations.

Technology and other changes allow parties to complete financial transactions without banks. For example, consumers can pay bills and transfer funds directly without banks. Consumers can also shop for higher deposit interest rates at banks across the country, which may offer higher rates because they have few or no physical branches and open deposit accounts electronically. Further, consumers can now maintain funds in brokerage accounts or mutual funds that in the past have been held as deposits. These processes could result in the loss of fee income, as well as the loss of client deposits and the income generated from those deposits, in addition to increasing our funding costs.

We operate in an extremely competitive market, and our business will suffer if we are unable to compete effectively.

In our market area, we encounter significant competition from other banks, savings and loan associations, credit unions, mortgage banking firms, securities brokerage firms, asset management firms and insurance companies. The increasingly competitive environment is a result primarily of changes in regulation and the accelerating pace of consolidation among financial service providers. The Company is smaller than many of our competitors. Many of our competitors have substantially greater resources and lending limits and may offer services that we do not or cannot provide. The OCC has recently announced that it will accept applications for national bank charters from non-depository financial technology companies engaged in banking activities. Another increasingly competitive factor in the financial services industry is the competition to attract and retain talented employees, resulting in increased expenses.

We may not be able to adapt to technological change.

The financial services industry is continually undergoing rapid technological change with frequent introductions of new technology-driven products and services. The effective use of technology increases efficiency and enables financial institutions to better serve customers while reducing costs. Our future success depends, in part, upon our ability to address customer needs by using technology to provide products and services that will satisfy customer demands, as well as to create additional efficiencies in our operations. We may not be able to effectively implement new technology-driven products and services or be successful in marketing these products and services to our customers. Failure to successfully keep pace with technological changes affecting the financial services industry could negatively affect our growth, revenue and profit.

The preparation of financial statements requires management to make estimates about matters that are inherently uncertain.

Management's accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. Our management must exercise judgment in selecting and applying many of these accounting policies and methods in order to ensure that they comply with GAAP and reflect management's judgment as to the most appropriate manner in which to record and report our financial condition and results of operations. One of the most critical estimates is the level of the allowance of loan losses. Due to the inherent nature of these estimates, we cannot provide absolute assurance that we will not significantly increase the allowance for loan losses or sustain loan losses that are significantly higher than the provided allowance.

Increases in FDIC insurance premiums may have a material adverse effect on our earnings.

We are generally unable to control the amount of premiums that we are required to pay for FDIC insurance. If there are a significant number of financial institution failures or changes in the method of calculating premiums, we may be required to pay higher FDIC premiums. Increases in FDIC insurance premiums may materially adversely affect our results of operations and our ability to continue to pay dividends on our common shares at the current rate or at all.

The loss of key members of our senior management team could adversely affect our business.

We believe that our success depends largely on the efforts and abilities of our senior management. Their experience and industry contacts significantly benefit us. In addition, our success depends in part upon senior management's ability to implement our business strategy. The competition for qualified personnel in the financial services industry is intense, and the loss of services of any of our senior executive officers or an inability to continue to attract, retain and motivate key personnel could adversely affect our business. We cannot be sure that we will be able to retain our existing key personnel or attract additional qualified personnel.

Loss of key employees may disrupt relationships with certain customers.

Our business is primarily relationship-driven in that many of our key employees have extensive customer relationships. Loss of a key employee with such customer relationships may lead to the loss of business if the customers were to follow that employee to a competitor. While we believe that we have strong relationships with our key producers, we cannot guarantee that all of our key personnel will remain with our organization. Loss of such key personnel, should they enter into an employment relationship with one of our competitors, could result in a loss of customers.

Our ability to pay cash dividends is limited.

We are dependent primarily upon the earnings of our operating subsidiaries for funds to pay dividends on our common shares. The payment of dividends by us and our subsidiaries is subject to certain regulatory restrictions. As a result, any payment of dividends in the future will be dependent, in large part, on our ability to satisfy these regulatory restrictions and our subsidiaries' earnings, capital requirements, financial condition and other factors. Although our financial earnings and financial condition have allowed us to declare and pay periodic cash dividends to our shareholders in the past, there can be no assurance that our dividend policy or size of dividend distribution will continue in the future.

Trading in our common shares is very limited, which may adversely affect the time and the price at which our shareholders can sell their common shares.

Although the common shares of the Company are quoted on the NASDAQ Market, trading in the Company's common shares is limited, and the bid/ask spread is often wide.

As a result, you may be unable to purchase our common shares at the volume, price or time you desire. The limited trading market for our common shares may cause fluctuations in the market value of our common shares to be exaggerated, leading to price volatility in excess of that which would occur in a more active trading market. In addition, even if our common shares develop a more active market, we cannot be sure that such a market will continue.

Factors that may affect the volatility of our stock include:

- our actual or anticipated operating and financial results, including how those results vary from the expectations of management, securities analysts and investors;
- changes in financial estimates or publication of research reports and recommendations by financial analysts or actions taken by rating agencies with respect to other financial institution;
- failure to declare dividends on our common stock from time to time;

- reports in the press or investment community generally or relating to our reputation or the financial services industry;
- developments in our business or operations or in the financial sector generally;
- any future offerings by us of our common stock;
- legislative or regulatory changes affecting our industry generally or our business and operations specifically;
- the operating and stock price performance of companies that investors consider to be comparable to us;
- announcements of strategic developments, acquisitions, restructurings, dispositions, financings and other material events by us or our competitors;
- expectations of (or actual) equity dilution, including the actual or expected dilution to various financial measures, including earnings per share, that may be caused by this offering;
- actions by our current shareholders, including future sales of common shares by existing shareholders, including our directors and executive officers;
- proposed or final regulatory changes or developments;
- anticipated or pending regulatory investigations, proceedings, or litigation that may involve or affect us; and
- other changes in U.S. or global financial markets, global economies and general market conditions, such as interest or foreign exchange rates, stock, commodity, credit or asset valuations or volatility.

Our organizational documents may have the effect of discouraging a third party from acquiring us.

Our articles of incorporation and code of regulations contain provisions, including a staggered board of directors and a supermajority vote requirement, that make it more difficult for a third party to gain control or acquire us without the consent of the board of directors. These provisions could also discourage proxy contests and may make it more difficult for dissident shareholders to elect representatives as directors and take other similar corporate actions.

Future expansion may adversely affect our financial condition and results of operations.

We may acquire other financial institutions or parts of institutions in the future and may open new branches. We also may consider and enter into new lines of business or offer new products or services. Expansions of our business involve a number of expenses and risks, including:

- the time and costs associated with identifying and evaluating potential acquisitions or new products or services;
- the potential inaccuracy of estimates and judgments used to evaluate credit, operations, management and market risk with respect to the target institutions;
- the time and costs of evaluating new markets, hiring local management and opening new offices, and the delay between commencing these activities and the generation of profits from the expansion;
- our ability to finance an acquisition or other expansion and the possible dilution to our existing shareholders;
- the diversion of management's attention to the negotiation of a transaction and the integration of the operations and personnel of the combining businesses;
- entry into unfamiliar markets;
- the possible failure of the introduction of new products and services into our existing business;
- the incurrence and possible impairment of goodwill associated with an acquisition and possible adverse short-term effects on our results of operations; and
- the risk of loss of key employees and customers.

We may incur substantial costs to expand, and we can give no assurance that such expansion will prove to be profitable. Further, we cannot be sure that integration efforts for any future acquisitions will be successful. We may issue equity securities in connection with acquisitions, which could dilute the economic and voting interests of our existing shareholders. We may also lose customers as we close one or more branches as part of a plan to expand into other areas or become more productive from other branches.

We may be compelled to seek additional capital in the future but may not be able to access capital when needed.

We are required by federal and state regulatory authorities to maintain adequate levels of capital to support our operations. Federal banking agencies have adopted extensive changes to their capital requirements, including raising required amounts and eliminating the inclusion of certain instruments from the calculation of capital. In addition, we may need to raise additional capital should we experience significant loan losses. We may elect to raise additional capital to support our business, to finance acquisitions, if any, or for other purposes. Our ability to raise additional capital, if needed, will depend on our financial performance, conditions in the capital markets, economic conditions and a number of other factors, many of which are outside of our control. There can be no assurance, therefore, that we will be able to raise additional capital at all or that the terms of available capital will be acceptable to us. If we cannot raise additional capital when needed or desired, it may have a material adverse effect on our financial condition, results of operations and prospects.

A default by another larger financial institution could adversely affect financial markets generally.

Many financial institutions and their related operations are closely intertwined, and the soundness of such financial institutions may, to some degree, be interdependent. As a result, concerns about, or a default or threatened default by, one institution could lead to significant market-wide liquidity and credit problems, losses or defaults by other institutions. This “systemic risk” may adversely affect our business.

Legal, Regulatory and Accounting Change Risks

The enactment of new legislation or regulations may significantly affect our financial condition and results of operations.

The Company is subject to regulations and supervision of the Federal Reserve, and the Bank is subject to regulation and supervision of the ODFI, the Federal Reserve, the FDIC and the CFPB. Such regulations are designed to protect customers and the DIF, not shareholders. Regulations governing financial institutions are constantly undergoing change. New regulations or amendments could adversely affect the Company's business. Regulatory agencies have great discretion in connection with their supervisory and enforcement activities, including the imposition of restrictions on the operation of an institution, the classification of assets held by an institution and the appropriateness of an institution's allowance for loan losses. In addition, actions by regulatory agencies could cause us to devote significant time and resources to compliance and defense of the Company's business and may lead to penalties that materially affect the Company.

In recent years, Congress and the banking regulators have increased their focus on the financial services industry. The laws and regulations adopted have subjected the Company and the Bank to additional restrictions, oversight and costs that may have an impact on the financial condition and results of operations of the Company. In 2013, the Company's and the Bank's primary federal regulator established a new comprehensive capital framework for U.S. banking organizations. The new capital rules became effective for the Bank on January 1, 2015, subject to a phase-in period. Any future changes to capital requirements may have an adverse effect on our capital ratios.

The current President of the United States and Congress have taken steps to change laws and regulations applicable to financial institutions, including the Company and the Bank. While those steps are generally intended to lessen regulatory burden on financial institutions, the results of such efforts are not yet known, and even the reduction of regulatory restrictions could have an adverse effect on the Company, the Bank, or the Company's shareholders if such lessening of restrictions increases competition within the financial services industry or the Company's market area.

Further information about government regulation of the Company and the Bank may be found under the heading, "SUPERVISION AND REGULATION" in "ITEM 1. BUSINESS" of this Form 10-K.

Noncompliance with the Bank Secrecy Act and other anti-money laundering statutes and regulations could cause us to experience a material financial loss.

The Bank Secrecy Act and the Patriot Act contain anti-money laundering and financial transparency provisions intended to detect and prevent the use of the U.S. financial system for money laundering

and terrorist financing activities. The Bank Secrecy Act, as amended by the Patriot Act, requires depository institutions and their holding companies to undertake activities including maintaining an anti-money laundering program, verifying the identity of clients, monitoring for and reporting suspicious transactions, reporting on cash transactions exceeding specified thresholds, and responding to requests for information by regulatory authorities and law enforcement agencies. Financial Crimes Enforcement Network (also known as FinCEN), a unit of the Treasury Department that administers the Bank Secrecy Act, is authorized to impose significant civil money penalties for violations of those requirements and has recently engaged in coordinated enforcement efforts with the federal bank regulatory agencies, as well as the U.S. Department of Justice, Drug Enforcement Administration, and Internal Revenue Service.

There is also increased scrutiny of compliance with the rules enforced by OFAC. If our policies, procedures and systems are deemed deficient, or if the policies, procedures and systems of the financial institutions that we have already acquired or may acquire in the future are deficient, we may be subject to liability, including fines and regulatory actions such as restrictions on our ability to pay dividends and the necessity to obtain regulatory approvals to proceed with certain planned business activities, including acquisition plans, which could negatively impact our business, financial condition and results of operations. Failure to maintain and implement adequate programs to combat money laundering and terrorist financing could also have serious reputational consequences for us.

Changes in accounting standards could materially impact the Company's consolidated financial statements.

The Company's accounting policies and methods are fundamental to how our financial condition and results of operations are recorded and reported. The accounting standard setters, including the Financial Accounting Standards Board, the SEC, and other regulatory bodies, from time to time may change the financial accounting and reporting standards that govern the preparation of the Company's consolidated financial statements. These changes can be hard to predict and can materially impact how the Company records and reports financial condition and results of operations. In some cases, the Company could be required to apply a new or revised standard retroactively, resulting in changes to previously reported financial results, or a cumulative charge to retained earnings. Management may be required to make difficult, subjective, or complex judgments about matters that are uncertain. Materially different amounts could be reported under different conditions or using different assumptions.

In June 2016, FASB issued a new accounting standard for recognizing current expected credit losses, commonly referred to as CECL. CECL will result in earlier recognition of credit losses and requires consideration of not only past and current events but also reasonable and supportable forecasts that affect collectability. The Company will be subject to the new standard in the first quarter of 2023. Upon adoption of CECL, credit loss allowances may increase, which will decrease retained earnings and regulatory capital. The federal banking regulators have adopted a regulation that will allow banks to phase in the day-one impact of CECL on regulatory capital over three years. CECL implementation poses operational risk, including the failure to properly transition internal processes or systems, which could lead to call report errors, financial misstatements, or operational losses.

Changes in tax laws could adversely affect our performance.

We are subject to extensive federal, state and local taxes, including income, excise, sales/use, payroll, franchise, withholding and ad valorem taxes. Changes to our taxes could have a material adverse effect on our results of operations. In addition, our customers are subject to a wide variety of federal, state and local taxes. Changes in taxes paid by our customers, including changes in the deductibility of mortgage loan related expenses, may adversely affect their ability to purchase homes or consumer products, which could adversely affect their demand for our loans and deposit products. In addition, such negative effects on our customers could result in defaults on the loans we have made and decrease the value of mortgage-backed securities in which we have invested.

The Company undertakes no obligation and disclaims any intention to publish revised information or updates to forward-looking statements contained in the above risk factors or in any other statement made at any time by any director, officer, employee or other representative of the Company unless and until any such revisions or updates are required to be disclosed by applicable securities laws or regulations.

Item 1B. Unresolved Staff Comments — Not applicable to the Company because it is a smaller reporting company.

Item 2. Properties

The Company's operations are conducted at 194 West Main Street, Cortland, Ohio. Full-service banking business is conducted at a total of fourteen offices, including:

BRISTOL 6090 State Route 45 Bristolville, Ohio 44402 330-889-3062	HUDSON 75 S. Main St. Hudson, OH 44236 330-342-1100	VIENNA 4434 Warren-Sharon Road Vienna, Ohio 44473 330-394-1438
BROOKFIELD 7202 Warren-Sharon Road Brookfield, Ohio 44403 330-448-6814	MANTUA 11661 State Route 44 Mantua, Ohio 44255 330-274-3111	WARREN 2935 Elm Road Warren, Ohio 44483 330-372-1520
CANFIELD 3615 Boardman-Canfield Road Canfield, Ohio 44406 330-941-5867	NILES PARK PLAZA 815 Youngstown-Warren Road Suite 1 Niles, Ohio 44446 330-652-8700	WILLIAMSFIELD 5917 U.S. Route 322 Williamsfield, Ohio 44093 440-293-7502
CORTLAND 194 West Main Street Cortland, Ohio 44410 330-637-8040	NORTH LIMA 9001 Market Street North Lima, Ohio 44452 330-758-5884	WINDHAM 8950 Maple Grove Road Windham, Ohio 44288 330-326-2340
HUBBARD 342 West Liberty Street Hubbard, Ohio 44425 330-534-2265	STRONGSVILLE 14357 Pearl Road Strongsville, Ohio 44136 440-238-5917	

The Bank's main and administrative office is located at 194 West Main Street, Cortland, Ohio. The Bank leases one financial service center in Fairlawn, Ohio. The Niles Park Plaza, Hudson and Strongsville offices are leased, while all of the other offices are owned by the Bank.

Item 3. Legal Proceedings

The Bank is involved from time to time in legal actions arising in the ordinary course of the Bank's business. In the opinion of management, the outcomes from such legal proceedings, either individually or in the aggregate, are not expected to have any material effect on the Company.

Item 4. Mine Safety Disclosures – Not applicable

Information about our Executive Officers

The names, ages and positions of the executive officers as of February 28, 2020 are as follows:

Name	Age	Position Held
James M. Gasior	60	President, Chief Executive Officer and Director
Timothy Carney	54	Executive Vice President, Chief Operations Officer and Director
David J. Lucido	62	Senior Vice President and Chief Financial Officer
Stanley P. Feret	59	Senior Vice President and Chief Lending Officer

Principal Occupation and Business Experience of Executive Officers

During the past five years the business experience of each of the executive officers has been as follows:

Mr. Gasior has been President and Chief Executive Officer of the Company and the Bank since November 2, 2009. Mr. Gasior is a director of the Company and the Bank since November 2005.

Mr. Carney has been Executive Vice President and Chief Operating Officer of the Company and the Bank since November 2, 2009. Mr. Carney is a director of the Company and the Bank since November 2009.

Mr. Lucido was appointed Senior Vice President and Chief Financial Officer of the Company and the Bank on January 18, 2010.

Mr. Feret was appointed Senior Vice President and Chief Lending Officer of the Company and the Bank on March 10, 2010.

PART II

Item 5. Market for Registrant's Common Equity, Related Shareholder Matters and Issuer Purchases of Equity Securities

The following is information regarding market information, holders and dividends.

The Company files quarterly reports on Form 10-Q, an annual report on Form 10-K, current reports on Form 8-K, and proxy statements, as well as any amendments to those reports and statements, with the SEC pursuant to section 13(a) or (15)d of the Exchange Act. In 2020, the Company's quarterly reports will be filed within 40 days of the end of each quarter, and the Company's annual report will be filed within 75 days of the end of the year. Any person may access these reports and statements free of charge, as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC, by visiting our web site at www.cortlandbank.com or by writing to:

Deborah L. Eazor
Cortland Bancorp
194 West Main Street
Cortland, Ohio 44410

The SEC also maintains a website at www.sec.gov where our filings and other information may be obtained free of charge.

The Company's common shares began trading on the NASDAQ Capital Markets stock exchange under the symbol CLDB on March 8, 2019. The following brokerage firms are registered market makers in the Company's common shares:

D.A. Davidson & Co.
3773 Attucks Drive
Powell, OH 43065
Telephone: 800-394-9230

Raymond James & Associates, Inc.
880 Carillon Parkway
St. Petersburg, FL 33716
Telephone: 800-248-8863

Piper Sandler
800 Nicollet Mall, Suite 900
Minneapolis, MN 55402
Telephone: 612-303-6000

The following table shows the dividends declared during the periods indicated and the prices at which the common shares of the Company have actually been purchased and sold in market transactions. The range of market prices is compiled from data available the OTCQX, the exchange on which the shares traded prior to March 8, 2019; and from NASDAQ thereafter. The data may not necessarily represent all transactions. As of February 28, 2020, the Company had approximately 1,143 shareholders of record.

	Price Per Share			Cash Dividends
	High	Low	Close	Declared Per Share
2019				
Fourth Quarter	**$ 23.99**	**$ 20.10**	**$ 21.81**	**$ 0.12**
Third Quarter	**24.40**	**21.75**	**21.90**	**0.11**
Second Quarter	**25.00**	**20.47**	**23.10**	**0.11**
First Quarter	**28.68**	**19.10**	**23.79**	**0.16**
2018				
Fourth Quarter	$ 24.30	$ 20.50	$ 20.50	$ 0.11
Third Quarter	26.00	23.46	24.40	0.16
Second Quarter	26.00	20.80	24.31	0.11
First Quarter	26.00	20.40	23.15	0.11
2017				
Fourth Quarter	$ 21.00	$ 17.95	$ 20.50	$ 0.08
Third Quarter	19.25	17.00	19.25	0.08
Second Quarter	19.00	17.94	18.00	0.08
First Quarter	18.93	17.50	18.60	0.15

For current share prices, please access our website at www.cortlandbank.com.

The Bank is subject to a dividend restriction that generally limits the amount of dividends that can be paid by an Ohio state-chartered bank. Under the Ohio Banking Code, cash dividends may not exceed net profits as defined for that year combined with retained net profits for the two preceding years less any required transfers to surplus. Under this formula, the amount available for payment of dividends in 2020 is $9.9 million plus 2020 profits retained up to the date of the dividend declaration.

For the convenience of shareholders, the Company has established a plan whereby shareholders may have their dividends automatically reinvested in the common shares of the Company. Participation in the plan is completely voluntary and shareholders may withdraw at any time.

Shareholder and General Inquiries	**Transfer Agent**
Cortland Bancorp	American Stock Transfer & Trust Company, LLC
194 West Main Street	6201 15th Avenue
Cortland, Ohio 44410	Brooklyn, NY 11219
(330) 637-8040	(888) 509-4619
Attention: Deborah L. Eazor	
Vice President	
DEazor@cortlandbank.com	

Please contact our transfer agent directly for assistance in changing your address, elimination of duplicate mailings, transferring shares or replacing lost, stolen or destroyed share certificates. Other questions regarding your status as a shareholder of the Company may be addressed to the Company as indicated above.

The following table shows information relating to the repurchase of shares of the Company's common stock during the quarter ended December 31, 2019:

	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares That May Yet Be Purchased Under the Plans or Programs*
October	**—**	$ **—**	**—**	**300,000**
November	**4,000**	**22.25**	**4,000**	**296,000**
December	**50,000**	**22.50**	**50,000**	**246,000**
Total	**54,000**	**22.48**	**54,000**	**—**

* On December 18, 2018, the Company's Board of Directors approved a program which allowed the Company to repurchase up to 300,000 shares, or approximately 6.9% of the 4,349,624 outstanding shares of common stock at December 18, 2018. This program terminated on December 31, 2019. The Company purchased 54,000 shares under this program. On December 17, 2019, the Company's Board of Directors approved a new program which allows the Company to repurchase up to 200,000 shares, or approximately 4.6% of the 4,323,822 outstanding shares of common stock at December 17, 2019. This program will terminate on December 31, 2020, or upon purchase of 200,000 shares if earlier or at any time without prior notice.

The Company did not sell any of its shares without registration during 2019, 2018 or 2017.

Item 6. Selected Financial Data

	(In thousands of dollars, except for ratios and per share amounts) Years Ended December 31,				
SUMMARY OF OPERATIONS	2019	2018	2017	2016	2015
Total interest income	**$ 29,643**	$ 27,749	$ 23,492	$ 22,555	$ 21,113
Total interest expense	**5,554**	4,383	3,190	2,918	2,607
Net interest income (NII)	**24,089**	23,366	20,302	19,637	18,506
Provision for loan losses	**715**	725	100	50	455
NII after loss provision	**23,374**	22,641	20,202	19,587	18,051
Investment security gains (losses), including impairment losses	**(44)**	(21)	7	419	64
Mortgage banking gains	**1,554**	974	1,074	1,248	785
Other income	**3,512**	4,739	4,085	2,930	3,060
Total non-interest income	**5,022**	5,692	5,166	4,597	3,909
Total non-interest expenses	**19,755**	18,083	18,601	18,186	16,363
Income before tax expense	**8,641**	10,250	6,767	5,998	5,597
Federal income tax expense	**1,359**	1,415	2,417	1,127	1,219
Net income	**$ 7,282**	$ 8,835	$ 4,350	$ 4,871	$ 4,378
PER COMMON SHARE DATA (1)					
Earnings per share, basic and diluted	**$ 1.68**	$ 2.03	$ 0.99	$ 1.11	$ 0.97
Cash dividends declared per share	**0.50**	0.49	0.39	0.28	0.24
Book value	**17.19**	14.92	13.94	13.05	12.87
BALANCE SHEET DATA					
Assets	**$ 737,162**	$ 714,666	$ 711,101	$ 655,184	$ 612,443
Investment securities	**138,966**	139,504	162,422	179,219	162,035
Loans held for sale	**4,890**	1,040	2,780	4,554	4,033
Loans	**518,716**	514,392	487,490	419,768	394,254
Allowance for loan losses	**4,465**	4,198	4,578	4,868	5,194
Deposits	**618,381**	604,419	585,851	539,850	496,404
Borrowings	**25,922**	30,206	48,678	43,202	44,499
Subordinated debt	**5,155**	5,155	5,155	5,155	5,155
Shareholders' equity	**74,338**	64,918	61,630	57,670	56,684
AVERAGE BALANCES					
Assets	**$ 697,251**	$ 672,506	$ 636,915	$ 608,298	$ 568,897
Investment securities	**139,824**	148,938	168,654	166,690	166,155
Loans	**489,192**	471,600	412,450	385,667	356,105
Loans held for sale	**3,778**	1,927	2,801	4,506	2,504
Deposits	**584,138**	559,921	527,653	496,917	454,920
Borrowings	**24,279**	35,866	33,777	36,292	43,761
Subordinated debt	**5,155**	5,155	5,155	5,155	5,155
Shareholders' equity	**70,587**	61,520	59,998	58,923	56,625
ASSET QUALITY RATIOS					
Loan charge-offs	**$ (554)**	$ (1,338)	$ (840)	$ (614)	$ (723)
Recoveries on loans	**106**	233	450	238	260
Net charge-offs	**$ (448)**	$ (1,105)	$ (390)	$ (376)	$ (463)
Net charge-offs as a percentage of average total loans	**0.09%**	0.23%	0.09%	0.10%	0.13%
Loans 30+ days delinquent as a percentage of total loans	**0.44%**	0.41%	0.24%	1.04%	1.80%
Nonperforming loans	**$ 8,545**	$ 10,140	$ 5,114	$ 8,286	$ 11,542
Nonperforming securities	**—**	—	895	825	778
Other real estate owned	**—**	—	—	—	61
Total nonperforming assets	**$ 8,545**	$ 10,140	$ 6,009	$ 9,111	$ 12,381
Allowance for loan losses as a percentage of non-performing loans	**52.25%**	41.40%	89.52%	58.75%	45.00%
Nonperforming assets as a percentage of:					
Total assets	**1.16%**	1.42%	0.85%	1.39%	2.02%
Equity plus allowance for loan losses	**10.84**	14.67	9.08	14.57	20.01
Tier I capital	**10.94**	13.78	8.78	13.88	19.99
FINANCIAL RATIOS					
Return on average equity	**10.32%**	14.36%	7.25%	8.27%	7.73%
Return on average assets	**1.04**	1.31	0.68	0.80	0.77
Effective tax rate	**15.73**	13.80	35.72	18.79	21.78
Average equity-to-average asset ratio	**10.12**	9.15	9.42	9.69	9.95
Tangible equity ratio	**10.98**	10.72	10.77	10.46	10.62
Cash dividend payout ratio	**29.76**	24.14	39.39	25.23	24.74
Net interest margin	**3.79**	3.76	3.59	3.63	3.65

(1) Basic earnings per common share are based on weighted average shares outstanding. Diluted earnings per share is after consideration of common stock equivalent. Cash dividends per common share are based on actual cash dividends declared. Book value per common share is based on shares outstanding at each period end.

For more information see Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 8, Financial Statements and Supplementary Data.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following schedules show average balances of interest-earning and noninterest-earning assets and liabilities, and shareholders' equity for the years indicated. Also shown are the related amounts of interest earned or paid and the related average yields or interest rates paid for the years indicated. The averages are based on daily balances.

(Fully taxable equivalent basis in thousands of dollars)

	2019			2018			2017		
	Average Balance Outstanding	Interest Earned or Paid	Yield or Rate	Average Balance Outstanding	Interest Earned or Paid	Yield or Rate	Average Balance Outstanding	Interest Earned or Paid	Yield or Rate
Interest-earning assets:									
Interest-earning deposits and other earning assets	**$ 14,122**	**$ 299**	**2.12%**	$ 8,564	$ 162	1.89%	$ 8,668	$ 98	1.13%
Investment securities (Note 1, 2, 3):									
Taxable	**78,745**	**1,905**	**2.42%**	93,372	2,270	2.43%	101,768	2,229	2.19%
Nontaxable	**61,079**	**2,028**	**3.32%**	55,566	1,851	3.33%	66,886	2,853	4.26%
Total investment securities	**139,824**	**3,933**	**2.81%**	148,938	4,121	2.77%	168,654	5,082	3.01%
Loans (Note 1, 2, 3, 4)	**492,970**	**25,789**	**5.23%**	473,527	23,830	5.03%	415,251	19,257	4.64%
Total interest-earning assets	**646,916**	**$ 30,021**	**4.64%**	631,029	$ 28,113	4.46%	592,573	$ 24,437	4.12%
Noninterest-earning assets:									
Cash and due from banks	**7,569**			7,277			7,804		
Premises and equipment	**10,366**			9,089			9,193		
Other assets	**32,400**			25,111			27,345		
Total assets	**$ 697,251**			$ 672,506			$ 636,915		
Interest-bearing liabilities:									
Deposits:									
Interest-bearing demand deposits	**$ 197,196**	**$ 1,879**	**0.95%**	$ 197,856	$ 1,378	0.70%	$ 168,536	$ 751	0.45%
Savings	**110,473**	**102**	**0.09%**	112,508	97	0.09%	114,261	90	0.08%
Time	**141,080**	**2,862**	**2.03%**	120,986	2,052	1.70%	128,251	1,730	1.35%
Total interest-bearing deposits	**448,749**	**4,843**	**1.08%**	431,350	3,527	0.82%	411,048	2,571	0.63%
Borrowings:									
Securities sold under agreement to repurchase	**1,493**	**5**	**0.33%**	1,679	6	0.33%	2,018	7	0.33%
Subordinated debt	**5,155**	**203**	**3.89%**	5,155	189	3.61%	5,155	138	2.64%
Federal Home Loan Bank advances - short term	**4,786**	**129**	**2.70%**	18,899	374	1.98%	16,917	175	1.03%
Federal Home Loan Bank advances - long term	**18,000**	**374**	**2.08%**	15,288	287	1.88%	14,842	299	2.01%
Total borrowings	**29,434**	**711**	**2.42%**	41,021	856	2.09%	38,932	619	1.59%
Total interest-bearing liabilities	**478,183**	**$ 5,554**	**1.16%**	472,371	$ 4,383	0.93%	449,980	$ 3,190	0.71%
Noninterest-bearing liabilities:									
Demand deposits	**135,388**			128,571			116,605		
Other liabilities	**13,093**			10,044			10,332		
Shareholders' equity	**70,587**			61,520			59,998		
Total liabilities and shareholders' equity	**$ 697,251**			$ 672,506			$ 636,915		
Net interest income		**$ 24,467**			$ 23,730			$ 21,247	
Net interest rate spread (Note 5)			**3.48%**			3.53%			3.41%
Net interest margin (Note 6)			**3.79%**			3.76%			3.59%

Note 1 – Includes both taxable and tax-exempt securities and loans.

Note 2 – The amounts are presented on a fully taxable equivalent basis using the statutory rate of 21% in 2019 and 2018 and 34% in 2017, and have been adjusted to reflect the effect of disallowed interest expenses related to carrying tax-exempt assets. The tax equivalent income adjustment for loans and investment securities was $6,000 and $372,000, respectively, for December 31, 2019; $7,000 and $357,000, respectively, for December 31, 2018; and $14,000 and $931,000, respectively, for December 31, 2017.

Note 3 – Average balance outstanding includes the average amount outstanding of all non-accrual investment securities and loans. Investment securities consist of average total principal adjusted for amortization of premium and accretion of discount and include both taxable and tax-exempt securities. Loans consist of average total loans, including loans held for sale, less average unearned income.

Note 4 – Interest earned on loans includes net loan fees of $812,000 in 2019, $725,000 in 2018 and $443,000 in 2017.

Note 5 – Net interest rate spread represents the difference between the yield on earning assets and the rate paid on interest-bearing liabilities.

Note 6 – Net interest margin is calculated by dividing the net interest income by total interest-earning assets.

FINANCIAL REVIEW

The following is management's discussion and analysis of the financial condition and results of operations of the Company. The discussion should be read in conjunction with the Consolidated Financial Statements and related notes and summary financial information included elsewhere in this annual report.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

The Private Securities Litigation Reform Act of 1995 provides a "safe harbor" for forward-looking statements. In addition to historical information, certain information included in this discussion and other materials filed or to be filed by the Company with the SEC (as well as information included in oral statements or other written statements made or to be made by the Company) may contain forward-looking statements that involve risks and uncertainties. The words "believes," "expects," "may," "will," "should," "projects," "contemplates," "anticipates," "forecasts," "intends," or similar terminology identify forward-looking statements. These statements reflect management's beliefs and assumptions, and are based on information currently available to management.

Economic circumstances, the Company's operations and actual results could differ significantly from those discussed in any forward-looking statements. Some of the factors that could cause or contribute to such differences are changes in the economy and interest rates either nationally or in the Company's market area, including the impact of the impairment of securities; political actions, including failure of the United States Congress to raise the federal debt ceiling or the imposition of changes in the federal budget; changes in customer preferences and consumer behavior; increased competitive pressures or changes in either the nature or composition of competitors; changes in the legal and regulatory environment; changes in factors influencing liquidity, such as expectations regarding the rate of inflation or deflation, currency exchange rates, and other factors influencing market volatility; changes in assumptions underlying the establishment of reserves for possible loan losses, reserves for repurchase of mortgage loans sold and other estimates; and risks associated with other global economic, political and financial factors.

While actual results may differ significantly from the results discussed in the forward-looking statements, the Company undertakes no obligation to update publicly any forward-looking statement for any reason, even if new information becomes available.

Critical Accounting Policies and Estimates

The discussion and analysis of the Company's financial condition and results of operation are based upon the Consolidated Financial Statements, which have been prepared in accordance with U.S. Generally Accepted Accounting Principles (GAAP). The preparation of these consolidated financial statements requires management to make estimates and judgments that affect the reported amounts of assets and liabilities, revenues and expenses, and related disclosures of contingent assets and liabilities at the date of the Company's consolidated financial statements. Actual results may differ from these estimates under different assumptions or conditions.

Certain accounting policies involve significant judgments and assumptions by management which has a material impact on the carrying value of certain assets and liabilities; management considers such accounting policies to be critical accounting policies. The judgments and assumptions used by management are based on historical experience and other factors, which are believed to be reasonable under the circumstances. Management has discussed the development and selection of these accounting estimates with the Audit Committee.

Management believes the following are critical accounting policies that require the most significant judgments and estimates used in the preparation of the Company's consolidated financial statements.

Accounting for the Allowance for Loan Losses

The determination of the allowance for loan losses and the resulting amount of the provision for loan losses charged to operations reflects management's current judgment about the credit quality of the loan portfolio and takes into consideration changes in lending policies and procedures, changes in economic and business conditions, changes in the nature and volume of the portfolio and, in the terms of loans, changes in the experience, ability and depth of lending management, changes in the volume and severity of past due, non-accrual and adversely classified or graded loans, changes in the quality of the loan review system, changes in the value of underlying collateral for collateral-dependent loans, the existence and effect of any concentrations of credit and the effect of competition, legal and regulatory requirements and other external factors. The nature of the process by which we determine the appropriate allowance for loan losses requires the exercise of considerable judgment. While management utilizes its best judgment and information available, the ultimate adequacy of the allowance is dependent upon a variety of factors beyond our control, including the performance of the loan portfolio, the economy, changes in interest rates and the view of the regulatory authorities toward loan classifications. The allowance is increased by the provision for loan losses and decreased by charge-offs when management believes the uncollectibility of a loan is confirmed. Subsequent recoveries, if any, are credited to the allowance. A weakening of the economy or other factors that adversely affect asset quality could result in an increase in the number of delinquencies, bankruptcies or defaults and a higher level of non-performing assets, net charge offs, and provision for loan losses in future periods.

The Company's allowance for loan losses methodology consists of three elements: specific valuation allowances based on probable losses on specific loans; valuation allowances based on historical loan loss experience for similar loans with similar characteristics and trends; and general valuation allowances based on general economic conditions and other qualitative risk factors both internal and external to the Company. These elements support the basis for determining allocations between the various loan categories and the overall adequacy of our allowance to provide for probable losses inherent in the loan portfolio.

With these methodologies, a general allowance is established for each loan type based on historical losses for each loan type in the portfolio. Additionally, management allocates a specific allowance for "Impaired Credits," which is based on current information and events; it is probable the Company will not collect all amounts due according to the original contractual terms of the loan agreement. The level of the general allowance is established to provide coverage for management's estimate of the credit risk in the loan portfolio by various loan segments not covered by the specific allowance. Additional information regarding allowance for credit losses can be found in Item 8, Note 3 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

Investment Securities and Impairment

The classification and accounting for investment securities is discussed in detail in Item 8, Notes 1 and 2 of the Consolidated Financial Statements. Investment securities must be classified as held-to-maturity, available-for-sale, or trading. The appropriate classification is based partially on our ability to hold the securities to maturity and largely on management's intentions, if any, with respect to either holding or selling the securities. The classification of investment securities is significant since it directly impacts the accounting for unrealized gains and losses on securities. Unrealized gains and losses on trading securities, if any, flow directly through earnings during the periods in which they arise, whereas available-for-sale securities are recorded as a separate component of shareholders' equity (accumulated other comprehensive income or loss) and do not affect earnings until realized. The fair values of our investment securities are generally determined by reference to quoted market prices and reliable independent sources. At each reporting date, the Company assesses whether there is an "other-than-temporary" impairment to the Company's investment securities. Such impairment must be recognized in current earnings rather than in other comprehensive income (loss).

The Company reviews investment debt securities on an ongoing basis for the presence of other-than-temporary impairment (OTTI) with formal reviews performed quarterly. OTTI losses on individual investment securities are recognized in accordance with FASB ASC topic 320, *Investments – Debt and Equity Securities*. The purpose of this ASC is to provide greater clarity to investors about the credit and noncredit component of an OTTI event and to communicate more effectively when an OTTI event has occurred. This ASC amends the OTTI guidance in GAAP for debt securities, improves the presentation and disclosure of OTTI on investment securities and changes the calculation of the OTTI recognized in earnings in the financial statements. This ASC does not amend existing recognition and measurement guidance related to OTTI of equity securities.

For debt securities, ASC topic 320 requires an entity to assess whether it has the intent to sell the debt security or it is more-likely-than-not that it will be required to sell the debt security before its anticipated recovery. If either of these conditions is met, an OTTI on the security must be recognized.

In instances in which a determination is made that a credit loss (defined as the difference between the present value of the cash flows expected to be collected and the amortized cost basis) exists but the entity does not intend to sell the debt security and it is not more-likely-than-not that the entity will be required to sell the debt security before the anticipated recovery of its remaining amortized cost basis (i.e., the amortized cost basis less any current-period credit loss), ASC topic 320 changes the presentation and amount of the OTTI recognized in the income statement.

In these instances, the impairment is separated into the amount of the total impairment related to the credit loss and the amount of the total impairment related to all other factors. The amount of the total other-than-temporary impairment related to the credit loss is recognized in earnings. The amount of the total impairment related to all other factors is recognized in other comprehensive income (loss). The total OTTI is presented in the income statement with an offset for the amount of the total OTTI that is recognized in other comprehensive income (loss). In determining the amount of impairment related to credit loss, the Company uses a third party discounted cash flow model, several inputs for which require estimation and judgment. Among these inputs are projected deferral and default rates and estimated recovery rates. Realization of events different than that projected could result in a large variance in the values of the securities.

Additional information regarding investment securities can be found in Item 8, Notes 2 and 11 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

Income Taxes

The provision for income taxes is based on income reported for financial statement purposes and differs from the amount of taxes currently payable, since certain income and expense items are reported for financial statement purposes in different periods than those for tax reporting purposes. Accrued taxes represent the net estimated amount due or to be received from taxing authorities. In estimating accrued taxes, the Company assesses the relative merits and risks of the appropriate tax treatment of transactions taking into account statutory, judicial and regulatory guidance in the context of the Company's tax position.

The Company accounts for income taxes using the asset and liability approach, the objective of which is to establish deferred tax assets and liabilities for the temporary differences between the financial reporting basis and tax basis of our assets and liabilities at enacted tax rates expected to be in effect when such amounts are realized or settled. The Company conducts periodic assessments of deferred tax assets, including net operating loss carryforwards, to determine if it is more-likely-than-not that they will be realized. In making these assessments, the Company considers taxable income in prior periods, projected future taxable income, potential tax planning strategies and projected future reversals of deferred tax items. These assessments involve a certain degree of subjectivity which may change significantly depending on the related circumstances.

CORPORATE PROFILE

The Company, with total assets of approximately $737 million at December 31, 2019, is a bank holding company headquartered in Cortland, Ohio whose principle activity is to manage, supervise and otherwise serve as a source of strength to the Bank.

Cortland Bank is a state-chartered bank engaged in commercial and retail banking services. The Bank offers a full range of financial services to its local communities with an ongoing strategic focus on commercial banking relationships.

The Bank's results of operations depend primarily on net interest income, which, in part, is a direct result of the market interest rate environment. Net interest income is the difference between the interest income earned on interest-earning assets and the interest paid on interest-bearing liabilities. Net interest income is affected by the shape of the market yield curve, the repricing of interest-earning assets and interest-bearing liabilities and the prepayment rate of mortgage-related assets. Results of operations may be affected significantly by general and local economic conditions, particularly those with respect to changes in market interest rates, credit quality, governmental policies and actions of regulatory authority.

2019 OVERVIEW

In 2019, the Company's net income was $7.3 million compared to $8.8 million in 2018, the primary difference being a $1.55 million gain on life insurance proceeds from the death of a former executive. Amid rigorous regulatory standards and an uncertain economy, the Company continues to follow its core strategic direction. Operating results reflect its commitment to growing loans and deposits in the markets in which it operates and in producing consistent positive earnings.

Highlights of 2019 financial results:

- Net income of $7.23 million, or $1.68 per share for 2019. This compares to net profits of $7.32 million, or $1.68 per share, in the previous year as stated on a normalized basis, after adjusting for non-recurring items, including $51,000 and $1.55 million gains on life insurance proceeds received on life insurance policies upon the death of former directors or officers that exceeded the cash value of the policies.
- The Company's net interest margin for the year ended December 31, 2019 improved to 3.79% versus 3.76% for the same period last year despite three rate cuts enacted by the Federal Open Market Committee in 2019.
- The return on average asset ratio for the Company was 1.04% for the year compared to 1.31% for the same period in 2018. Likewise, the return on average equity ratio for the Company was 10.32% for the year compared to 14.36% for the same period in 2018. Ratios in 2018 are unadjusted for the $1.55 million life insurance gain.

- The efficiency ratio for the Company was 67.01% for the year versus 64.82% for 2018.
- Non-interest expenses of $19.8 million for the full year represent a 9.2% increase over the $18.1 million reported for 2018. The increase in expenses is a result of onboarding costs relating to the NASDAQ listing, increased equity awards and new branch initiatives.
- A quarterly cash dividend of $0.14 per share was payable on March 2, 2020 to shareholders of record on February 10, 2020, a 17% increase over the previous $0.12 per share. In addition, a special cash dividend of $0.05 per share was payable concurrently, reflecting the consistent earnings performance.
- The effective tax rate was 15.7% compared to 13.8% for 2019 and 2018, respectively. The tax-free life insurance gain in 2018 significantly reduced the effective rate. Further reductions in the 21% statutory rate are realized by the Company as a result of tax-free investment income.

In the midst of earnings pressures brought on by economic instability, interest rate compression and increased competition, the Company devoted substantial attention in the three years 2017-2019 to profit improvement measures and balance sheet positioning. The Company's management team continues to focus on measures designed to maintain capital and to provide for adequate liquidity for lending and business development purposes. New strategies are being pursued to improve market penetration and product expansion, with the objective of increasing both the interest income and non-interest income revenue base.

Total shareholders' equity at December 31, 2019 was $74.3 million, representing a ratio of equity capital to total assets of 10.1%. In comparison, total shareholders' equity was $64.9 million at December 31, 2018, representing a ratio of equity capital to total assets of 9.1%. A component of shareholders' equity is accumulated other comprehensive income (loss), which includes the net after-tax impact of unrealized gains or losses on investment securities classified as available-for-sale. Net unrealized gains on available-for-sale investment securities, net of tax, were $1.1 million at December 31, 2019, compared with net unrealized losses, net of tax, of $3.7 million at December 31, 2018. Such unrealized gains or losses represent the difference, net of applicable income tax effect, between the estimated fair value and amortized cost of investment securities classified as available-for-sale and is driven by market interest rates. The $4.8 million increase in securities valuation is a result of the decline in interest rates during 2019.

Return on average equity was 10.32% in 2019, compared to 14.36% in 2018, while return on average assets measured 1.04% in 2019 and 1.31% in 2018. Adjusted for nonrecurring items, the return on average assets and return on average equity in 2018 were 1.08% and 11.84%. Book value per share increased by $2.27 to $17.19 at December 31, 2019 from $14.92 at December 31, 2018. The price of the Company's common shares traded in a range between a low of $20.10 and a high of $28.68, closing the year at $21.81 per share.

The Company continues to maintain capital sufficient to be deemed well capitalized under all regulatory measures. In the current regulatory environment, regulatory oversight bodies expect banks to maintain ratios above the statutory levels as a margin of safety.

CERTAIN NON-GAAP MEASURES

Certain financial information has been determined by methods other than GAAP. Specifically, certain financial measures are based on core earnings rather than net income. Core earnings exclude income, expense, gains and losses that either are not reflective of ongoing operations or that are not expected to reoccur with any regularity or reoccur with a high degree of uncertainty and volatility. Such information may be useful to both investors and management and can aid them in understanding the Company's current performance trends and financial condition. Core earnings are a supplemental tool for analysis and not a substitute for GAAP net income. Reconciliation from GAAP net income to the non-GAAP measure of core earnings is referenced as part of management's discussion and analysis of quarterly and year-to-date financial results of operations.

Core earnings, which exclude non-recurring items, were $7.2 million in 2019, $7.3 million in 2018 and $4.7 million in 2017. Core earnings per share were $1.67 in 2019, $1.68 in 2018 and $1.07 in 2017.

The following is a reconciliation between core earnings and earnings under GAAP:

	(Amounts in thousands, except per share data) Years Ended December 31,		
	2019	2018	2017
GAAP earnings	**$ 7,282**	$ 8,835	$ 4,350
Gains recognized on Bank Owned Life Insurance policy (tax free)*	**(51)**	(1,548)	(898)
Change in corporate tax rate	**—**	—	1,246
Recognition (reversal) of deferred tax valuation allowance	**—**	28	—
Core earnings	**$ 7,231**	$ 7,315	$ 4,698
GAAP earnings per share	**$ 1.68**	$ 2.03	$ 0.99
Gains recognized on Bank Owned Life Insurance policy (tax free)*	**(0.01)**	(0.36)	(0.20)
Change in corporate tax rate	**—**	—	0.28
Recognition (reversal) of deferred tax valuation allowance	**—**	0.01	—
Core earnings per share	**$ 1.67**	$ 1.68	$ 1.07

* This is the amount of proceeds received on life insurance policies upon the death of former directors or officers that exceeded the cash value of the policies.

BALANCE SHEET COMPOSITION

The following table illustrates, during the years presented, the mix of the Company's funding sources and the assets in which those funds are invested as a percentage of the Company's average total assets at December 31 for the periods indicated. Average assets totaled $697.3 million in 2019 compared to $672.5 million in 2018 and $636.9 million in 2017.

	December 31,		
	2019	2018	2017
Sources of Funds:			
Deposits:			
Non-interest bearing	**19.4%**	19.1%	18.3%
Interest bearing	**64.4**	64.1	64.6
Long-term debt and other borrowings	**3.5**	5.3	5.3
Subordinated debt	**0.7**	0.8	0.8
Other non-interest bearing liabilities	**1.9**	1.5	1.6
Shareholders' equity	**10.1**	9.2	9.4
Total	**100.0%**	100.0%	100.0%
Uses of Funds:			
Loans, including loans held for sale	**70.7%**	70.4%	65.2%
Investment securities	**20.1**	22.2	26.5
Interest-earning deposits and other earning assets	**2.0**	1.3	1.4
Bank-owned life insurance	**2.3**	2.4	2.7
Partnerships and other investments	**1.8**	1.6	1.4
Other non-interest earning assets	**3.1**	2.1	2.8
Total	**100.0%**	100.0%	100.0%

Deposits continue to be the Company's primary source of funding. During 2019, the relative mix of deposits has remained steady with interest-bearing being the main source. Average non-interest bearing deposits totaled 23.2% of total average deposits in 2019, compared to 23.0% in 2018 and 22.1% in 2017. Additional information regarding deposits can be found in Item 8, Note 5 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

The Company primarily invests funds in loans and securities. Loans continue to be the focus of the Company's asset allocation. Average securities decreased $9.1 million, or 6.1%, to $139.8 million during 2019 from $148.9 million in 2018, while average loans increased by $19.4 million, or 4.1%, to $493.0 million during 2019 from $473.5 million in 2018.

ASSET QUALITY

The Company's management regularly monitors and evaluates trends in asset quality. Loan review practices and procedures require detailed monthly analysis of delinquencies, nonperforming assets and other sensitive credits. Loans are moved to non-accrual status once they reach 90 days past due or when analysis of a borrower's creditworthiness indicates the collection of interest and principal is in doubt. Nonperforming loans include loans in non-accrual status, restructured loans and real estate acquired in satisfaction of debts previously contracted.

Additionally, as part of the Company's loan review process, management routinely evaluates risks which could potentially affect the ability to collect loan balances in their entirety. Reviews of individual credits, aggregate account relationships or any concentration of credits in particular industries are subject to a detailed loan review.

Gross income that would have been recorded in 2019 on these nonperforming loans, had they been in compliance with their original terms, was $544,000. Interest income that actually was included in income on these loans amounted to $381,000. In addition to nonperforming loans, nonperforming assets include nonperforming investment securities. At December 31, 2017, there were two investments classified as nonperforming and both of these investments were sold in June 2018. Gross income that would have been recorded in the first six months of 2018 on nonperforming investments, had they been in compliance with their original terms, was $21,000. Interest income that actually was included in income on these investments during this period amounted to $25,000, a higher amount due to interest collected upon sale. There are no accruing loans which are contractually past due 90 days or more as to principal or interest payments.

The following table depicts the trend in these potentially problematic asset categories:

	(Amounts in thousands) December 31, 2019	2018	2017	2016	2015
Non-accrual loans:					
Commercial	**$ 1,152**	$ 1,291	$ —	$ —	$ 1,196
Commercial real estate	**566**	512	506	1,458	2,176
Residential real estate	**469**	310	247	1,265	1,252
Consumer - home equity	**147**	120	129	55	262
Consumer - other	**—**	—	—	—	—
Total non-accrual loans	**2,334**	2,233	882	2,778	4,886
Investment securities	**—**	—	895	825	778
Other real estate owned	**—**	—	—	—	61
Troubled debt restructured loans	**6,211**	7,907	4,232	5,508	6,656
Nonperforming assets	**$ 8,545**	$ 10,140	$ 6,009	$ 9,111	$ 12,381
Loans past due greater than 30 days or on nonaccrual	**$ 2,593**	$ 2,493	$ 1,409	$ 4,533	$ 7,242

	December 31, 2019	2018	2017	2016	2015
Non-accrual loans as a percentage of total loans	**0.45%**	**0.43%**	0.18%	0.66%	1.24%
Nonperforming assets as a percentage of total assets	**1.16%**	**1.42%**	0.85%	1.39%	2.02%
Nonperforming assets as a percentage of equity capital plus allowance for loan losses	**10.84%**	**14.67%**	9.08%	14.57%	20.01%

As of December 31, 2019, there were $7.0 million in loans not included in this table where known information about borrowers' possible credit problems caused management to have some doubts as to the ability of these borrowers to comply with present loan payment terms and which may result in disclosure of such loans in this table.

Loans accounted for on a non-accrual basis ranged from a high of $4.9 million in 2015 to a low of $882,000 in 2017. Non-accrual loans in 2019 of $2.3 million is slightly lower than the average of the past five years, which is $2.6 million. In 2015, non-accrual loans were mainly impacted by loans to one related group in both the commercial and commercial real estate categories, which were resolved favorably in 2016. In 2015 to 2016, non-accrual loans were impacted by one residential real estate loan for $1.0 million which paid off in 2017. The total of all loans past due more than 30 days or on non-accrual ranged from a low of $1.4 million in 2017 to a high of $7.2 million in 2015. Loans charged-off, net of recoveries, was $448,000 in 2019, compared to $ 1.1 million in 2018, $390,000 for 2017, $376,000 for 2016, and $463,000 for 2015. The resulting ratios do not indicate any trends of concern from management's perspective.

Troubled-debt restructured loans are loans that have been modified when economic concessions have been granted to borrowers who have experienced or are expected to experience financial difficulties. In 2018, there were $4.2 million in new troubled debt restructurings. In 2015, there were $3.2 million in new troubled debt restructurings. There were none added in 2019, 2017 or 2016.

Past due loans, potential problem loans, as well as loans on non-accrual have all been stable, helping to require a provision of $715,000 in 2019, and $725,000 in 2018 which is lower than the net charge-off of $1.1 million (of which previously had a specific reserve of $625,000). In 2017 and 2016, the provision for loan losses was $100,000 and $50,000, respectively, aided by large recoveries. Additional information regarding loans can be found in Item 8, Note 3 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

At December 31, 2017, there was $895,000 of the Company's holdings in trust preferred securities considered to be in non-accrual status. The quarterly interest payments for both of its investments in trust preferred securities had been placed in "payment in kind" status. Payment in kind status results in a temporary delay in the payment of interest. As a result of a delay in the collection of the interest payments, management placed these securities in non-accrual status. They were sold in 2018.

RESULTS OF OPERATIONS

	(Amounts in thousands) December 31,		
	2019	2018	2017
Net interest income	**$ 24,089**	$ 23,366	$ 20,302
Tax equivalent income adjustment for investment securities	**372**	357	931
Tax equivalent income adjustment for loans	**6**	7	14
Net interest income on a fully taxable equivalent basis	**$ 24,467**	$ 23,730	$ 21,247
Interest and dividends on investment securities	**$ 3,561**	$ 3,764	$ 4,151
Tax equivalent income adjustment for investment securities	**372**	357	931
Investment securities income on a fully taxable equivalent basis	**$ 3,933**	$ 4,121	$ 5,082
Interest and fees on loans	**$ 25,783**	$ 23,823	$ 19,243
Tax equivalent income adjustment for loans	**6**	7	14
Loan income on a fully taxable equivalent basis	**$ 25,789**	$ 23,830	$ 19,257

Analysis of Net Interest Income - Years Ended December 31, 2019 and 2018

Net interest income, the principal source of the Company's earnings, is the amount by which interest and fees generated by interest-earning assets, primarily loans and investment securities, exceed the interest cost of deposits and borrowed funds. On a fully taxable equivalent basis, net interest income measured $24.5 million for 2019 and $23.7 million for 2018. The resulting net interest margin was 3.79% for 2019 and 3.76% for 2018.

The increase in interest income, on a fully taxable equivalent basis, of $1.9 million is the product of a 2.5% year-over-year increase in average earning assets along with a 18 basis point increase in yield. The increase in interest expense of $1.2 million was a product of a 23 basis point increase in rates paid and a 1.2% increase in average interest-bearing liabilities. The net result was a 3.1% increase in net interest income on a fully taxable equivalent basis, and a 3 basis point increase in the Company's net interest margin on a growing asset base with a different mix.

On a fully taxable equivalent basis, income on investment securities decreased by $188,000, or 4.6%. The average invested balances in these securities decreased by $9.1 million, or 6.1%, from the levels of a year ago. The decrease in the average balance of investment securities was accompanied by a 4 basis point increase in the tax equivalent yield of the portfolio. The Company will continue attempting to redeploy liquidity into loans which generate greater yields than securities, thus sacrificing securities balances when beneficial. Additional information regarding investment securities can be found in Item 8, Notes 2 and 11 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

On a fully taxable equivalent basis, income on loans increased by $2.0 million, or 8.2%, for 2019 compared to the same period in 2018. A $19.4 million increase in the average balance of the loan portfolio, or 4.1%, was accompanied by a 20 basis point increase in the portfolio's tax equivalent yield. The four rate increases in 2018 by the Federal Open Market Committee (FOMC) aggregating to 100 basis points was tempered with three rate reductions in the latter part of 2019. Coupled with strong competition for good credits, there is continued downward pressure on offering rates. The commercial loan portfolio housed the majority of the net increase in balances.

Additional information regarding loans can be found in Item 8, Note 3 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

Other interest income increased by $137,000, or 84.6%, from the same period a year ago. The average balance of interest-earning deposits increased by $5.6 million, or 64.9%. The yield increased by 23 basis points from 2018 to 2019, reflecting the aggregate net increases in the federal funds rate. Management intends to remain fully invested, minimizing on-balance sheet liquidity.

Average interest-bearing demand deposits and money market accounts decreased by $660,000, or 0.3%, while average savings balances decreased by $2.0 million, or 1.8%. The average rate paid on interest-bearing demand deposits and money market accounts increased 25 basis points from 2018 to 2019 to 0.95%, reflecting the promotional specials offered during the year. The average rate paid on savings accounts was 0.09% for both 2019 and 2018. The average balance of time deposit products increased by $20.1 million, or 16.6%, as the average rate paid increased by 33 basis points, from 1.70% to 2.03%. The current low-rate environment offers little opportunity for time deposit customers, except for periodic special rates offered on a limited basis. Time deposits also include wholesale funds, generally brokered deposits, obtained at generally higher rates than in-market accounts. Brokered deposits are one of several borrowing sources, primarily used when rates therein are beneficial versus other sources. Additional information regarding deposits can be found in Item 8, Note 5 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

Average borrowings and subordinated debt decreased by $11.6 million while the average rate paid on borrowings increased by 33 basis points. As lower cost short-term borrowings matured, the longer-term borrowings at higher rates remained. Management continues to utilize short-term borrowings to bridge liquidity gaps, along with wholesale deposit alternatives. With the possibility of continued rate reductions by the FOMC, wholesale and borrowing rates can reprice lower, while deposit rates may show modest decline. Additional information regarding FHLB Advances and Other Borrowings and Subordinated Debt can be found in Item 8, Notes 6 and 7 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

Analysis of Net Interest Income - Years Ended December 31, 2018 and 2017

Net interest income, the principal source of the Company's earnings, is the amount by which interest and fees generated by interest-earning assets, primarily loans and investment securities, exceed the interest cost of deposits and borrowed funds. On a fully taxable equivalent basis, net interest income measured $23.7 million for 2018 and $21.2 million for 2017. The resulting net interest margin was 3.76% for 2018 and 3.59% for 2017.

The increase in interest income, on a fully taxable equivalent basis, of $3.7 million was the product of a 6.5% year-over-year increase in average earning assets along with a 34 basis point increase in yield. The increase in interest expense of $1.2 million was a product of a 22 basis point increase in rates paid and a 5.0% increase in average interest-bearing liabilities. The net result was a 11.7% increase in net interest income on a fully taxable equivalent basis, and a 17 basis point increase in the Company's net interest margin on a growing asset base with a different mix. The key driver to the margin expansion was the loan rate increases exceeding the deposit rate increases by 20 basis points.

On a fully taxable equivalent basis, income on investment securities decreased by $961,000, or 18.9%. The average invested balances in these securities decreased by $19.7 million, or 11.7%, from the levels of a year ago. The decrease in the average balance of investment securities was accompanied by a 24 basis point decrease in the tax equivalent yield of the portfolio. The Company continued attempting to redeploy liquidity into loans which generate greater yields than securities, thus sacrificing securities balances when beneficial. The lower corporate tax rate effective in 2018 had a 22 basis point impact on the tax equivalent yield, otherwise security yields were comparable among periods. Additional information regarding investment securities can be found in Item 8, Notes 2 and 11 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

On a fully taxable equivalent basis, income on loans increased by $4.6 million, or 23.7%, for 2018 compared to the same period in 2017. A $58.3 million increase in the average balance of the loan portfolio, or 14.0%, was accompanied by a 39 basis point increase in the portfolio's tax equivalent yield. Despite four rate increases by the Federal Reserve Open Market Committee, strong competition for good credits kept pressure on offering rates. Higher than usual prepayment fees contributed 5 basis points to the loan yield. The commercial loan portfolio housed the majority of the increase in balances. Additional information regarding loans can be found in Item 8, Note 3 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

Other interest income increased by $64,000, or 65.3%, from the same period a year ago. The average balance of interest-earning deposits decreased by $104,000, or 1.2%. The yield increased by 76 basis points from 2017 to 2018, reflecting increases in the federal funds rate. Management intended to remain fully invested, minimizing on-balance sheet liquidity.

Average interest-bearing demand deposits and money market accounts increased by $29.3 million, or 17.4%, while average savings balances decreased by $1.8 million, or 1.5%. Total interest paid on interest-bearing demand deposits and money market accounts was $1.4 million, a $627,000 increase from last year. The average rate paid increased 25 basis points from 2017 to 2018. Total interest paid on savings accounts was $97,000, a $7,000 increase from last year. The average rate paid on savings accounts increased 1 basis point from 2017 to 2018. The average balance of time deposit products decreased by $7.3 million, or 5.7%, as the average rate paid increased by 35 basis points, from 1.35% to 1.70%. Interest expense increased on time deposits by $322,000 from the prior year. The low-rate environment offered little opportunity for time deposit customers, except for periodic special rates offered on a limited basis. Time deposits also include wholesale funds obtained at generally higher rates than in-market accounts. Additional information regarding deposits can be found in Item 8, Note 5 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

Average borrowings and subordinated debt increased by $2.1 million while the average rate paid on borrowings increased by 50 basis points. Cost of borrowings continued to rise in tandem with the Federal funds rate, resulting in higher interest expense, despite comparable borrowing levels. Management continued to utilize short-term borrowings to bridge liquidity gaps. Additional information regarding FHLB Advances and Other Borrowings and Subordinated Debt can be found in Item 8, Notes 6 and 7 to the Consolidated Financial Statements and elsewhere in this Management's Discussion and Analysis.

The following table provides a detailed analysis of changes in net interest income on a tax equivalent basis, identifying that portion of the change that is due to a change in the volume of average assets and liabilities outstanding versus that portion which is due to a change in the average yields on earning assets and average rates on interest-bearing liabilities. Changes in interest due to both rate and volume which cannot be segregated have been allocated to rate and volume changes in proportion to the relationship of the absolute dollar amounts of the change in each.

	(Amounts in thousands)					
	2019 Compared to 2018			2018 Compared to 2017		
	Volume	Rate	Total	Volume	Rate	Total
Increase (decrease) in interest income:						
Interest-earning deposits and other money markets	**$ 116**	**$ 21**	**$ 137**	$ (1)	$ 65	$ 64
Investment securities:						
Taxable	**(354)**	**(11)**	**(365)**	(193)	234	41
Nontaxable	**183**	**(6)**	**177**	(437)	(565)	(1,002)
Loans	**998**	**961**	**1,959**	2,846	1,727	4,573
Total interest income change	**943**	**965**	**1,908**	2,215	1,461	3,676
Increase (decrease) in interest expense:						
Interest-bearing demand deposits	**(5)**	**506**	**501**	148	479	627
Savings deposits	**(2)**	**7**	**5**	(1)	8	7
Time deposits	**371**	**439**	**810**	(103)	425	322
Securities sold under agreements to repurchase	**(1)**	**—**	**(1)**	(1)	—	(1)
FHLB advances - short term	**(347)**	**102**	**(245)**	23	176	199
FHLB advances - long term	**54**	**33**	**87**	8	(20)	(12)
Subordinated debt	**—**	**14**	**14**	—	51	51
Total interest expense change	**70**	**1,101**	**1,171**	74	1,119	1,193
Increase (decrease) in net interest income on a taxable equivalent basis	**$ 873**	**$ (136)**	**$ 737**	$ 2,141	$ 342	$ 2,483

PROVISION FOR LOAN LOSSES, NON-INTEREST INCOME, NON-INTEREST EXPENSE & FEDERAL INCOME TAX

During 2019, 2018 and 2017, the amount charged to operations as a provision for loan losses was adjusted to account for charge-offs against the allowance, as well as an increase in loan balances recorded in the portfolio, expected losses on specific problem loans and several qualitative factors, including factors specific to the local economy and to industries operating in the local market. The Company had allocated a portion of the allowance for a select few specific problem loans in 2019, 2018 and 2017, and has not experienced significant deterioration in any loan type, including the residential real estate portfolios or the commercial loan portfolio, and accordingly has not added any special provision for these loan types. Past due loans, potential problem loans, as well as loans on non-accrual have all been stable, helping to require a provision of $715,000 in 2019 which is higher than the $448,000 net charge offs, providing allocation to a specific reserve. A $725,000 provision was recorded in 2018 which is lower than the net charge-off of $1.1 million (of which previously had a specific reserve of $625,000) and required a provision of only $100,000 in the 2017. In 2017, there was a favorable ruling in a bankruptcy court surrounding the eventual sale of a business to which the Company lent funds, resulting in a large recovery of amounts previously charged off. These recoveries displaced provisions throughout 2017. Provision expense levels are in recognition of loan growth and a changing composition of the loan portfolio as the Company manages its balance sheet with a commercially-oriented focus.

The following table provides a detailed analysis of non-interest income:

	(Amounts in thousands) December 31,		
	2019	2018	2017
Fees for customer services	**$ 2,312**	$ 2,273	$ 2,241
Mortgage banking gains, net	**1,554**	974	1,074
Earnings on bank-owned life insurance	**392**	1,869	1,203
Other real estate gains	**—**	—	170
Other non-interest income	**808**	597	471
Non-interest income, excluding investment gains	**5,066**	5,713	5,159
Investment securities available-for-sale (losses) gains, net	**(44)**	(21)	7
Total non-interest income	**$ 5,022**	$ 5,692	$ 5,166

Total non-interest income, excluding investment gains, decreased by $647,000, or 11.3%, for 2019 compared to an increase of $554,000, or 10.7%, for 2018. After gains on investment securities and impairment losses, non-interest income decreased by $670,000, or 11.8%, in 2019 compared to an increase of $526,000, or 10.2%, in 2018.

Fees for customer services increased by $39,000, or 1.7%, in 2019, compared to an increase of $32,000, or 1.4%, in the prior year driven by customer transactions on deposit accounts.

Mortgage banking gains totaled $1.6 million in 2019, $974,000 in 2018 and $1.1 million in 2017, reflective of the increase in margin on loan sales.

Earnings on bank-owned life insurance decreased by $1.5 million in 2019 compared to an increase of $666,000 in 2018. Proceeds received on policies upon the deaths of former executives exceeded the cash value of the policies by $51,000 in 2019 and $1.5 million in 2018.

A gain of $170,000 was recognized on the sale of property that was recorded as other real estate owned in 2017 with none in 2019 or 2018.

Other sources of non-interest income increased by $211,000 in 2019 from the same period a year ago, and increased by $126,000 in 2018 from 2017. This latter income category is subject to fluctuation due to the non-recurring nature of some of the items.

The following table provides a summary of non-interest expenses:

	(Amounts in thousands) December 31,		
	2019	2018	2017
Salaries and employee benefits	**$ 11,198**	$ 10,260	$ 10,631
Net occupancy and equipment	**2,400**	2,232	2,331
State and local taxes	**518**	493	463
FDIC insurance	**63**	176	199
Professional fees	**1,093**	879	786
Advertising and marketing	**388**	322	478
Data processing fees	**277**	250	251
Other non-interest expense	**3,818**	3,471	3,462
Total non-interest expenses	**$ 19,755**	$ 18,083	$ 18,601

Total non-interest expenses increased by $1.7 million, or 9.3%, in 2019. This compares to a decrease of $518,000, or 2.8%, in 2018.

During 2019, expenditures for salaries and employee benefits increased by $938,000, or 9.1%, and in 2018 decreased by $371,000, or 3.5%. The increase in 2019 is mainly due to an increase in equity compensation of $547,000 in connection with attaining the most profitable year in the Company's history in 2018, and the result of opening of a new branch in the first quarter of 2019. The decrease in 2018 is mainly a result of a workforce realignment and a branch consolidation in latter 2017. Full-time equivalent employment averaged 162 in 2019 compared to 159 in 2018 and 160 in 2017.

Salaries and employee benefits represent 56.7% of all non-interest expenses in 2019 and 2018 and 57.2% in 2017. The following table details components of these increases and decreases.

	Amounts (in thousands) December 31,			Percentages December 31,		
	2019	2018	2017	2019	2018	2017
Salaries	**$ 899**	$ (361)	$ 330	**11.2%**	(4.3)%	4.1%
Employee benefits	**1**	(39)	122	**0.0**	(1.5)	4.8
	900	(400)	452	**8.5**	(3.6)	4.3
Deferred loan origination costs	**38**	29	10	**9.8**	6.9	(2.3)
Total	**$ 938**	$ (371)	$ 462	**9.1%**	(3.5)%	4.5%

Salary expense per employee averaged $55,000 in 2019 and $50,000 in 2018 and $52,000 in 2017. Average earning assets per employee measured approximately $4.2 million in 2019 and in 2018 and $4.1 million in 2017. Charges for insurance premiums paid to the FDIC decreased from 2018 by $113,000. Because the Deposit Insurance Fund (DIF) reserve ratio exceeded a threshold amount, the Bank was given a Small Bank Assessment credit against quarterly premiums. We anticipate using the remainder of the credits in the first quarter of 2020. Deposits are insured by the FDIC up to a maximum amount, which is generally $250,000 per depositor subject to aggregation rules. As an FDIC-insured institution, the Bank is required to pay deposit insurance premium assessments to the FDIC. State and local taxes increased by $25,000 in 2019 or 5.1% compared to a $30,000 increase, or 6.5%, in 2018, reflecting the growing shareholders' equity on which the state tax is based. Professional fees increased by $214,000 or 24.4% from 2018, compared to a $93,000 increase in 2018 from 2017. This is due in part to an increase in legal fees attributable to loan collection efforts. All other categories of non-interest expenses increased $608,000, or 9.7%, in 2019 compared to a decrease of $247,000, or 3.8%, in 2018. These expense categories are subject to fluctuation due to non-recurring items. The increase in expenses in 2019 is a result of the NASDAQ listing, increased equity awards and new branch initiatives.

Income before federal income tax expense amounted to $8.6 million for 2019, compared to $10.3 million and $6.8 million for 2018 and 2017, respectively. The effective tax rate was 15.7% in 2019, 13.8% in 2018 and 35.7% in 2017, resulting in income tax expense of $1.4 million in 2019 and 2018 and $2.4 million in 2017. The effective rate is affected by the current level of profitability and tax-free components of the revenue stream. The lower rates in 2019 and 2018 are primarily affected by the change in corporate tax rate from 34% to 21%. The gains on bank-owned life insurance mentioned previously were tax free and contributed to the lower effective tax rate in both 2018 and 2017. The increase in the effective tax rate in 2017 was also a result of the Tax Act, which increased the deferred tax charges by $1.2 million, or 18.4%.

The effective federal income tax rate varies from the applicable U.S. statutory federal income tax rate of 21% for 2019 and 2018, and 34% for 2017 due to the following differences:

	December 31,		
	2019	2018	2017
Provision at statutory rate	**21.00%**	21.00%	34.00%
(Deduct) add tax effects of:			
Earnings on bank-owned life insurance-net	**(1.08)**	(3.93)	(6.11)
Non-taxable interest income	**(4.02)**	(3.11)	(9.80)
Change in corporate tax rate	**—**	—	18.41
Low income housing tax credits	**(1.81)**	(1.37)	(2.21)
Deferred tax valuation (reversal) recognition	**—**	0.27	—
Non-deductible expenses	**1.64**	0.94	1.43
Federal income tax effective rate	**15.73%**	13.80%	35.72%

Net income registered $7.3 million in 2019, $8.8 million in 2018 and $4.4 million in 2017, representing per share amounts of $1.68 in 2019, $2.03 in 2018 and $0.99 in 2017. Cash dividends of $0.50, $0.49 and $0.39 per share were paid to shareholders of record in 2019, 2018 and 2017, respectively.

The following table shows unaudited financial results by quarter:

(Amounts in thousands)	For the 2019 quarter ended:				For the 2018 quarter ended:			
	Dec. 31	Sept. 30	June 30	Mar. 31	Dec. 31	Sept. 30	June 30	Mar. 31
Interest income	**$ 7,428**	**$ 7,224**	**$ 7,401**	**$ 7,590**	$ 7,489	$ 6,962	$ 6,727	$ 6,571
Interest expense	**1,387**	**1,402**	**1,399**	**1,366**	1,236	1,148	1,020	979
Net interest income	**6,041**	**5,822**	**6,002**	**6,224**	6,253	5,814	5,707	5,592
Loan loss provision	**180**	**180**	**180**	**175**	75	75	75	500
Investment securities (losses) gains, net	**—**	**—**	**(44)**	—	—	—	(41)	20
Mortgage banking gains, net	**381**	**492**	**344**	**337**	203	272	261	238
Other income	**958**	**935**	**752**	**867**	752	876	2,357	754
Other expenses	**4,903**	**4,761**	**5,339**	**4,752**	4,643	4,529	4,585	4,326
Income before tax	**2,297**	**2,308**	**1,535**	**2,501**	2,490	2,358	3,624	1,778
Federal income tax expense	**393**	**363**	**207**	**396**	466	386	322	241
Net income	**$ 1,904**	**$ 1,945**	**$ 1,328**	**$ 2,105**	$ 2,024	$ 1,972	$ 3,302	$ 1,537
Net income per share	**$ 0.44**	**$ 0.45**	**$ 0.30**	**$ 0.49**	$ 0.47	$ 0.46	$ 0.75	$ 0.35
Net interest income (fully tax-equivalent basis)	**$ 6,147**	**$ 5,927**	**$ 6,086**	**$ 6,307**	$ 6,339	$ 5,900	$ 5,793	$ 5,698
Net interest rate spread	**3.45%**	**3.38%**	**3.48%**	**3.62%**	3.68%	3.48%	3.52%	3.43%
Net interest margin	**3.74%**	**3.70%**	**3.80%**	**3.90%**	3.95%	3.73%	3.74%	3.62%

ALLOWANCE FOR LOAN LOSSES

The allowance for loan losses is a reserve established through a provision for loan losses charged to expense, which represents management's best estimate of probable losses that have been incurred within the existing portfolio of loans. The allowance, with the judgment of management, is necessary to reserve for estimated loan losses on risks inherent in the loan portfolio. Accordingly, the methodology to establish the amount of the allowance is based on historical loss experience by type of credit and internal risk grade, specific homogeneous risk pools, and specific loss allocations, with adjustments for current events and conditions. The Company's process for determining the appropriate level of the allowance for loan losses is designed to account for credit deterioration as it occurs.

The Company's allowance for loan loss methodology consists of three elements: (i) specific valuation allowances on probable losses on specific loans; (ii) historical valuation allowances based on historical loan loss experience for similar loans with similar characteristics and trends; and (iii) general valuation allowances based on general economic conditions and other qualitative risk factors both internal and external to the Company.

The allowances established for probable losses on specific loans are based on recurring analyses and evaluations of classified loans. Loans are categorized into risk grade classifications based on an internal credit risk grading process that evaluates, among other things: (i) the obligor's ability to repay; (ii) the underlying collateral, if any; and (iii) the economic environment and industry in which the borrower operates. The Bank currently divides the loan and lease portfolio into the following major categories: 1) Pooled Loans (unclassified) with similar risk characteristics; 2) Substandard Loans (classified) defined as being inadequately protected by current sound net worth, paying capacity of the borrower, or pledged collateral; 3) Special Mention (classified) defined as having potential weaknesses that deserve management's close attention. If left uncorrected, these potential weaknesses may, at some future date, result in the deterioration of the repayment prospects for the credit or the Bank's credit position; 4) Loss or doubtful loans (classified) have all the weaknesses of the previous classifications, with the added characteristic that the weaknesses make collection or liquidation in full, on the basis of currently existing facts, conditions, and values highly questionable and improbable; and 5) Impaired Loans which generally include non-accrual loans. Once a loan is assigned a risk grade of classified, the loan review officer assesses whether the loan is to be evaluated for impairment based on the Company policy. A portion of the allowance for loan loss is specifically allocated to those loans which are evaluated for impairment and determined to be impaired. Specific valuation allowances are determined by analyzing the borrower's ability to repay amounts owed, collateral deficiencies, the relative risk grade of the loan and economic conditions affecting the borrower's industry, among other things. If after review, the loan is not considered to be impaired, the loan is included with a pool of similar loans that is assigned a valuation allowance calculated based on the historical loss experience and qualitative factors of the pool type. The valuation allowance is calculated based on the historical loss experience of specific types of classified loans. The Company calculates historical loss ratios for pools of loans with similar characteristics based on the proportion of actual charge-offs experienced to the total population of loans in the pool. The historical loss ratios are updated quarterly based on actual charge-off experience.

A general valuation allowance is established for pools of homogeneous loans based upon the product of the historical loss ratio adjusted for qualitative factors and the total dollar amount of the loans in the pool. Specific qualitative factors considered by management include trends in volume or terms, changes in lending policy levels and trends in charge-offs, classification and non-accrual loans, concentrations of credit and local and national economic factors. The Company's pools of similar loans include similarly risk-graded groups of commercial loans, commercial real estate loans, residential real estate loans, home equity loans and other consumer loans. Beginning at year-end 2017, due to their growing significance, the pools of commercial and commercial real estate loans are also broken out further by industry sectors when analyzing the related pools. These industry sectors include non-residential buildings; skilled nursing and nursing care; residential real estate lessors, agents and managers; hotel and motels and trucking. Additional factors are used on pools of loans considered special mention; specifically, levels and trends in classification, declining trends in financial performance, structure and lack of performance measures and migration from special mention to substandard. For loans graded as substandard, a separate historical loss rate is calculated as a percent of charge-offs net of recoveries to the balance of substandard loans, which results in a higher historical loss factor. This is also adjusted for the qualitative factors discussed previously.

Loans identified as losses by management, internal loan review and/or bank examiners are charged off. Furthermore, consumer loan accounts are charged off in accordance with regulatory requirements.

The Company maintains an allowance for losses on unfunded commercial lending commitments to provide for the risk of loss inherent in these arrangements. The allowance is computed using a methodology similar to that used to determine the allowance for loan losses. This allowance is reported as a liability on the consolidated balance sheets within other liabilities, while the corresponding provision for these losses is recorded as a component of other non-interest expenses. At both December 31, 2019 and 2018, this allowance was $84,000.

Portions of the allowance may be allocated for specific credits; however, the entire allowance is available for any credit that, in management's judgment, should be charged off. While management utilizes its best judgment and information available, the ultimate adequacy of the allowance is dependent upon a variety of factors beyond the Company's control, including the performance of the Company's loan portfolio, the economy, changes in interest rates and the view of the regulatory authorities toward loan classifications.

Although management believes the Company uses the best information available to make allowance for loan loss determinations, future adjustments could be necessary if circumstances or economic conditions differ substantially from the assumptions used in making our initial determinations. Increased levels of job loss and high unemployment, home foreclosures and business failures could result in increased levels of nonperforming assets and charge-offs, increased loan loss provisions and reductions in income. Additionally, as an integral part of their examination process, bank regulatory agencies periodically review our allowance for loan losses. The banking agencies could require the recognition of additions to the allowance for loan loss based on their judgment of information available to them at the time of their examination.

Current Expected Credit Loss Standard

As disclosed in Note 1 to the Consolidated Financial Statements, the adoption of ASC 326, which changes the impairment model for most financial assets, was delayed for small reporting companies until fiscal years beginning after December 15, 2022. As a small reporting company, the Company does not currently expect to early adopt the new standard. As the new standard is a significant change in both philosophy and methodology, the Company has been formulating an approach to adoption. As recommended by regulators for community banks, the Company has selected the Weighted Average Remaining Maturity ("WARM") method.

As the Company's loss history is sporadic and statistically insignificant, peer group loss history will be incorporated into the model. This is likely to produce an allowance greater than the Company's current level. Near term economic forecasts at the time of adoption are also likely to affect the level of the allowance. Pending further methodology refinement and nearer adoption, the Company cannot assess the magnitude of the initial adoption.

The following is an analysis of changes in the allowance for loan losses for the period ended:

	(Amounts in thousands) December 31,				
	2019	2018	2017	2016	2015
Balance at beginning of year	**$ 4,198**	$ 4,578	$ 4,868	$ 5,194	$ 5,202
Loan losses:					
Commercial	**(231)**	(1,163)	—	—	(470)
Commercial real estate	**(40)**	—	(654)	(287)	(84)
Residential real estate	**(78)**	—	(14)	(35)	(45)
Consumer - home equity	**—**	—	(26)	(144)	—
Consumer - other	**(205)**	(175)	(146)	(148)	(124)
Total	**(554)**	(1,338)	(840)	(614)	(723)
Recoveries on previous loan losses:					
Commercial	**28**	—	388	117	134
Commercial real estate	**—**	166	—	35	10
Residential real estate	**—**	3	5	2	37
Consumer - home equity	**2**	5	10	23	17
Consumer - other	**76**	59	47	61	62
Total	**106**	233	450	238	260
Net loan losses	**(448)**	(1,105)	(390)	(376)	(463)
Provision charged to operations	**715**	725	100	50	455
Balance at end of year	**$ 4,465**	$ 4,198	$ 4,578	$ 4,868	$ 5,194
Ratio of net loan losses to average total loans outstanding	**0.09%**	0.23%	0.09%	0.10%	0.13%
Ratio of loan loss allowance to total loans	**0.86%**	0.82%	0.94%	1.16%	1.32%

The commercial charge-off in 2018 is related to loans (to one borrower) that were restructured to a new borrowing relationship with no principal forgiveness, but with a substantial concession in interest rate. The below market rate triggered recognition of a charge-off equivalent to the difference in present value of loan payments discounted at the market rate of interest. The charged off amount of $1.1 million is recorded as a loan discount. As loan payments are made, interest is recognized at the market rate versus the negotiated rate via the amortization of the discount over the various lives of the loans. There was $625,000 in specific reserve previously allocated to these loans at December 31, 2017. Included in the $654,000 commercial real estate charge-off in 2017 is a loan for $352,000, which had a $148,000 specific reserve. The $470,000 commercial charge-off in 2015 contains a $468,000 charge-off to an isolated credit relationship that already had a specific reserve recorded.

The following is an allocation of the year end allowance for loan losses and the percentage to total loans. The allowance has been allocated according to the amount deemed to be reasonably necessary to provide for the possibility of losses being incurred within the following categories of loans as of:

	(Amounts in thousands) December 31,									
	2019		2018		2017		2016		2015	
	Balance	%	Balance	%	Balance	%	Balance	%	Balance	%
Commercial	**$ 1,756**	**0.34**	$ 1,232	0.24	$ 1,591	0.33	$ 1,394	0.33	$ 1,977	0.50
Commercial real estate	**2,130**	**0.41**	2,414	0.47	2,702	0.55	3,072	0.73	2,926	0.74
Residential real estate	**334**	**0.06**	314	0.06	117	0.02	163	0.04	153	0.04
Consumer - home equity	**104**	**0.02**	115	0.02	70	0.01	150	0.04	52	0.01
Consumer - other	**141**	**0.03**	123	0.02	98	0.02	89	0.02	86	0.02
Total	**$ 4,465**		$ 4,198		$ 4,578		$ 4,868		$ 5,194	

The allocations of the allowance as shown in the previous table should not be interpreted as an indication that future loan losses will occur in the same proportions or that the allocations indicate future loan loss trends. Furthermore, the portion allocated to each loan category is not the total amount available for future losses that might occur within such categories since the total allowance is applicable to the entire portfolio, and allocation of a portion of the allowance to one category of loans does not preclude availability to absorb losses in other categories.

LOAN PORTFOLIO

The following table represents the composition of the loan portfolio as of:

	(Amounts in thousands) December 31,									
	2019		2018		2017		2016		2015	
	Balance	%	Balance	%	Balance	%	Balance	%	Balance	%
Commercial	**$ 99,864**	**19.3**	$ 112,440	21.9	$ 113,341	23.3	$ 96,281	22.9	$ 84,613	21.5
Commercial real estate	**302,084**	**58.2**	303,804	59.0	283,135	58.1	238,692	56.9	237,137	60.1
Residential real estate	**87,172**	**16.8**	69,845	13.6	62,071	12.7	57,008	13.6	45,414	11.5
Consumer - home equity	**25,856**	**5.0**	25,076	4.9	26,018	5.3	25,061	6.0	23,334	5.9
Consumer - other	**3,740**	**0.7**	3,227	0.6	2,925	0.6	2,726	0.6	3,756	1.0
Total loans	**$ 518,716**		$ 514,392		$ 487,490		$ 419,768		$ 394,254	

The following schedule sets forth maturities based on remaining scheduled repayments of principal or next re-pricing opportunity for loans (excluding residential real estate, consumer- home equity and consumer-other).

	(Amounts in thousands) December 31, 2019			
	1 Year or Less	Over 1 Year to 5 Years	Over 5 Years	Total
Commercial	**$ 61,090**	**$ 20,294**	**$ 18,480**	**$ 99,864**
Commercial real estate	**90,478**	**142,186**	**69,420**	**302,084**
Total loans	**$ 151,568**	**$ 162,480**	**$ 87,900**	**$ 401,948**

The following schedule sets forth loans based on next re-pricing opportunity for floating and adjustable interest rate products, and by remaining scheduled principal payments for loan products with fixed rates of interest. Residential real estate, consumer - home equity and consumer – other loans have again been excluded.

	(Amounts in thousands) December 31, 2019		
	1 Year or Less	Over 1 Year	Total
Floating or adjustable rates of interest	**$ 141,922**	**$ 92,052**	**$ 233,974**
Fixed rates of interest	**9,647**	**158,327**	**167,974**
Total loans	**$ 151,569**	**$ 250,379**	**$ 401,948**

The Company recorded an increase of $4.3 million in the loan portfolio in 2019 from the level of $514.4 million recorded at December 31, 2018. Gross loans as a percentage of earning assets stood at 76.1% as of December 31, 2019 and 77.6% at December 31, 2018. The loan-to-deposit ratio at December 31, 2019 was 83.9% as compared to 85.1% at December 31, 2018. Despite the slow economic recovery in the region, the Bank posted year-over-year growth in total loans of 0.8%. However, included in year-end total loans are 60-day or less, non-core loans closed in December 2019 for $25.2 million, compared to $40.9 million in 2018. Absent the short-term year end transaction, the Company reported core loan year-over-year growth of 4.2% and 6.5%, respectively for 2019 and 2018. As the balance sheet is adequately structured to accommodate additional loan growth, management remains committed to fulfilling the credit needs of creditworthy customers. At December 31, 2019, the loan loss allowance of $4.5 million represented approximately 0.9% of outstanding loans, and at December 31, 2018, the loan loss allowance of $4.2 million represented approximately 0.8% of outstanding loans.

The decrease in commercial real estate and the increase in residential real estate is due to reclassification of loans between these categories in 2019 by approximately $14.9 million. The portion of the loan portfolio represented by commercial loans (including commercial real estate) modestly decreased from 80.9% in 2018 to 77.5% in 2019. Consumer loans (including home equity loans) were approximately 5.7% of the loan portfolio in 2019 and 5.5% in 2018. Between 2018 and 2019, the balance of residential real estate loans in relationship to total loans increased from 13.6% to 16.8%. However, year-over-year balances grew $17.3 million, or 24.8%, primarily due to the aforementioned re-classification. The Bank's majority of mortgage originations are sold to the secondary market in order to take advantage of historically low interest rates as management does not intend to take on material long term interest rate risk on the balance sheet.

Commercial, commercial real estate and residential real estate loans continue to comprise the largest share of the Company's loan portfolio. At the end of 2019, commercial, commercial real estate and residential real estate loans comprised a combined 94.3% of the portfolio compared to 93.1% at December 31, 2015, reflecting a consistent strategy of portfolio diversification over the five-year period. The loan portfolio at December 31, 2019 also included home equity loans at 5.0% and consumer installment loans at 0.7%. These percentages compare to home equity loans at 5.9% and consumer installment loans at 1.0% on December 31, 2015.

The commercial loan portfolio, which includes both commercial and commercial real estate (CRE) loans, is $402.0 million at December 31, 2019, a decrease of $14.2 million from the balance of $416.2 million recorded at December 31, 2018, or 3.4%. Commercial loans, including lines of credit, decreased by $12.6 million, or 11.2%, during the year and represented 19.3% of the portfolio, or a 2.6% composition decrease over the prior period. However, excluding the year-end, 60-day or less, cash-secured loans that decreased by $15.7 million from 2018 to 2019, commercial loans grew by $3.1 million, or 4.4%. CRE loans decreased $1.7 million, or 0.6%, which substantially represents investment real estate supported by third-party rents and leases along with other known Bank concentrations such as Skilled Nursing, Assisted Living, Residential Lessors (including Multi-family) and Hotels that are classified as non-owner occupied CRE. At December 31, 2019, the total CRE portfolio consisted of 23.2% in owner-occupied real estate and 76.8% in non-owner occupied real estate. Taken into account the aforementioned re-classification from CRE to 1-4 Residential loan, the CRE portfolio grew at a rate of 4.3%, or $13.2 million. The increase in CRE loans was a direct result of management taking strategic advantage of competitive market conditions and the Bank's considerable liquidity position since 2010. The CRE portfolio was also enhanced by lending into the Skilled Nursing, Personal Health Care industries and Multi-family. In 2006, the federal banking regulatory agencies published interagency guidance on CRE Concentration Risk Management stating that if total commercial real estate concentration exceeded 300% of a bank's total capital (or if the CRE portfolio increased by over 50% in the preceding 3 years), the portfolio may represent significant concentration risk and additional monitoring may be required. The Bank's CRE concentration, excluding owner-occupied real estate, as of December 31, 2019 was $232.1 million, which is 288.9% of total unimpaired or risk-based capital, compared to 313.1% for 2018. As the Company reflected a 0.6% CRE balance decline, it modestly decreased its concentration risk relative to capital. CRE similarly reflected 7.3% growth in the prior year 2018. Management also believes that its current level of credit review, portfolio monitoring and stress testing adequately assures that the Bank is mitigating CRE concentration levels. In a strategic effort to diversify, the Bank continues to develop its commercial loans and, as such, the December 31, 2019 balance of $99.9 million represents 24.9% of the total commercial loan portfolio, compared to the period ended December 31, 2018 of 27.0%.

Loan personnel will continue to aggressively pursue both commercial and small business opportunities supported by product incentives and marketing efforts. When necessary, management will continue to offer competitive fixed-rate and derivative pricing options on commercial real estate products to qualifying customers in an effort to establish new business relationships, retain existing relationships, and capture additional market share. The Bank's lending function continues to provide business services to a wide array of medium and small businesses, including but not limited to, commercial and industrial accounts such as health care facilities, grocery stores, manufacturers, trucking companies, physicians and medical groups, service contractors, restaurants, hospitality industry companies, retailers, wholesalers, educational institutions and other political subdivisions as well as commercial and residential real estate lessors, developers and builders.

Commercial and small business loans are originated by commercial loan personnel and other loan personnel assigned to the Bank's offices within various geographical regions. These loans are all processed in accordance with established business loan underwriting standards and practices.

The following table provides an overview of commercial loans by various business sectors reflecting the areas of largest concentration. It should be noted that these are current loan balances including executed commitments to fund and do not reflect existing commitments that have not been accepted or executed.

	(Amounts in thousands) December 31,					
	2019		2018		2017	
	Balances	% of Portfolio	Balances	% of Portfolio	Balances	% of Portfolio
Non-residential building/apartment building	**$ 103,134**	**25.66**	$ 97,411	23.40	$ 79,918	20.16
Residential real estate lessors, agents and managers (including multi-family)	**38,849**	**9.67**	50,496	12.13	51,431	12.97
Skilled nursing	**34,159**	**8.50**	33,818	8.12	26,805	6.76
Hotels/motels	**29,455**	**7.33**	30,378	7.30	22,072	5.57
Trucking/courier services	**28,311**	**7.04**	24,487	5.88	21,613	5.45

The most substantial increase in concentrations growth by percentage since 2017 occurred in non-residential building/apartment building, which was a result of a 2016 strategic initiative to target multi-family loans to further diversify CRE into a growing market segment. This increase remains the largest concentration relative to the total portfolio composition. The single largest customer relationship had an aggregate balance at year end 2019 of $10.7 million compared to $13.3 million in 2018. This balance represented approximately 2.7% of the total commercial and CRE portfolio in 2019 and 3.2% in 2018. It is important to note that within this relationship, there is a 60-day or less note for $4.9 million in 2019 and the entire amount of $13.3 million in 2018, which were fully secured by segregated deposit accounts with the Bank at the time of origination.

The Bank continues to be modestly active in home equity financing. Home equity term loans and credit lines (HELOCs) remain popular with consumers wishing to finance home improvement costs, education expenses, vacations and consumer goods purchased at favorable interest rates. As first mortgage refinancing and elimination of some eligible tax deductions impacted this product line in 2018, this portfolio reflected slight deterioration in 2018 and reflected a small increase of 3.8% for 2019. In order to improve customer retention and provide better overall loan diversification, management will continue to evaluate and reposition the Company's portfolio product offerings during 2020.

In the consumer lending area, the Company provides financing for a variety of consumer purchases, such as: fixed- and variable-rate amortizing mortgage products that consumers utilize for home improvements; the purchase of consumer goods of all types; and education, travel and other personal expenditures. The consolidation of credit card balances and other existing debt into term payouts continues to remain a popular financing option among consumers. In an effort to increase consumer relationship banking, the Company implemented a Private Bank product line in 2016 that focuses on high net worth and income consumers, the balances from which are modest and primarily reside in home equity lines.

Additional information regarding the loan portfolio can be found in Item 8, Notes 1, 3, 8, 11 and 14 to the Consolidated Financial Statements.

MORTGAGE BANKING

Since the May 2013 Taper Tantrum when mortgage rates rose dramatically, the Company shifted its focus from wholesale to retail origination. With the majority of loans sold into the secondary market, the resulting gains have enhanced non-interest revenue. In 2019, the Company reported net gains on saleable loans of $1.6 million, representing an increase of $580,000 from the prior year's gain of $1.0 million, reflecting the 50% improvement in origination volume. As originators were added in the retail footprint, as well as expanding into adjacent markets, originations grew from $45.8 million in 2018 to $68.8 million in 2019. As previously referenced, the residential portfolio grew by $17.3 million, or 24.8%. However, deducting the aforementioned reclassification from CRE to 1-4 residential of approximately $14.9 million, this portfolio reflected nominal growth. The Company continues to portfolio quality, non-secondary market qualified and construction loans.

Currently, the Company is not retaining the servicing on loans sold. Although the Company's primary strategy is to sell long-term residential mortgages, loans are occasionally retained in the portfolio when requested by a customer or to enhance account relationships, and tend to be variable rate or shorter term. The mix of portfolio retained to those sold to investors will vary from year to year.

The Company maintains reserves for mortgage loans sold to agencies and investors in the event that, either through error or disagreement between the parties, the Company is required to indemnify the purchase. The reserves take into consideration risks associated with underwriting, key factors in the mortgage industry, past due loans and potential indemnification by the Company. Reserves are estimated based on consideration of factors in the mortgage industry, such as declining collateral values and rising levels of delinquency, default and foreclosure, coupled with increased incidents of quality reviews at all levels of the mortgage industry seeking justification for pushing back losses to loan originators and wholesalers. As of December 31, 2019 and 2018, the Company

had reserves for mortgage loans sold of $700,000. For the years ended December 31, 2019 and 2018, the Company did not repurchase any mortgage loans sold.

INVESTMENT SECURITIES

Investment securities are segregated into three separate portfolios: available-for-sale, held-to-maturity and trading. Each portfolio type has its own method of accounting. The Company currently does not maintain a held-to-maturity portfolio. Securities classified as available-for-sale are those that could be sold for liquidity, investment management, or similar reasons even though management has no present intentions to do so. Securities available-for-sale are carried at fair value using the specific identification method. Changes in the unrealized gains and losses on available-for-sale securities are recorded net of tax effect as a component of comprehensive income.

Held-to-maturity securities are recorded at historical cost and adjusted for amortization of premiums and accretion of discounts. Securities designated by the Company as held-to-maturity tend to be higher yielding but less liquid either due to maturity, size or other characteristics of the issue. The Company must have both the intent and the ability to hold such securities to maturity. The Company has no securities classified as held-to-maturity.

Trading securities were an investment in obligations of states and political subdivisions and a short duration bond fund. Management had purchased these securities principally for the purpose of selling them in the near term. Trading securities were carried at fair value with valuation adjustments included in other non-interest income. The Company no longer has any investment in trading securities.

Securities the Company has designated as available-for-sale may be sold prior to maturity in order to fund loan demand, to adjust for interest rate sensitivity, to reallocate bank resources or to reposition the portfolio to reflect changing economic conditions and shifts in the relative values of market sectors. Available-for-sale securities tend to be more liquid investments and generally exhibit less price volatility as interest rates fluctuate.

Securities are evaluated periodically to determine whether a decline in their value is other-than-temporary. Management utilizes criteria such as the magnitude and duration of the decline, in addition to the reasons underlying the decline, to determine whether the loss in value is other-than-temporary. The OTTI is not intended to indicate that the decline is permanent, but indicates that the prospect for a near-term recovery of value is not necessarily favorable, or that there is a lack of evidence to support a realizable value equal to or greater than the carrying value of the investment. Once a decline in value is determined to be an OTTI, the credit-related OTTI is recognized in earnings while the non-credit related OTTI on securities not expected to be sold is recognized in other comprehensive income (loss).

The following table shows the fair value of available-for-sale securities by type of obligation at:

	(Amounts in thousands) December 31,		
	2019	2018	2017
U.S. Treasury and U.S. Government agencies and corporations	**$ 3,310**	**$ 9,002**	$ 3,205
Obligations of states and political subdivisions	**69,626**	**51,658**	72,116
U.S. Government-sponsored mortgage-backed and related securities	**63,195**	**76,263**	83,625
Trust preferred securities	**—**	**—**	895
Total fair value of investment securities available-for-sale	**$ 136,131**	**$ 136,923**	$ 159,841

Impairment Analysis of Investment Securities

Item 8, Note 2 in the Notes to the Consolidated Financial Statements contains the accounting and disclosures for securities impairment.

Fair Value

Trust preferred securities, which are accounted for under FASB ASC Topic 325 *Investments Other,* were held in the investment portfolio until early June 2018. Prior to the sale, the Company evaluated current available information in estimating the future cash flows of securities and determined whether there had been favorable or adverse changes in estimated cash flows from the cash flows previously projected. The Company considered the structure and term of the pool and the financial condition of the underlying issuers. Specifically, the evaluation incorporated factors such as interest rates and appropriate risk premiums, the timing and amount of interest and principal payments and the allocation of payments to the various note classes. Estimates of cash flows were based on the most recent trustee reports, announcements of deferrals or defaults, expected future default rates and other relevant market information.

The Company enlisted the aid of an independent third party to perform the trust preferred securities valuations. The approach to determining fair value involved the following process:

1. Estimate the credit quality of the collateral using average probability of default values for each issuer (adjusted for rating levels).
2. Consider the potential for correlation among issuers within the same industry for default probabilities (e.g. banks with other banks).
3. Forecast the cash flows for the underlying collateral and apply to each trust preferred security tranche to determine the resulting distribution among the securities.
4. Discount the expected cash flows to calculate the present value of the security.

A summary of securities held at December 31, 2019, classified according to the earlier of next re-pricing or the maturity date and the weighted average yield for each range of maturities, is set forth below. Fixed-rate mortgage-backed securities are classified by their estimated contractual cash flow, adjusted for current prepayment assumptions. Actual maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties.

	(Amounts in thousands)	
	Fair Value	Weighted Average Yield (1)
U.S. Government agencies and corporations:		
Maturing or repricing within one year	$ 350	2.199%
Maturing or repricing after one year but within five years	—	—
Maturing or repricing after five years but within ten years	2,960	2.190
Maturing or repricing after ten years	—	—
Total U.S. Government agencies and corporations	$ 3,310	2.191%
Obligations of states and political subdivisions:		
Maturing or repricing within one year	$ 72	6.722%
Maturing or repricing after one year but within five years	—	—
Maturing or repricing after five years but within ten years	752	3.187
Maturing or repricing after ten years	68,802	3.363
Total obligations of states and political subdivisions	$ 69,626	3.364%
U.S. Government mortgage-backed and related securities:		
Maturing or repricing within one year	$ 931	(0.221)%
Maturing or repricing after one year but within five years	7,550	2.362
Maturing or repricing after five years but within ten years	3,211	2.287
Maturing or repricing after ten years	51,503	2.349
Total U.S. Government mortgage-backed and related securities	$ 63,195	2.310%
Regulatory Stock		
Maturing or repricing within one year	$ —	—%
Maturing or repricing after one year but within five years	—	—
Maturing or repricing after five years but within ten years	—	—
Maturing or repricing after ten years	2,835	4.813
Total regulatory stock	$ 2,835	4.813%

(1) The weighted-average yield has been computed by dividing the total interest income adjusted for amortization of premium or accretion of discount over the life of the security by the amortized cost of the securities outstanding. The weighted-average yield of tax-exempt obligations of states and political subdivisions has been calculated on a fully taxable equivalent basis. The amount of adjustment to interest, which is based on the statutory tax rate of 21%, was $372,000.

(2) Regulatory stock is included in the amount maturing or repricing after ten years, and although pays dividends, is not contractually obligated.

As of December 31, 2019, there were $3.0 million in callable U.S. Government agency securities and none in callable obligations of states and political subdivisions that, given current and expected interest rate environments, have the possibility of being called within the one-year time horizon. These securities are categorized according to their contractual maturities, with none classified as maturing or repricing within one year, none classified as maturing after one year but within five years, $3.0 million classified as maturing after five years but within ten years and none of the callable investments classified as maturing after 10 years.

As of December 31, 2019, there were no callable U.S. Government agency securities and $13.7 million in callable obligations of states and political subdivisions that, given current and expected interest rate environments, have the possibility of being called within the time frame defined as after one year but within five years. These securities are categorized according to their contractual maturities, with none maturing after one year but within five years, none maturing after five years but within ten years and $13.7 million maturing after 10 years.

As of December 31, 2019, the carrying value of all investment securities totaled $136.1 million, a decrease of $792,000, or 0.6%, from the prior year. The investment portfolio functions as the balancing factor among the variation in loan and deposit balances, along with changes in short term borrowings. The investment portfolio represents 22.0% of each deposit dollar, down from 22.7% at the prior year end. The allocation between single maturity investment securities and mortgage-backed securities shifted to a 54/46 split versus the 44/56 division of the previous year. The shift toward longer-term single maturity investments aids the strategy of extending asset duration in a falling interest rate environment.

Holdings of Obligations of States and Political Subdivisions increased by $18.0 million, or 34.8%. This increase was the result of purchases of $16.5 million as a part of the current investment strategy.

Holdings of U.S. Government-sponsored mortgage-backed securities decreased by $8.4 million, or 14.8%. This decrease was primarily the result of principal paydowns of $8.0 million.

Holdings of U.S. Government agencies and corporations decreased $5.7 million, or 63.2%. This decrease was due to the sale of $6.0 million in holdings.

Holdings of other securities remained relatively unchanged during the year.

The current year mortgage-backed securities and related portfolio is comprised of investments in mortgage-backed securities of $48.2 million, collateralized mortgage obligations of $8.5 million and U.S. Government-guaranteed small business administration (SBA) pools of $6.5 million. The prior year mortgage-backed securities and related portfolio is comprised of investments in mortgage-backed securities of $56.6 million, collateralized mortgage obligations of $12.0 million and U.S. Government-guaranteed small business administration pools of $7.7 million. Both the current and prior year portfolios, other than the SBA pools, were comprised solely of fixed rate products and provides a desirable diversification of cash flows.

At December 31, 2019, a net unrealized gain of $1.1 million, net of tax, was included in shareholders' equity as a component of other comprehensive income, as compared to a net unrealized loss of $3.7 million, net of tax, as of December 31, 2018. Rising interest rates generally result in depreciation in the market value of debt securities, while lower interest rates generally translate into more favorable market prices for debt securities.

Additional information regarding investment securities can be found in Item 8, Notes 1 and 2 to the Consolidated Financial Statements.

DEPOSITS

The Company's deposits are primarily derived from the individuals and businesses located in its market area. Total deposits at year-end exhibited an increase of 2.3% to $618.4 million at December 31, 2019, as compared to $604.4 million at December 31, 2018.

The Company's deposit base consists of demand deposits, savings, money market and time deposit accounts. Noninterest-bearing deposits decreased 2.6% during 2019, while interest-bearing deposits increased by 3.7%.

At December 31, 2019, noninterest-bearing deposits were $133.3 million, or 21.6% of total deposits, compared to $136.9 million or 22.7% of total deposits in 2018.

Core deposits, which are deposits exclusive of certificates of deposit greater than $250,000, brokered deposits, one-way CDAR'S and ICS deposits and deposits through listed services represented 91.6% of total deposits at year-end 2019 compared to 90.1% in 2018.

The Company's portfolio of certificates of deposit is sourced primarily from customers in the Bank's immediate market area and also includes $25.4 million of brokered deposits.

Average noninterest-bearing and interest-bearing checking accounts now comprise 23.2% of total deposits compared to 21.6% five years ago. The largest shift, however, is the flow of funds from CD's and savings into money market accounts. The preference is to park funds into this demand account while awaiting interest rate and market movement. This is reflective of the unwillingness of customers to commit to longer terms in the low interest rate environment, and the expectation of rising rates on the horizon.

The following table depicts how the average deposit mix has shifted during this five-year time frame.

	(In percentages) December 31,	
	2019	2015
Checking	**23.2**	21.6
NOW	**9.3**	7.9
Money market	**24.5**	16.3
Savings	**18.9**	25.0
CDs	**24.1**	29.2

Additional information regarding interest-bearing deposits can be found in Item 8, Note 5 to the Consolidated Financial Statements.

OTHER ASSETS AND OTHER LIABILITIES

Premises and equipment totaled $12.0 million at December 31, 2019, an increase of $1.8 million from $10.2 million at December 31, 2018, reflecting the cost of a newly constructed branch replacing a previously leased property. Bank-owned life insurance had a cash surrender value of $17.8 million at December 31, 2019 and $15.7 million at December 31, 2018. The increase is due mainly to an insurance purchase of $2.1 million. Comprising approximately 20% of Tier 1 capital plus the allowance for loan losses, management may consider additional insurance purchases not to exceed a 25% ratio. Other assets increased to $21.5 million at December 31, 2019 from $18.3 million at December 31, 2018. In 2019, the Company recognized an operating lease right-of-use ("ROU") asset of $1.8 million as a result of implementing ASU 2016-02 *"Leases"* with offsetting operating lease liability of $1.8 million. Refer to footnote 20. Net deferred tax assets measured $931,000 at December 31, 2019 versus $2.4 million at December 31, 2018. Swap fair value at 2019 is $1.4 million compared to $92,000 in 2018. This is both an asset and a liability. In 2019, a $5.7 million investment in a partnership fund is included in other assets and $5.3 million at 2018, with an offsetting $3.1 million in 2019 and $2.9 million in 2018 in other liabilities, which is the commitment to fund this affordable housing investment. Also included in other assets is an investment of $7.7 million in 2019 and $6.0 million in 2018 into privately managed pools of small business administration loans. Both of these investments are intended to satisfy Community Reinvestment Act requirements.

Other liabilities measured $13.4 million at December 31, 2019 and $10.0 million at December 31, 2018. The increase is mainly due to the operating lease liability, the commitment to fund the affordable housing investments and the swap fair value described above.

ASSET-LIABILITY MANAGEMENT

The Company's executive management and Board of Directors routinely review the Company's balance sheet structure for stability, liquidity and capital adequacy. The Company has defined a set of key control parameters which provide various measures of the Company's exposure to changes in interest rates. The Company's asset-liability management goal is to produce a net interest margin that is relatively stable despite interest rate volatility, while maintaining an acceptable level of earnings. Net interest income is the difference between total interest earned on a fully taxable equivalent basis and total interest expensed. The net interest margin ratio expresses this difference as a percentage of average earning assets. In the past five years, the net interest margin has averaged 3.68% ranging between 3.59% and 3.79% as depicted in the following table.

	(In percentages) December 31,				
	2019	2018	2017	2016	2015
Net interest margin	**3.79**	3.76	3.59	3.63	3.65

Included among the various measurement techniques used by the Company to identify and manage exposure to changing interest rates is the use of computer-based simulation models. Computerized simulation techniques enable the Company to explore and measure net

interest income volatility under alternative asset deployment strategies, different interest rate environments, various product offerings and changing growth patterns.

During 2019, the effective maturities of earning assets remained fairly stable with less than a 3 month decrease in average life, as rates in the credit markets decreased across the curve. Federal Reserve policy makers raised rates four times in 2018, then decreased rates three times in 2019. With the resulting Fed Fund target now at 1.75%, the Federal Reserve vows to be data dependent henceforth in setting monetary policy. During the year, management used any excess funds to reduce wholesale borrowings.

The computerized simulation techniques utilized by management provide a sophisticated measure of the degree to which the Company's interest sensitive assets and liabilities may be impacted by changes in the general level of interest rates. These analyses show the Company's net interest income remaining in an acceptable range within the economic and interest rate scenarios anticipated by management. As previously noted, the Company's net interest margin has remained in the range of 3.59% to 3.79% over the past five years, a period characterized by significant shifts in the mix of earning assets and the direction and level of interest rates. The targeted Federal funds rate during that period ranged from a low of 1.50% to 2.50%, as Federal Reserve monetary policy turned from guarding against deflation to warding off inflationary threats to attempting to recover from a recession and softening the effects of the housing correction.

LIQUIDITY

The central role of the Company's liquidity management is to (1) ensure sufficient liquid funds to meet the normal transaction requirements of its customers, (2) take advantage of market opportunities requiring flexibility and speed, and (3) provide a cushion against unforeseen liquidity needs.

Liquidity risk arises from the possibility that the Company may not be able to satisfy current or future financial commitments or may become unduly reliant on alternative funding sources. The objective of liquidity management is to ensure the Company has the ability to fund balance sheet growth and meet deposit and debt obligations in a timely and cost-effective manner. Management monitors liquidity through a regular review of asset and liability maturities, funding sources, and loan and deposit forecasts. The Company maintains strategic and contingency liquidity plans to ensure sufficient available funding to satisfy requirements for balance sheet growth, properly manage capital markets funding sources and address unexpected liquidity requirements.

Principal sources of on-balance sheet liquidity available to the Company include assets considered relatively liquid, such as interest-bearing deposits in other banks, federal funds sold, and cash and due from banks, as well as cash flows from maturities and repayments of loans, investment securities and mortgage-backed securities.

Principal repayments on mortgage-backed securities, collateralized mortgage obligations and small business administration pools, along with investment securities maturing or called amounted to $12.2 million during 2019, representing 8.8% of the total combined portfolio, compared to $12.2 million, or 8.7%, of the portfolio a year ago. Loan amortization provides in excess of $50 million annually.

In order to address the concern of FDIC insurance of larger depositors, the Bank is a member of the Certificate of Deposit Account Registry Service (CDARS®) program and the Insured Cash Sweep (ICS) program. Through CDARS®, the Bank's customers can increase their FDIC insurance by up to $50.0 million through reciprocal certificate of deposit accounts and likewise through ICS, they can accomplish the same through money market savings accounts. This is accomplished by the Bank entering into reciprocal depository relationships with other member banks. The individual customer's large deposit is broken into amounts below $250,000 and placed with other banks that are members of the network. The reciprocal member bank issues certificates of deposit or money market savings accounts in amounts that ensure that the entire deposit is eligible for FDIC insurance. The Bank can also enter into one-way buy or sell transactions which are not reciprocated. At December 31, 2019, the Bank had $8.1 million in deposits in the CDARS® program, of which none was executed as one-way buy transactions and $15.4 million of deposits in the reciprocal ICS money market program. For regulatory purposes, reciprocal CDARS® and ICS are not considered brokered deposits.

Along with its liquid assets, the Bank has other sources of liquidity available to it which help to ensure that adequate funds are available as needed. These other sources include, but are not limited to, the ability to obtain deposits through the adjustment of interest rates, the purchasing of federal funds, correspondent bank lines of credit and access to the Federal Reserve Discount Window. The Bank is also a member of the Federal Home Loan Bank of Cincinnati, which provides its largest source of liquidity. At December 31, 2019, the Bank had an additional $20.9 million available of collateral-based borrowing capacity at FHLB of Cincinnati, supplementing the $5.4 million of availability with the Federal Reserve Discount window. Additionally, the FHLB has committed a $34.4 million cash management line, of which nothing has been disbursed, subject to posting additional collateral. The Bank, by policy, has access to approximately 25% of total deposits in various forms of wholesale deposits that could be used as an additional source of liquidity. At December 31, 2019, there was $28.9 million in outstanding balances in wholesale deposits including internet-based deposits with access to an additional $125.7 million. The Company was also granted a total of $13.5 million in unsecured, discretionary Federal Funds lines of credit with no funds drawn upon as of December 31, 2019. Unpledged securities of $77.2 million are also available for borrowing under repurchase agreements or as additional collateral for FHLB lines of credit or to sell to generate liquidity.

The Company has other more limited sources of liquidity. In addition to its existing liquid assets, it can raise funds in the securities market through debt or equity offerings or it can receive dividends from the Bank. Generally, the Bank may pay dividends without prior approval as long as the dividend is not more than the total of the current calendar year-to-date earnings plus any earnings from the previous two years not already paid out in dividends, as long as the Bank remains well-capitalized after the dividend payment. The amount available for dividends in 2020 is $9.9 million plus 2020 profits retained up to the date of the dividend declaration. Future dividend payments by the Bank to the Company are based upon future earnings. The Company had cash of $119,000 at December 31, 2019 available to meet cash needs. It also held a $6.0 million note receivable, the cash flow from which approximates the debt service on the Junior Subordinated Debentures. Cash is generally used by the Company to pay quarterly interest payments on the debentures, to pay dividends to common shareholders, to fund operating expenses, and occasionally repurchase shares.

Cash and cash equivalents increased from $19.7 million in 2018 to $27.8 million in 2019. The following table details the cash flows from operating activities for the years ended 2019, 2018 and 2017.

	(Amounts in thousands) December 31,		
	2019	2018	2017
Net income	**$ 7,282**	$ 8,835	$ 4,350
Adjustments to reconcile net income to net cash flow from operating activities:			
Depreciation, amortization and accretion	**2,243**	2,316	2,735
Provision for loan losses	**715**	725	100
Investment securities available-for-sale losses (gains), net	**44**	21	(7)
Originations of mortgage banking loans held for sale	**(68,789)**	(45,813)	(51,730)
Proceeds from the sale of mortgage banking loans	**66,493**	48,527	54,578
Mortgage banking gains, net	**(1,554)**	(974)	(1,074)
Earnings on bank-owned life insurance	**(392)**	(1,869)	(1,203)
Other real estate gains	**—**	—	(170)
Changes in:			
Deferred taxes	**209**	1,008	1,218
Equity compensation	**774**	214	143
Federal income tax receivable	**601**	(625)	(243)
Other assets and liabilities	**367**	769	436
Net cash flow from operating activities	**$ 7,993**	$ 13,134	$ 9,133

Key variations stem from: 1) Large recoveries in 2017 reduced the provision for loan losses. 2) Higher mortgage banking activity in 2019 was driven by lower rates. 3) Earnings on bank-owned life insurance decreased by $1.5 million in 2019 and increased by $666,000 in 2018 due to gain on proceeds from a policy of $1.5 million in 2018 and $898,000 in 2017. 4) Change in deferred taxes is due to the Tax Act, which accounted for $904,000 of the decrease in 2018 and $1.2 million of the decrease in 2017. 5) Equity compensation increased $560,000 in 2019 commensurate with Company performance. 6) In 2018, there was $904,000 in Alternative Minimum Tax credits that were reclassified to federal income tax receivable. Refer to the Consolidated Statements of Cash Flows in item 8 for a summary of the sources and uses of cash for 2019, 2018 and 2017.

CONTRACTUAL OBLIGATIONS AND COMMITMENTS

The Company has various obligations, including contractual obligations and commitments that may require future cash payments.

Contractual Obligations: The following table presents significant fixed and determinable contractual obligations to third parties by payment date. Further discussion of the nature of each obligation is included in the referenced Item 8, Notes to the Consolidated Financial Statements.

		(Amounts in thousands) December 31, 2019 Payments Due in:				
	See Note	One Year or Less	One to Three Years	Three to Five Years	Over Five Years	Total
Non-interest bearing deposits		**$ 133,340**	**$ —**	**$ —**	**$ —**	**$ 133,340**
Interest bearing deposits (a)	5	**343,018**	**—**	**—**	**—**	**343,018**
Average rate (b)		**0.61%**				**0.61%**
Time deposits (a)	5	**88,034**	**43,656**	**6,579**	**3,754**	**142,023**
Average rate (b)		**1.68%**	**2.43%**	**2.05%**	**2.04%**	**1.94%**
Federal funds purchased and security repurchase agreements (a)	6	**1,922**	**—**	**—**	**—**	**1,922**
Average rate (b)		**0.34%**				**0.34%**
FHLB advances (a)	6	**6,000**	**8,000**	**—**	**10,000**	**24,000**
Average rate (b)		**2.04%**	**2.62%**	**0.00%**	**0.96%**	**1.78%**
Subordinated debt	7	**—**	**—**	**—**	**5,155**	**5,155**
Average rate (b)					**3.34%**	**3.34%**
Operating leases	8	**133**	**211**	**233**	**1,270**	**1,847**

(a) Excludes present and future accrued interest.
(b) Variable-rate obligations reflect interest rates in effect at December 31, 2019.

The Company's operating lease obligations represent short- and long-term lease and rental payments for the Bank's branch facilities.

The Company also has obligations under its supplemental retirement plans as described in Item 8, Note 9 to the Consolidated Financial Statements. The postretirement benefit payments represent actuarially-determined future benefit payments to eligible plan participants. The Company does not have any commitments or obligations to the defined contribution retirement plan (401(k) plan) at December 31, 2019 due to the funded status of the plan. Additional information regarding benefit plans can be found in Item 8, Note 9 to the Consolidated Financial Statements.

Off-balance sheet arrangements/commitments: The following table details the amounts and expected maturities of significant off-balance sheet commitments. Additional information regarding commitments can be found in Item 8, Note 8 to the Consolidated Financial Statements.

	(Amounts in thousands) December 31, 2019				
	One Year or Less	One to Three Years	Three to Five Years	Over Five Years	Total
Commitments to extend credit:					
Commercial (including commercial real estate)	**$ 17,389**	**$ 253**	**$ 917**	**$ 27,698**	**$ 46,257**
Revolving home equity	**14,309**	**—**	**—**	**14,801**	**29,110**
Overdraft protection	**8,070**	**—**	**—**	**—**	**8,070**
Other	**1,020**	**—**	**—**	**713**	**1,733**
Residential real estate	**9,326**	**148**	**—**	**8,328**	**17,802**
Standby letters of credit	**3,830**	**75**	**—**	**—**	**3,905**

Commitments to extend credit, including loan commitments, standby letters of credit, and commercial letters of credit do not necessarily represent future cash requirements since these commitments often expire without being drawn upon.

CAPITAL RESOURCES

Regulatory standards for measuring capital adequacy require banks and bank holding companies to maintain capital based on "risk-adjusted" assets so that categories of assets of potentially higher credit risk require more capital backing than assets with lower risk. In addition, banks and bank holding companies are required to maintain capital to support, on a risk-adjusted basis, certain off-balance sheet activities such as standby letters of credit and interest rate swaps.

Common equity for the CET1 capital ratio includes common stock (plus related surplus) and retained earnings, plus limited amounts of minority interests in the form of common stock, less the majority of certain regulatory deductions.

Tier 1 capital includes common equity as defined for the common equity tier 1 capital ratio, plus certain non-cumulative preferred stock and related surplus, cumulative preferred stock and related surplus and trust preferred securities that have been grandfathered (but which are not permitted going forward), and limited amounts of minority interests in the form of additional Tier 1 capital instruments, less certain deductions.

Tier 2 capital, which can be included in the total capital ratio, includes certain capital instruments (such as subordinated debt) and limited amounts of the allowance for loan and lease losses, subject to new eligibility criteria, less applicable deductions.

The Federal Financial Institutions Examination Council (FFIEC) determines the risk weightings of direct credit substitutions that have been downgraded below investment grade. Included in the definition of a direct credit substitute are mezzanine and subordinated tranches of trust preferred securities and non-agency collateralized mortgage obligations. Following these guidelines results in an increase in total risk-weighted assets with an attendant decrease in the risk-based capital and Tier 1 risk-based capital ratios.

The Company met all capital adequacy requirements to which it was subject as of December 31, 2019 and December 31, 2018.

In early September 2013, the regulatory bodies substantially revised the capital requirements for all banks, varying with the size of the institution. The new requirements became effective January 1, 2015 and were phased in over four years (through January 1, 2019). The Company does not expect a material change to its excess capital position currently enjoyed.

Additional information regarding regulatory matters, including capital requirements, can be found in Item 8, Note 13 to the Consolidated Financial Statements and in the Supervision and Regulation portion of Item 1 - Business.

INTEREST RATE RISK

Interest rate risk is measured as the impact of interest rate changes on the Company's net interest income. Components of interest rate risk comprise re-pricing risk, basis risk and yield curve risk. Re-pricing risk arises due to timing differences in the re-pricing of assets and liabilities as interest rate changes occur. Basis risk occurs when re-pricing assets and liabilities reference different key rates. Yield curve risk arises when a shift occurs in the relationship among key rates across the maturity spectrum.

The effective management of interest rate risk seeks to limit the adverse impact of interest rate changes on the Company's net interest margin, providing the Company with the best opportunity for maintaining consistent earnings growth. Toward this end, management uses computer simulation to model the Company's financial performance under varying interest rate scenarios. These scenarios may reflect changes in the level of interest rates, changes in the shape of the yield curve, and changes in interest rate relationships.

The simulation model allows management to test and evaluate alternative responses to a changing interest rate environment. Typically when confronted with a heightened risk of rising interest rates, the Company will evaluate strategies that shorten investment and loan re-pricing intervals and maturities, emphasize the acquisition of floating rate over fixed rate assets, and lengthen the maturities of liability funding sources. When the risk of falling rates is perceived, management will consider strategies that shorten the maturities of funding sources, lengthen the re-pricing intervals and maturities of investments and loans, and emphasize the acquisition of fixed rate assets over floating rate assets. The Company does not currently use financial derivatives, such as interest rate options, caps, floors or other similar instruments. Interest rate swaps are currently used to accommodate large commercial borrowers desiring longer term fixed rates.

Run-off rate assumptions for loans are based on the consensus speeds for the various loan types. Investment speeds are based on the characteristics of each individual investment. Re-pricing characteristics are based upon actual information obtained from the Bank's information system data and other related programs. Actual results may differ from simulated results not only due to the timing, magnitude and frequency of interest rate changes, but also due to changes in general economic conditions, changes in customer preferences and behavior, and changes in strategies by both existing and potential competitors.

The following table shows the Company's current estimate of interest rate sensitivity based on the composition of its balance sheet at December 31, 2019. For purposes of this analysis, short-term interest rates as measured by the federal funds rate and the prime lending rate are assumed to increase (decrease) gradually over the next twelve months reaching a level 300 basis points higher (and 100 basis points lower) than the rates in effect at December 31, 2019. Because rates on the short end of the curve are below 3%, it is not practical to review results to the degree of 300 basis points lower. Under both the rising rate scenario and the falling rate scenario, the yield curve is assumed to exhibit a parallel shift.

During 2019, the Federal Reserve lowered the federal funds rate three times. At December 31, 2019, the difference between the yield on the ten-year Treasury and the three-month Treasury increased to a positive 37 from the positive 24 basis points that existed at December 31, 2018, indicating that the yield curve had steepened. At December 31, 2019, rates peaked at the 30-year point on the Treasury yield curve. The yield curve remains only slightly positively sloping with some inversion in the mid terms.

The base case against which interest rate sensitivity is measured assumes no change in short-term rates. The base case also assumes no growth in assets and liabilities and no change in asset or liability mix. Under these simulated conditions, the base case projects net interest income of $24.1 million for the year ending December 31, 2020.

	(Amounts in thousands) December 31, 2020		
	Net Interest Income	$ Change	% Change
Change in interest rates:			
Graduated increase of +300 basis points	$ 25,897	$ 1,797	7.5%
Short-term rates unchanged (base case)	24,100		
Graduated decrease of -100 basis points	23,494	(606)	(2.5)%

The level of interest rate risk indicated is within limits that management considers acceptable. However, given that interest rate movements can be sudden and unanticipated and are increasingly influenced by global events and circumstances beyond the purview of the Federal Reserve, no assurances can be made that interest rate movements will not impact key assumptions and parameters in a manner not presently embodied by the model.

It is management's opinion that hedging instruments currently available are not a cost effective means of controlling interest rate risk for the Company. Accordingly, the Company does not currently use financial derivatives, such as interest rate options, swaps, caps, floors or other similar instruments, but does utilize swaps to accommodate large commercial borrowers that desire longer term fixed rates.

IMPACT OF INFLATION

Consolidated financial information included herein has been prepared in accordance with U.S. Generally Accepted Accounting Principles, which require the Company to measure financial position and operating results in terms of historical dollars. Changes in the relative value of money due to inflation are generally not considered. Neither the price, timing nor magnitude of changes directly coincides with changes in interest rates.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk – Not applicable to the Company because it is a smaller reporting company.

Item 8. Financial Statements and Supplementary Data

Consolidated Financial Statements included in this Annual Report:

Management's Annual Report on Internal Control Over Financial Reporting	53
Reports of Independent Registered Public Accounting Firm	54
Consolidated Balance Sheets as of December 31, 2019 and 2018	56
Consolidated Statements of Income for the Years Ended December 31, 2019, 2018 and 2017	57
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2019, 2018 and 2017	58
Consolidated Statements of Shareholders' Equity for the Years Ended December 31, 2019, 2018 and 2017	59
Consolidated Statements of Cash Flows for the Years Ended December 31, 2019, 2018 and 2017	60
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MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

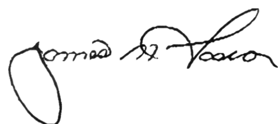
Management of the Company is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

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

A material weakness is a significant deficiency (as defined in Public Company Accounting Oversight Board Auditing Standard No. 5), or a combination of significant deficiencies, that results in there being more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis by management or employees in the normal course of performing their assigned functions.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2019. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) 2013 Internal Control-Integrated Framework. Based on this assessment, management believes that, as of December 31, 2019, the Company's internal control over financial reporting was effective.

S.R. Snodgrass, P.C. has audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2019, as stated in their report dated March 5, 2020.



James M. Gasior
President and Chief Executive Officer
(Principal Executive Officer)

Cortland, Ohio
March 5, 2020

David J. Lucido
Senior Vice President and Chief Financial Officer
(Principal Financial and Accounting Officer)

Cortland, Ohio
March 5, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Cortland Bancorp

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Cortland Bancorp and subsidiaries (the "Company") as of December 31, 2019 and 2018; the related consolidated statements of income, comprehensive income, changes in shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2019; and the related notes to the consolidated financial statements (collectively, the financial statements). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, in conformity with accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework*, issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013, and our report dated March 5, 2020, which expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

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

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

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

We have served as the Company's auditor since 2008.

S.R. Snodgrass, P.C.
Cranberry Township, Pennsylvania
March 5, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and the Board of Directors of Cortland Bancorp

Opinion on Internal Control over Financial Reporting

We have audited Cortland Bancorp and subsidiaries' (the "Company") internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework,* issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework*, issued by the Committee of Sponsoring Organizations of the Treadway Commission in 2013.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, and the related consolidated statements of income, comprehensive income, changes in shareholders equity, and cash flows for each of the three years in the period ended December 31, 2019, of the Company, and our report dated March 5, 2020, expressed an unqualified opinion.

Basis for Opinion

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

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

Definition and Limitations of Internal Control over Financial Reporting

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

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

S.R. Snodgrass, P.C.
Cranberry Township, Pennsylvania
March 5, 2020

CORTLAND BANCORP AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Amounts in thousands, except share data)

	December 31, 2019	December 31, 2018
ASSETS		
Cash and due from banks	**$ 8,448**	$ 11,333
Interest-earning deposits	**19,367**	8,359
Total cash and cash equivalents	**27,815**	19,692
Investment securities available-for-sale (Note 2)	**136,131**	136,923
Regulatory stock (Note 2)	**2,835**	2,581
Loans held for sale	**4,890**	1,040
Total loans (Note 3)	**518,716**	514,392
Less allowance for loan losses (Note 3)	**(4,465)**	(4,198)
Net loans	**514,251**	510,194
Premises and equipment (Note 4)	**12,018**	10,202
Bank-owned life insurance	**17,768**	15,711
Other assets	**21,454**	18,323
Total assets	**$ 737,162**	$ 714,666
LIABILITIES		
Noninterest-bearing deposits	**$ 133,340**	$ 136,886
Interest-bearing deposits (Note 5)	**485,041**	467,533
Total deposits	**618,381**	604,419
Securities sold under agreements to repurchase (Note 6)	**1,922**	2,206
Federal Home Loan Bank advances - short-term (Note 6)	**—**	12,000
Federal Home Loan Bank advances - long term (Note 6)	**24,000**	16,000
Subordinated debt (Note 7)	**5,155**	5,155
Other liabilities	**13,366**	9,968
Total liabilities	**662,824**	649,748
SHAREHOLDERS' EQUITY		
Common stock - $5.00 stated value - authorized 20,000,000 shares; issued 4,728,267 shares in 2019 and 2018; outstanding shares, 4,323,822 in 2019 and 4,349,624 in 2018	**23,641**	23,641
Additional paid-in capital	**21,266**	20,984
Retained earnings	**36,187**	31,089
Accumulated other comprehensive income (loss)	**1,168**	(3,656)
Treasury stock, at cost, 404,445 shares in 2019 and 378,643 shares in 2018	**(7,924)**	(7,140)
Total shareholders' equity	**74,338**	64,918
Total liabilities and shareholders' equity	**$ 737,162**	$ 714,666

See accompanying notes to consolidated financial statements

CORTLAND BANCORP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME
(Amounts in thousands, except per share data)

	For the years ended December 31,		
	2019	2018	2017
INTEREST INCOME			
Interest and fees on loans	**$ 25,783**	$ 23,823	$ 19,243
Interest and dividends on investment securities:			
Taxable interest	**1,769**	2,118	2,098
Nontaxable interest	**1,655**	1,494	1,922
Dividends	**137**	152	131
Other interest income	**299**	162	98
Total interest and dividend income	**29,643**	27,749	23,492
INTEREST EXPENSE			
Deposits	**4,843**	3,527	2,571
Short-term borrowings	**5**	6	7
Federal Home Loan Bank advances - short term	**129**	374	175
Federal Home Loan Bank advances - long term	**374**	287	299
Subordinated debt	**203**	189	138
Total interest expense	**5,554**	4,383	3,190
Net interest income	**24,089**	23,366	20,302
PROVISION FOR LOAN LOSSES (Note 3)	**715**	725	100
NET INTEREST INCOME AFTER PROVISION FOR LOAN LOSSES	**23,374**	22,641	20,202
NON-INTEREST INCOME			
Fees for customer services	**2,312**	2,273	2,241
Investment securities available-for-sale (losses) gains, net (Note 2)	**(44)**	(21)	7
Mortgage banking gains, net	**1,554**	974	1,074
Earnings on bank-owned life insurance	**392**	1,869	1,203
Other real estate gains	**—**	—	170
Other non-interest income	**808**	597	471
Total non-interest income	**5,022**	5,692	5,166
NON-INTEREST EXPENSES			
Salaries and employee benefits	**11,198**	10,260	10,631
Occupancy and equipment	**2,400**	2,232	2,331
State and local taxes	**518**	493	463
FDIC insurance	**63**	176	199
Professional fees	**1,093**	879	786
Advertising and marketing	**388**	322	478
Data processing fees	**277**	250	251
Other operating expenses	**3,818**	3,471	3,462
Total non-interest expenses	**19,755**	18,083	18,601
INCOME BEFORE FEDERAL INCOME TAX EXPENSE	**8,641**	10,250	6,767
Federal income tax expense (Note 10)	**1,359**	1,415	2,417
NET INCOME	**$ 7,282**	$ 8,835	$ 4,350
EARNINGS PER SHARE BASIC AND DILUTED (Note 1)	**$ 1.68**	$ 2.03	$ 0.99
CASH DIVIDENDS DECLARED PER SHARE	**$ 0.50**	$ 0.49	$ 0.39

See accompanying notes to consolidated financial statements

CORTLAND BANCORP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(Amounts in thousands)

	For the years ended December 31,		
	2019	2018	2017
Net income	**$ 7,282**	$ 8,835	$ 4,350
Other comprehensive income (loss):			
Securities available for sale:			
Unrealized holding gains (losses) on available-for-sale securities	**6,023**	(2,426)	2,153
Tax effect	**(1,265)**	510	(733)
Reclassification adjustment for net losses (gains) realized in net income	**44**	21	(7)
Tax effect	**(9)**	(4)	3
Total securities available-for-sale	**4,793**	(1,899)	1,416
Change in post-retirement obligations	**31**	68	14
Total other comprehensive income (loss)	**4,824**	(1,831)	1,430
Total comprehensive income	**$ 12,106**	$ 7,004	$ 5,780

See accompanying notes to consolidated financial statements

CORTLAND BANCORP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY
(Amounts in thousands, except per share data)

	FOR THE YEARS ENDED DECEMBER 31,		
	2019	2018	2017
COMMON STOCK			
Balance	**$ 23,641**	$ 23,641	$ 23,641
ADDITIONAL PAID IN CAPITAL			
Beginning balance	**20,984**	20,928	20,878
Treasury shares reissued (2,770 shares)	**11**	—	—
Equity compensation	**271**	56	50
Ending Balance	**21,266**	20,984	20,928
RETAINED EARNINGS			
Beginning balance	**31,089**	24,403	21,485
Net income	**7,282**	8,835	4,350
Reclassification of certain income tax effects from accumulated other comprehensive income	**—**	—	294
Cash dividend declared, $0.50, $0.49 and $0.39 per share for the years ended December 31, 2019, 2018 and 2017, respectively	**(2,184)**	(2,149)	(1,726)
Ending balance	**36,187**	31,089	24,403
ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)			
Beginning balance	**(3,656)**	(1,825)	(2,961)
Other comprehensive income (loss)	**4,824**	(1,831)	1,430
Reclassification of certain income tax effects from accumulated other comprehensive income	**—**	—	(294)
Ending balance	**1,168**	(3,656)	(1,825)
TREASURY STOCK			
Beginning balance	**(7,140)**	(5,517)	(5,373)
Treasury shares reissued (2,770 shares)	**49**	—	—
Treasury shares purchased (59,352 shares in 2019, 82,637 in 2018 and 13,463 in 2017)	**(1,336)**	(1,781)	(247)
Equity compensation	**503**	158	103
Ending balance	**(7,924)**	(7,140)	(5,517)
TOTAL SHAREHOLDERS' EQUITY	**$ 74,338**	$ 64,918	$ 61,630

See accompanying notes to consolidated financial statements

CORTLAND BANCORP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Amounts in thousands)

	For the years ended December 31,		
	2019	2018	2017
Net cash flow from operating activities			
Net income	**$ 7,282**	$ 8,835	$ 4,350
Adjustments to reconcile net income to net cash flow from operating activities:			
Depreciation, amortization and accretion	**2,243**	2,315	2,735
Provision for loan losses	**715**	725	100
Investment securities available-for-sale losses (gains), net	**44**	21	(7)
Originations of mortgage banking loans held for sale	**(68,789)**	(45,813)	(51,730)
Proceeds from the sale of mortgage banking loans	**66,493**	48,527	54,578
Mortgage banking gains, net	**(1,554)**	(974)	(1,074)
Earnings on bank-owned life insurance	**(392)**	(1,869)	(1,203)
Other real estate gains	**—**	—	(170)
Changes in:			
Interest receivable	**(81)**	(62)	(152)
Interest payable	**139**	46	37
Deferred taxes	**209**	1,008	1,218
Equity compensation	**774**	214	153
Federal income tax receivable	**601**	(625)	(243)
Other assets and liabilities	**309**	786	541
Net cash flow from operating activities	**7,993**	13,134	9,133
Cash deficit from investing activities			
Purchases of available-for-sale securities	**(20,365)**	(14,643)	(44,962)
Proceeds from sale of available-for-sale securities	**13,622**	21,418	44,801
Proceeds from call, maturity and principal payments on available-for-sale securities	**12,184**	12,173	17,255
Purchases of regulatory stock	**(254)**	—	—
Net increase in loans made to customers	**(4,772)**	(28,007)	(68,592)
Proceeds from sale of other real estate	**—**	—	650
Proceeds from bank-owned life insurance	**403**	3,808	1,829
Purchases of bank-owned life insurance	**(2,068)**	—	(900)
Contributions to partnership funds	**(2,153)**	(1,547)	(4,152)
Purchases of premises and equipment	**(2,685)**	(1,935)	(802)
Net cash deficit from investing activities	**(6,088)**	(8,733)	(54,873)
Cash flow (deficit) from financing activities			
Net increase in deposit accounts	**13,962**	18,568	46,001
Net change in short-term borrowings	**(284)**	(472)	(24)
Net change in Federal Home Loan Bank advances - short term	**(12,000)**	(20,000)	9,000
Proceeds from Federal Home Loan Bank advances - long term	**14,000**	8,000	12,000
Repayments of Federal Home Loan Bank advances - long term	**(6,000)**	(6,000)	(15,500)
Dividends paid	**(2,184)**	(2,149)	(1,726)
Treasury shares reissued	**60**	—	—
Treasury shares purchased	**(1,336)**	(1,781)	(237)
Net cash flow from (deficit) financing activities	**6,218**	(3,834)	49,514
Net change in cash and cash equivalents	**8,123**	567	3,774
Cash and cash equivalents			
Beginning of period	**19,692**	19,125	15,351
End of period	**$ 27,815**	$ 19,692	$ 19,125
Supplemental disclosures:			
Cash paid during the period for:			
Income taxes	**$ —**	$ 600	$ 1,050
Interest	**$ 5,415**	$ 4,337	$ 3,153
Transfer of loans to other real estate owned	**$ —**	$ —	$ 480
Adoption of lease standard:			
Increase in ROU asset	**$ 2,061**	$ —	$ —
Increase in lease liability	**$ 2,061**	$ —	$ —

See accompanying notes to consolidated financial statements

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accounting and financial reporting policies of Cortland Bancorp (the Company), and its bank subsidiary, The Cortland Savings and Banking Company (the Bank), reflect banking industry practices and conform to U.S. generally accepted accounting principles. A summary of the significant accounting policies followed by the Company in the preparation of the accompanying consolidated financial statements is set forth below.

Principles of Consolidation: The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries, the Bank, CSB Mortgage Company, Inc. (dormant) and New Resources Leasing Co. (dormant). All significant intercompany balances and transactions have been eliminated.

Industry Segment Information: The Company and its subsidiaries operate in the domestic banking industry which accounts for substantially all of the Company's assets, revenues and operating income. The Company, through the Bank, grants residential, consumer, and commercial loans and offers a variety of saving plans to customers located primarily in the Northeastern Ohio and Western Pennsylvania area. Based on the analysis performed by the Company, management has determined that the Company only has one operating segment, which is commercial banking. The chief operating decision-makers use consolidated results to make operating and strategic decisions, and therefore are not required to disclose any additional segment information.

Use of Estimates: The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the Consolidated Balance Sheet and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Cash Flow: Cash and cash equivalents include cash on hand and amounts due from banks, both interest and non-interest bearing. The Company reports net cash flows for customer loan transactions, deposit transactions and deposits made with other financial institutions.

Investment Securities: Investments in debt securities are classified as held-to-maturity, available-for-sale or trading. Securities classified as held-to-maturity are those that management has the positive intent and ability to hold to maturity. Securities classified as available-for-sale are those that could be sold for liquidity, investment management, or similar reasons, even though management has no present intentions to do so. Securities classified as trading are those that management has bought principally for the purpose of selling in the near term. The Company currently has no securities classified as held-to-maturity or trading.

Available-for-sale securities are carried at fair value with unrealized gains and losses recorded as a separate component of shareholders' equity, net of tax. Realized gains or losses on dispositions are based on net proceeds and the adjusted carrying amount of securities sold, using the specific identification method. Interest income includes amortization of purchase premium or discount and is amortized on the level-yield method without anticipating payments, except for U.S. Government mortgage-backed and related securities where twelve months of historical prepayments are taken into consideration.

The regulatory stock is carried at cost (its redeemable value) and the Company is required to hold such investments as a condition of membership in order to transact business with the Federal Home Loan Bank (FHLB) of Cincinnati and the Federal Reserve Bank (FRB). The stock is bought from and sold based upon its par value. The stock cannot be traded or sold in any market and as such is classified as restricted stock, carried at cost (its redeemable value) and evaluated by management. The stock's value is determined by the ultimate recoverability of the par value rather than by recognizing temporary declines. The determination of whether the par value will ultimately be recovered is influenced by criteria such as the following: (a) the significance of the decline in net assets of the FHLB and FRB as compared to the capital stock amount and the length of time this situation has persisted, (b) commitments by the FHLB and FRB to make payments required by law or regulation and the level of such payments in relation to the operating performance, (c) the impact of legislative and regulatory changes on the customer base of the FHLB and FRB and (d) the liquidity position of the FHLB and FRB. The Company does not consider these investments to be other-than-temporarily impaired at December 31, 2019.

Other-than-Temporary Investment Security Impairment: Securities are evaluated periodically to determine whether a decline in value is other-than-temporary. Management utilizes criteria such as the magnitude and duration of the decline, along with the reasons underlying the decline, to determine whether the loss in value is other-than-temporary. The term "other-than-temporary" is not intended to indicate that the decline in value is permanent, but indicates that the prospect for a near-term recovery of value is not necessarily favorable and that there is a lack of evidence to support a realizable value equal to or greater than the carrying value of the investment. Unrealized losses on available-for-sale investments have not been recognized into income. However, once a decline in value is determined to be other-than-temporary, the credit related other-than-temporary impairment (OTTI) is recognized in earnings while the non-credit related OTTI on securities not expected to be sold is recognized in other comprehensive income (loss).

Loans: Loans are stated at the principal amount outstanding net of the unamortized balance of deferred loan origination fees and costs. Deferred loan origination fees and costs are amortized as an adjustment to the related loan yield over the contractual life using the level-yield method. Interest income on loans is accrued over the term of the loans based on the amount of principal outstanding. The accrual of interest is discontinued on a loan when management determines that the collection of interest is doubtful. Generally, a loan is placed on non-accrual status once the borrower is 90 days past due on payments, or whenever sufficient information is received to question the collectability of the loan or any time legal proceedings are initiated involving a loan. Interest income accrued up to the date a loan is placed on non-accrual is reversed through interest income. Cash payments received while a loan is classified as non-accrual are recorded as a reduction to principal or reported as interest income according to management's judgment as to the collectability of principal. A loan is returned to accrual status when either all of the principal and interest amounts contractually due are brought current and future payments are, in management's judgment, collectable, or when it otherwise becomes well secured and in the process of collection. When a loan is charged-off, any interest accrued but not collected on the loan is charged against earnings. The same treatment is applied to impaired loans, which means that it is probable that all amounts will not be collected according to the contractual terms of the loan agreement.

Loans Held for Sale: The Company originates certain residential mortgage loans for sale in the secondary mortgage loan market. The Company concurrently sells the rights to service the related loans. These loans are classified as loans held for sale, and carried at the estimated fair value based on secondary market prices. Adjustments to the fair value of loans held for sale are included in "mortgage banking gains" in the Consolidated Statements of Income. Deferred fees and costs related to loans held for sale are not amortized, but included in the cost basis at the time of sale.

Allowance for Loan Losses (ALLL) and Allowance for Losses on Lending Related Commitments: Management establishes the allowance for loan losses based upon its evaluation of the pertinent factors underlying the types and quality of loans in the portfolio. Commercial loans and commercial real estate loans are reviewed on a regular basis with a focus on larger loans, along with loans which have experienced past payment or financial deficiencies. Larger commercial loans and commercial real estate loans are evaluated for impairment in accordance with the Bank's loan review policy. These loans are analyzed to determine if they are impaired. All loans that are delinquent 90 days and are placed on non-accrual status are evaluated on an individual basis. Allowances for loan losses on impaired loans are determined using the estimated future cash flows of the loan, discounted to their present value using the loan's effective interest rate, or in most cases, the estimated fair value of the underlying collateral. If the analysis indicates a collection shortfall, a specific reserve is allocated to loans on an individual basis which are reviewed for impairment. The remaining loans are evaluated and classified as groups of loans with similar risk characteristics.

Estimating the risk of loss and the amount of loss on any loan is necessarily subjective. Accordingly, the allowance is maintained by management at a level considered adequate to cover possible losses that are currently anticipated. Estimates of credit losses should reflect consideration of all significant factors that affect collectability of the portfolio. While historical loss experience provides a reasonable starting point, historical losses, or even recent trends in losses are not, by themselves, a sufficient basis to determine the appropriate level for the ALLL. Management will also consider any factors that are likely to cause estimated credit losses associated with the Bank's current portfolio to differ from historical loss experience. Factors include, but are not limited to, changes in lending policies and procedures, including underwriting standards and collection, charge-offs, and recovery practices; changes in economic trends; changes in the nature and volume of the portfolio; changes in the experience and ability of lending management and the depth of staff; changes in the trend, volume and severity of past-due and classified loans, and trends in the volume of non-accrual loans; the existence and effect of any concentrations of credit and changes in the level of such concentrations; levels and trends in classification; declining trends in performance; structure and lack of performance measures and migration between risk classifications.

Key risk factors and assumptions are updated to reflect actual experience and changing circumstances. While management may periodically allocate portions of the ALLL for specific problem loans, the entire ALLL is available for any charge-offs that occur.

Certain loans are evaluated individually for impairment, based on management's best estimate of discounted cash repayments and the anticipated proceeds from liquidating collateral. The actual timing and amount of repayments and the ultimate realizable value of the collateral may differ from management's estimates.

The expected loss for certain other commercial credits utilizes internal risk ratings. These loss estimates are sensitive to changes in the customer's risk profile, the realizable value of collateral, other risk factors and the related loss experience of other credits of similar risk. Consumer credits generally employ statistical loss factors, adjusted for other risk indicators, applied to pools of similar loans stratified by asset type. These loss estimates are sensitive to changes in delinquency status and shifts in the aggregate risk profile.

The Company maintains an allowance for losses on unfunded commercial lending commitments to provide for the risk of loss inherent in these arrangements. The allowance is computed using a methodology similar to that used to determine the allowance for loan losses. This allowance is reported as a liability on the Consolidated Balance Sheets within other liabilities, while the corresponding provision for these losses is recorded as a component of other operating expense.

Loan Charge-off Policies: Consumer loans are generally fully or partially charged down to the fair value of collateral securing the asset prior to the loan becoming 180 days past due, unless the loan is well secured and in the process of collection. All other loans are generally charged down to the net realizable value when the loan is 90 days past due.

Troubled Debt Restructurings (TDR): A loan is classified as a TDR when management grants a concession for other than an insignificant period of time to the borrower that would not otherwise be considered, except in situations of economic difficulties. Management strives to identify borrowers in financial difficulty early and work with them to modify to more affordable terms before their loan reaches non-accrual status. These modified terms may include rate reductions, principal forgiveness, payment forbearance and other actions intended to minimize the economic loss and to avoid foreclosure or repossession of the collateral. In cases where borrowers are granted new terms that provide for a reduction of either interest or principal, management measures any impairment on the restructuring as noted above for impaired loans. In addition to the allowance for the pooled portfolios, management has developed a separate allowance for loans that are identified as impaired through a TDR. These loans are excluded from pooled loss forecasts and a separate reserve is provided under the accounting guidance for loan impairment.

Premises and Equipment: Land is carried at cost. Premises and equipment are stated at cost less accumulated depreciation. Depreciation is computed generally on the straight-line method over the estimated useful lives (5 to 40 years) of the various assets. Maintenance and repairs are expensed and major improvements are capitalized.

Other Real Estate: Real estate acquired through foreclosure or deed-in-lieu of foreclosure is included in other assets on the Consolidated Balance Sheets. Such real estate is carried at fair value less estimated costs to sell. Any reduction from the carrying value of the related loan to fair value at the time of acquisition is accounted for as a loan loss. Any subsequent reduction in fair value is reflected as a valuation allowance through a charge to income. Costs of significant property improvements are capitalized, whereas costs relating to holding and maintaining the property are charged to expense.

Cash Surrender Value of Life Insurance: Bank-owned life insurance (BOLI) represents life insurance on the lives of certain Company employees, officers and directors who have provided positive consent allowing the Company to be the co-beneficiary of such policies. Since the Company is the owner of the insurance policies, increases in the cash value of the policies, as well as its share of insurance proceeds received, are recorded in noninterest income, and are not subject to income taxes. The cash surrender value of the policies is included on the Consolidated Balance Sheets. The Company reviews the financial strength of the insurance carriers prior to the purchase of BOLI and quarterly thereafter. The amount of BOLI with any individual carrier is limited to 15% of Tier I Capital. The Company has purchased BOLI to provide a long-term asset to offset long-term benefit liabilities, while generating competitive investment yields.

Endorsement Split-Dollar Life Insurance Arrangement: The Company maintains a liability for the death benefit promised under split-dollar life insurance arrangements.

Derivative Instruments: The Company enters into contracts for the future delivery of residential mortgage loans when interest rate locks are entered into in order to economically hedge potential adverse effects of changes in interest rates. These contracts are derivative instruments. All derivative instruments are recognized as either other assets or other liabilities at fair value in the Consolidated Balance Sheets.

Advertising and Marketing: The Company expenses advertising and marketing costs as incurred.

Income Taxes: A deferred tax liability or asset is determined at each balance sheet date. It is measured by applying currently enacted tax laws to future amounts that result from differences in the financial statement and tax bases of assets and liabilities.

Other Comprehensive Income (Loss): Accumulated other comprehensive income (loss) for the Company is comprised of unrealized holding (losses) gains on available-for-sale securities, net of tax, and post-retirement obligations.

Per Share Amounts: Earnings per share is computed by dividing net income available to common shareholders by the weighted average number of shares of common stock outstanding, net of any treasury shares, during the period. Diluted earnings per share is calculated by dividing net income available to common shareholders by the weighted average number of shares of common stock outstanding, net of any treasury shares, after consideration of the potential dilutive effect of common stock equivalents, based upon the treasury stock method using an average market price for the period. The common stock equivalents are derived from unvested restricted share awards.

The following table sets forth the computation of basic earnings per common share:

	Years ended December 31,		
	2019	2018	2017
Net income (amounts in thousands)	**$ 7,282**	$ 8,835	$ 4,350
Weighted average common shares outstanding	**4,340,775**	4,357,760	4,407,254
Net effect of dilutive common share equivalents	**8,698**	6,474	4,220
Adjusted average shares outstanding - dilutive	**$ 4,349,473**	$ 4,364,234	$ 4,411,474
Basic earnings per share	**$ 1.68**	$ 2.03	$ 0.99
Dilutive earnings per share	**$ 1.68**	$ 2.03	$ 0.99

Transfers of Financial Assets: Transfers of financial assets are accounted for as sales when control over the assets has been surrendered. Control over transferred assets is deemed to be surrendered when (1) the assets have been isolated from the Company, (2) the transferee obtains the right (free of conditions that constrain it from taking advantage of that right) to pledge or exchange the transferred assets, and (3) the Company does not maintain effective control over the transferred assets through an agreement to repurchase them before their maturity.

Off-Balance Sheet Financial Instruments: Financial instruments include off-balance sheet credit instruments, such as commitments to make loans and commercial letters of credit, issued to meet customer financing needs. The face amount for these items represents the exposure to loss, before considering customer collateral or ability to repay. Such financial instruments are recorded if and when they are funded.

Revenue Recognition: Effective January 1, 2018, the Company adopted ASU 2014-09 *Revenue from Contracts with Customers – Topic 606* and all subsequent ASUs that modified ASC 606. The Company has elected to apply the standard utilizing the modified retrospective approach with a cumulative effect of adoption for the impact from uncompleted contracts at the date of adoption. The implementation of the new standard had no material impact to the measurement or recognition of revenue of prior periods.

Management determined that the primary sources of revenue emanating from interest income on loans and investments along with noninterest revenue resulting from investment security gains, gains on the sale of loans, earnings on bank owned life insurance, wealth management and other non-interest income are not within the scope of ASC 606. As a result, no changes were made during the period related to these sources of revenue.

The main types of non-interest income within the scope of the standard are as follows:

Service charges on deposit accounts – The Company has contracts with its deposit customers where fees are charged if the account balance falls below predetermined levels defined as compensating balances. These agreements can be cancelled at any time by either the Company or the deposit customer. Revenue from these transactions is recognized on a monthly basis as the Company has an unconditional right to the fee consideration. The Company also has transaction fees related to specific transactions or activities resulting from a customer request or activity that include non-sufficient fund fees, overdraft fees, continuous overdraft fees and other fees such as stop payment fees. All of these fees are attributable to specific performance obligations of the Company where the revenue is recognized at a defined point in time, namely at the completion of the requested service/transaction.

Fees, exchange, and other service charges- This is primarily comprised of debit card income, ATM fees, merchant services income, and other service charges. Debit card income is primarily comprised of interchange fees earned whenever the Company's debit and credit cards are processed through card payment networks such as Visa. ATM fees are primarily generated when a Company cardholder uses a non-Company ATM or a non-Company cardholder uses a Company ATM. Merchant services income mainly represents fees charged to merchants to process their debit card transactions, in addition to account management fees. Other service charges include cashier's checks, check charges and other services. The Company's performance obligation for fees, exchange, and other service charges are largely satisfied, and related revenue recognized, when the services are rendered or upon completion. Payment is typically received immediately or in the following month.

Gains (losses) on sale of other real estate owned – Gains and losses are recognized at the completion of the property sale when the buyer obtains control of the real estate and all of the performance obligations of Company have been satisfied. Evidence of the buyer obtaining control of the asset include transfer of the property title, physical possession of the asset, and the buyer obtaining control of the risks and rewards related to the asset. In situations where the Company agrees to provide financing to facilitate the sale, additional analysis is performed to ensure that the contract for sale identifies the buyer and seller, the asset to be transferred, payment terms, and that the contract has a true commercial substance and that collection of amounts due from the buyer is reasonable. In situations where financing terms are not reflective of current market terms, the transaction price is discounted impacting the gain/loss and the carrying value of the asset

The following table depicts the disaggregation of revenue derived from contracts with customers to depict the nature, amount, timing, and uncertainty of revenue and cash flows.

	(Amounts in thousands) Years Ended December 31,	
	2019	2018
Service charges on deposit accounts:		
Overdraft fees	**$ 1,057**	$ 1,084
Service charges	**411**	408
Other fees	**16**	16
Fees, exchange, and other service charges	**828**	765
Non-interest income (in-scope of Topic 606)	**2,312**	2,273
Non-interest income (out-of-scope of Topic 606)	**2,710**	3,419
Total non-interest income	**$ 5,022**	$ 5,692

Reclassifications: Certain items in the financial statements for 2018 and 2017 have been reclassified to conform to the 2019 presentation. Such reclassifications did not affect net income or shareholders' equity.

Authoritative Accounting Guidance:

In February 2016, the FASB issued ASU (Accounting Standard Update) 2016-02, *Leases (Topic 842)*. The standard requires lessees to recognize the assets and liabilities that arise from leases in the balance sheet. Additionally, in July 2018,the FASB issued ASU 2018- 11, *Leases (Topic 842) – Targeted Improvements*, which, among other things, provides an additional transition method that would allow entities to not apply the guidance in ASU 2016-02 in the comparative periods presented in the financial statements and instead recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We have elected to apply ASU 2016-02 and its related amendments as of the beginning of the period of adoption (January 1, 2019) and have not restated comparative periods. The Company elected to adopt the transition relief provisions from ASU 2018-11. Our operating leases relate primarily to office space and bank branches. As a result of implementing ASU 2016-02, we recognized an operating lease right-of-use ("ROU") asset and an operating lease liability of $2.1 million on January 1, 2019, with no impact on our consolidated statement of income or consolidated statement of cash flows compared to the prior lease accounting model. The ROU asset and operating lease liability are recorded in other assets and other liabilities, respectively, in the consolidated balance sheets. See Note 20 - Leases for additional information.

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments* ("ASU 2016-13"), which changes the impairment model for most financial assets. This Update is intended to improve financial reporting by requiring timelier recording of credit losses on loans and other financial instruments held by financial institutions and other organizations. The underlying premise of the Update is that financial assets measured at amortized cost should be presented at the net amount expected to be collected, through an allowance for credit losses that is deducted from the amortized cost basis. The allowance for credit losses should reflect management's current estimate of credit losses that are expected to occur over the remaining life of a financial asset. The income statement will be effected for the measurement of credit losses for newly recognized financial assets, as well as the expected increases or decreases of expected credit losses that have taken place during the period. ASU 2016-13 is effective for annual and interim periods beginning after December 15, 2019, and early adoption is permitted for annual and interim periods beginning after December 15, 2018. With certain exceptions, transition to the new requirements will be through a cumulative effect adjustment to opening retained earnings as of the beginning of the first reporting period in which the guidance is adopted. In November 2019, the FASB issued ASU 2019-10, *Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842)*. This Update defers the effective date of ASU 2016-13 for SEC filers that are eligible to be smaller reporting companies, non-SEC filers, and all other companies to fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. We expect to recognize a one-time cumulative effect adjustment to the allowance for loan losses as of the beginning of the first reporting period in which the new standard is effective, but cannot yet determine the magnitude of any such one-time adjustment or the overall impact of the new guidance on the consolidated financial statements.

In March 2017, the FASB issued ASU 2017-08, *Receivables – Nonrefundable Fees and Other Costs (Subtopic 310-20).* The amendments in this Update shorten the amortization period for certain callable debt securities held at a premium. Specifically, the amendments require the premium to be amortized to the earliest call date. The amendments do not require an accounting change for securities held at a discount; the discount continues to be amortized to maturity. For public business entities, the amendments in this Update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Early adoption is permitted, including adoption in an interim period. If an entity early adopts the amendments in an interim period, any adjustments should be reflected as of the beginning of the fiscal year that includes that interim period. An entity should apply the amendments in this Update on a modified retrospective basis through a cumulative-effect adjustment directly to retained earnings as of the beginning of the period of adoption. Additionally, in the period of adoption, an entity should provide disclosures about a change in accounting principle. This Update did not have a significant impact on the Company's financial statements.

In August 2017, the FASB issued ASU 2017-12, *Derivatives and Hedging (Topic 850)*, the objective of which is to improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. In addition, the amendments in this Update make certain targeted improvements to simplify the application and disclosure of the hedge accounting guidance in current generally accepted accounting principles. For public business entities, the amendments in this Update are effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2019, and interim periods beginning after December 15, 2020. Early application is permitted in any period after issuance. For cash flow and net investment hedges existing at the date of adoption, an entity should apply a cumulative-effect adjustment related to eliminating the separate measurement of ineffectiveness to accumulated other comprehensive income with a corresponding adjustment to the opening balance of retained earnings as of the beginning of the fiscal year that an entity adopts the amendments in this Update. The amended presentation and disclosure guidance is required only prospectively. This Update did not have a significant impact on the Company's financial statements.

In June 2018, the FASB issued ASU 2018-07, *Compensation – Stock Compensation (Topic 718)*, which simplified the accounting for nonemployee share-based payment transactions. The amendments in this update expand the scope of Topic 718 to include sharebased payment transactions for acquiring goods and services from nonemployees. The amendments in this Update improve the following areas of nonemployee share-based payment accounting; (a) the overall measurement objective, (b) the measurement date, (c) awards with performance conditions, (d) classification reassessment of certain equity-classified awards, (e) calculated value (nonpublic entities only), and (f) intrinsic value (nonpublic entities only). The amendments in this Update are effective for public business entities for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. This Update did not have a significant impact on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework – Changes the Disclosure Requirements for Fair Value Measurements*. The Update removes the requirement to disclose the amount of and reasons for transfers between Level I and Level II of the fair value hierarchy; the policy for timing of transfers between levels; and the valuation processes for Level III fair value measurements. The Update requires disclosure of changes in unrealized gains and losses for the period included in other comprehensive income (loss) for recurring Level III fair value measurements held at the end of the reporting period and the range and weighted average of significant unobservable inputs used to develop Level III fair value measurements. This Update is effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. This Update is not expected to have a significant impact on the Company's financial statements.

In August 2018, the FASB issued ASU 2018-15, *Intangibles – Goodwill and Other – Internal-Use Software (Subtopic 350-40).* This Update addresses customers' accounting for implementation costs incurred in a cloud computing arrangement that is a service contract and also adds certain disclosure requirements related to implementation costs incurred for internal-use software and cloud computing arrangements. The amendment aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). This Update is effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption permitted. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2020, and interim periods within fiscal years beginning after December 15, 2021. The amendments in this Update can be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. This Update is not expected to have a significant impact on the Company's financial statements.

In October 2018, the FASB issued ASU 2018-16*, Derivatives and Hedging (Topic 815)*. The amendments in this Update permit use of the Overnight Index Swap (OIS) rate based on the Secured Overnight Financing Rate (SOFR) as a U.S. benchmark interest rate for hedge accounting purposes under Topic 815, in addition to the interest rates on direct Treasury obligations of the U.S. government, the London Interbank Offered Rate (LIBOR) swap rate, the OIS rate based on the Fed Funds Effective Rate, and the Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Rate. For entities that have not already adopted Update 2017-12, the amendments in this Update are required to be adopted concurrently with the amendments in Update 2017-12. For public business entities that already have adopted the amendments in Update 2017-12, the amendments are effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years. For all other entities that already have adopted the amendments in Update 2017-12, the amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted in any interim period upon issuance of this Update if an entity already has adopted Update 2017-12. This Update did not have a significant impact on the Company's financial statements.

In March 2019, the FASB issued ASU 2019-01, *Leases (Topic 842): Codification Improvements,* which addressed issues lessors sometimes encounter. Specifically addressed in this Update were issues related to 1) determining the fair value of the underlying asset by the lessor that are not manufacturers or dealers (generally financial institutions and captive finance companies), and 2) lessors that are depository and lending institutions should classify principal and payments received under sales-type and direct financing leases within investing activities in the cash flow statement. The ASU also exempts both lessees and lessors from having to provide the interim disclosures required by ASC 250-10-50-3 in the fiscal year in which a company adopts the new leases standard. The amendments addressing the two lessor accounting issues are effective for public business entities for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. For all other entities, the effective date is for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. This Update did not impact the Company's financial statements.

In May 2019, the FASB issued ASU 2019-05, *Financial Instruments – Credit Losses, Topic 326*, which allows entities to irrevocably elect the fair value option for certain financial assets previously measured at amortized cost upon adoption of the new credit losses standard. To be eligible for the transition election, the existing financial asset must otherwise be both within the scope of the new credit losses standard and eligible for the applying the fair value option in ASC 825-10.3. The election must be applied on an instrument-by-instrument basis and is not available for either available-for-sale or held-to-maturity debt securities. For entities that elect the fair value option, the difference between the carrying amount and the fair value of the financial asset would be recognized through a cumulative-effect adjustment to opening retained earnings as of the date an entity adopted ASU 2016-13. Changes in fair value of that financial asset would subsequently be reported in current earnings. For entities that have not yet adopted ASU 2016-13, the effective dates and transition requirements are the same as those in ASU 2016-13. For entities that have adopted ASU 2016-13, ASU 2019-05 is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted once ASU 2016-13 has been adopted. On October 16, 2019, the FASB voted to defer the effective date for ASC 326, Financial Instruments – Credit Losses, for smaller reporting companies to fiscal years beginning after December 15, 2022, and interim periods within those fiscal years. The final ASU is expected to be issued in mid-November. This Update is not expected to have a significant impact on the Company's financial statements.

In November 2019, the FASB issued ASU 2019-08, *Compensation – Stock Compensation (Topic 718) and Revenue from Contracts with Customers (Topic 606),* which requires entities to measure and classify sharebased payments to a customer, in accordance with the guidance in ASC 718, *Compensation – Stock Compensation*. The amendments in that Update expanded the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from nonemployees and, in doing so, superseded guidance in Subtopic 505-50, *Equity – Equity-Based Payments to Non-Employees*. The amount that would be recorded as a reduction in revenue would be measured based on the grant date fair value of the sharebased payment, in accordance with Topic 718. The grant date is the date at which a supplier and customer reach a mutual understanding of the award's key terms and conditions. The award's classification and subsequent measurement would be subject to ASC 718 unless the award is modified or the grantee is no longer a customer. For entities that have not yet adopted the amendments in Update 2018-07, the amendments in this Update are effective for (1) public business entities in fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, and (2) other than public business entities in fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. For entities that have adopted the amendments in Update 2018-07, the amendments in this Update are effective in fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. An entity may early adopt the amendments in this Update, but not before it adopts the amendments in Update 2018-07. This Update is not expected to have a significant impact on the Company's financial statements.

In November 2019, the FASB issued ASU 2019-10, *Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842)*. The Update defers the effective dates of ASU 2016-13 for SEC filers that are eligible to be smaller reporting companies, non-SEC filers, and all other companies to fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. This Update also amends the mandatory effective date for the elimination of Step 2 from the goodwill impairment test under ASU No. 2017-04, *Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment (Goodwill)*, to align with those used for credit losses. Furthermore, the ASU provides a one-year deferral of the effective dates of the ASUs on derivatives and hedging and leases for companies that are not public business entities. We have elected to apply ASU 2016-02 and its related amendments as of the beginning of the period of adoption (January 1, 2019) and have not restated comparative periods. The Company elected to adopt the transition relief provisions from ASU 2018-11. The Company qualifies as a smaller reporting company and does not expect to early adopt ASUs 2016-13 and 2017-04.

In November 2019, the FASB issued ASU 2019-11, *Codification Improvements to Topic 326, Financial Instruments – Credit Losses*, to clarify its new credit impairment guidance in ASC 326, based on implementation issues raised by stakeholders. This Update clarified, among other things, that expected recoveries are to be included in the allowance for credit losses for these financial assets; an accounting policy election can be made to adjust the effective interest rate for existing troubled debt restructurings based on the prepayment assumptions instead of the prepayment assumptions applicable immediately prior to the restructuring event; and extends the practical expedient to exclude accrued interest receivable from all additional relevant disclosures involving amortized cost basis. The effective dates in this Update are the same as those applicable for ASU 2019-10. This Update did not have a significant impact on the Company's financial statements.

In December 2019, the FASB issued ASU 2019-12, *Income Taxes (Topic 740)*, to simplify the accounting for income taxes, change the accounting for certain tax transactions, and make minor improvements to the codification. This Update provides a policy election to not allocate consolidated income taxes when a member of a consolidated tax return is not subject to income tax and provides guidance to evaluate whether a step-up in tax basis of goodwill relates to a business combination in which book goodwill was recognized or a separate transaction. The Update also changes current guidance for making an intraperiod allocation, if there is a loss in continuing operations and gains outside of continuing operations; determining when a deferred tax liability is recognized after an investor in a foreign entity transitions to or from the equity method of accounting; accounting for tax law changes and year-to-date losses in interim periods; and determining how to apply the income tax guidance to franchise taxes that are partially based on income. For public business entities, the amendments in this Update are effective for fiscal years and interim periods within those fiscal years, beginning after December 15, 2020. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2021, and interim periods within fiscal years beginning after December 15, 2022. This Update is not expected to have a significant impact on the Company's financial statements.

In January 2020, the FASB issued ASU 2020-1, *Investments – Equity Securities (Topic 321), Investments– Equity Method and Joint Ventures (Topic 323), and Derivatives and Hedging (Topic 815)*, to clarify that an entity should consider observable transactions that require it to either apply or discontinue the equity method of accounting for the purposes of applying the measurement alternative in accordance with Topic 321 immediately before applying or upon discontinuing the equity method. The amendments also clarify that, for the purpose of applying paragraph 815-10-15-141(a) an entity should not consider whether, upon the settlement of the forward contract or exercise of the purchased option, individually or with existing investments, the underlying securities would be accounted for under the equity method in Topic 323 or the fair value option, in accordance with the financial instruments guidance in Topic 825. An entity also would evaluate the remaining characteristics in paragraph 815-10-15-141 to determine the accounting for those forward contracts and purchased options. For public business entities, the amendments in this Update are effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. For all other entities, the amendments are effective for fiscal years beginning after December 15, 2021, and interim periods within those fiscal years. This Update is not expected to have a significant impact on the Company's financial statements.

NOTE 2 - INVESTMENT SECURITIES

The following is a summary of investment securities available-for-sale and regulatory stock:

December 31, 2019	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(Amounts in thousands)			
U.S. Government agencies and corporations	**$ 3,348**	**$ 1**	**$ 39**	**$ 3,310**
Obligations of states and political subdivisions	**67,794**	**1,853**	**21**	**69,626**
U.S. Government-sponsored mortgage-backed securities	**48,566**	**75**	**404**	**48,237**
U.S. Government-sponsored collateralized mortgage obligations	**8,447**	**78**	**44**	**8,481**
U.S. Government-guaranteed small business administration pools	**6,576**	**—**	**99**	**6,477**
Total investment securities available-for-sale	**$ 134,731**	**$ 2,007**	**$ 607**	**$ 136,131**
Federal Home Loan Bank (FHLB) stock	**$ 2,609**	**$ —**	**$ —**	**$ 2,609**
Federal Reserve Bank (FRB) stock	**226**	**—**	**—**	**226**
Total regulatory stock	**$ 2,835**	**$ —**	**$ —**	**$ 2,835**

December 31, 2018	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
	(Amounts in thousands)			
U.S. Government agencies and corporations	$ 9,242	$ 11	$ 251	$ 9,002
Obligations of states and political subdivisions	53,187	26	1,555	51,658
U.S. Government-sponsored mortgage-backed securities	59,070	—	2,483	56,587
U.S. Government-sponsored collateralized mortgage obligations	12,112	41	177	11,976
U.S. Government-guaranteed small business administration pools	7,978	—	278	7,700
Total investment securities available-for-sale	$ 141,589	$ 78	$ 4,744	$ 136,923
Federal Home Loan Bank (FHLB) stock	$ 2,355	$ —	$ —	$ 2,355
Federal Reserve Bank (FRB) stock	226	—	—	226
Total regulatory stock	$ 2,581	$ —	$ —	$ 2,581

The amortized cost and fair value of debt securities at December 31, 2019, by contractual maturity, are shown below. Actual maturities will differ from contractual maturities because issuers may have the right to call or prepay obligations with or without call or prepayment penalties.

	Amortized Cost	Fair Value
	(Amounts in thousands)	
Due in one year or less	**$ 418**	**$ 422**
Due after one year through five years	**4,878**	**4,797**
Due after five years through ten years	**5,408**	**5,393**
Due after ten years	**67,014**	**68,801**
Total	**77,718**	**79,413**
U.S. Government-sponsored mortgage-backed and related securities	**57,013**	**56,718**
Total investment securities available for sale	**$ 134,731**	**$ 136,131**

The following table sets forth the proceeds, gains and losses realized on securities sold or called for each of the years ended December 31:

	2019	2018	2017
	(Amounts in thousands)		
Proceeds on securities sold	**$ 13,622**	$ 21,418	$ 44,801
Gross realized gains	**82**	123	524
Gross realized losses	**126**	144	517

Investment securities with a carrying value of approximately $59.0 million at December 31, 2019 and $55.1 million at December 31, 2018 were pledged to secure deposits and for other purposes. The remaining securities provide an adequate level of liquidity.

The following is a summary of the fair value of securities with unrealized losses and an aging of those unrealized losses at December 31, 2019:

(Amounts in thousands)

	Less than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. Government agencies and corporations	**$ 2,961**	**$ 39**	**$ —**	**$ —**	**$ 2,961**	**$ 39**
Obligations of states and political subdivisions	**263**	**1**	**1,332**	**20**	**1,595**	**21**
U.S. Government-sponsored mortgage-backed securities	**—**	**—**	**34,124**	**404**	**34,124**	**404**
U.S. Government-sponsored collateralized mortgage obligations	**931**	**7**	**3,944**	**37**	**4,875**	**44**
U.S. Government-guaranteed small business administration pools	**5,600**	**78**	**877**	**21**	**6,477**	**99**
Total	**$ 9,755**	**$ 125**	**$ 40,277**	**$ 482**	**$ 50,032**	**$ 607**

The above table represents 32 investment securities where the fair value is less than the related amortized cost.

The following is a summary of the fair value of securities with unrealized losses and an aging of those unrealized losses at December 31, 2018:

(Amounts in thousands)

	Less than 12 Months		12 Months or More		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
U.S. Government agencies and corporations	$ 3,280	$ 6	$ 2,755	$ 245	$ 6,035	$ 251
Obligations of states and political subdivisions	23,616	567	24,607	988	48,223	1,555
U.S. Government-sponsored mortgage-backed securities	1,598	18	54,989	2,465	56,587	2,483
U.S. Government-sponsored collateralized mortgage obligations	—	—	5,350	177	5,350	177
U.S. Government-guaranteed small business administration pools	—	—	7,700	278	7,700	278
Total	$ 28,494	$ 591	$ 95,401	$ 4,153	$ 123,895	$ 4,744

The above table represents 121 investment securities where the current value is less than the related amortized cost.

The unrealized losses at December 31, 2019 on the Company's investments were caused by changes in market rates and related spreads. The significant decrease in unrealized losses occurred throughout 2019 commensurate with the lack of growth in the economy, both domestically and globally. It is expected that the securities would not be settled at less than the amortized cost of the Company's investment because the decline in fair value is attributable to changes in interest rates and relative spreads and not credit quality. Also, the Company does not intend to sell those investments and it is not more-likely-than-not that the Company will be required to sell the investments before recovery of its amortized cost basis less any current period credit loss. The Company does not consider these investments to be other-than-temporarily impaired at December 31, 2019.

Securities Deemed to be Other-Than-Temporarily Impaired

The Company reviews investment debt securities on an ongoing basis for the presence of other-than-temporary impairment (OTTI) with formal reviews performed quarterly.

For debt securities in an unrealized loss position, management assesses whether (a) it has the intent to sell the debt security or (b) it is more-likely-than-not that it will be required to sell the debt security before its anticipated recovery. If either of these conditions is met, an OTTI on the security must be recognized.

In instances in which a determination is made that a credit loss (defined as the difference between the present value of the cash flows expected to be collected and the amortized cost basis) exists but the entity does not intend to sell the debt security and it is not more-likely-than-not that the entity will be required to sell the debt security before the anticipated recovery of its remaining amortized cost basis (i.e., the amortized cost basis less any current-period credit loss), the Company presents the amount of the OTTI recognized in the Consolidated Statements of Income.

In these instances, the impairment is separated into (a) the amount of the total impairment related to the credit loss, and (b) the amount of the total impairment related to all other factors. The amount of the total OTTI related to the credit loss is recognized in earnings. The amount of the total impairment related to all other factors is recognized in other comprehensive income. The total other-than-temporary impairment is presented in the Consolidated Statements of Income with an offset for the amount of the total other-than-temporary impairment that is recognized in other comprehensive income.

The following provides a cumulative rollforward of credit losses recognized in earnings for trust preferred securities previously held.

	(Amounts in thousands) December 31,		
	2019	2018	2017
Beginning impairment balance	**$ —**	$ 140	$ 140
Reduction for debt securities for which other-than-temporary impairment has been previously recognized and there is no related other comprehensive income	—	—	—
Credit losses on debt securities for which other-than-temporary impairment has not been previously recognized	—	—	—
Additional credit losses on debt securities for which other-than-temporary impairment was previously recognized	—	—	—
Sale of debt securities	**—**	(140)	—
Ending impairment balance	**$ —**	$ —	$ 140

At December 31, 2019, there were no investment securities considered to be in non-accrual status due to the delay in the collection of interest payments. This balance was comprised of two trust preferred securities which were disposed of in the second quarter of the 2018.

NOTE 3 - LOANS AND ALLOWANCE FOR LOAN LOSSES

The Company, through the Bank, grants residential, consumer and commercial loans to customers located primarily in Northeastern Ohio and Western Pennsylvania.

The following represents the composition of the loan portfolio for the period ending:

	(Amounts in thousands) December 31,			
	2019		2018	
	Balance	%	Balance	%
Commercial	**$ 99,864**	**19.3**	$ 112,440	21.9
Commercial real estate	**302,084**	**58.2**	303,804	59.0
Residential real estate	**87,172**	**16.8**	69,845	13.6
Consumer - home equity	**25,856**	**5.0**	25,076	4.9
Consumer - other	**3,740**	**0.7**	3,227	0.6
Total loans	**$ 518,716**		$ 514,392	

Management has an established methodology to determine the adequacy of the allowance for loan losses that assesses the risks and losses inherent in the loan portfolio. For purposes of determining the allowance for loan losses, the Company has segmented loans in the portfolio by product type. Loans are segmented into the following pools: commercial loans, commercial real estate loans, residential real estate loans and consumer loans. The pools of commercial real estate loans and commercial loans are also broken down further by industry sectors when analyzing the related pools. Using the largest concentrations as the qualifier, these industry sectors include non-residential buildings; skilled nursing and nursing care; residential real estate lessors, agents and managers; hotel and motels, and trucking. The Company also sub-segments the consumer loan portfolio into the following two classes: home equity loans and other consumer loans. Historical loss percentages for each risk category are calculated and used as the basis for calculating allowance allocations. These historical loss percentages are calculated over multiple periods for all portfolio segments. Management evaluates these results and utilizes the most reflective period in the calculation. Certain qualitative factors are then added to the historical allocation percentage to get the adjusted factor.

These factors include, but are not limited to, the following:

Factor Considered:	Risk Trend:
Levels of and trends in charge-offs, classifications and non-accruals	Decreasing
Trends in volume and terms	Stable
Changes in lending policies and procedures	Stable
Experience, depth and ability of management, including loan review function	Stable
Economic trends, including valuation of underlying collateral	Increasing
Concentrations of credit	Stable

The following factors are analyzed and applied to loans internally graded with higher risk credit in addition to the above factors for non-classified loans:

Factor Considered:	Risk Trend:
Levels and trends in classification	Stable
Declining trends in financial performance	Decreasing
Structure and lack of performance measures	Stable
Migration between risk categories	Stable

The provision charged to operations can be allocated to a loan classification either as a positive or negative value as a result of any material changes to: net charge-offs or recoveries which influence the historical allocation percentage, qualitative risk factors or loan balances.

The following is an analysis of changes in the allowance for loan losses for the periods ended:

	(Amounts in thousands)					
December 31, 2019	Commercial	Commercial real estate	Residential real estate	Consumer - home equity	Consumer - other	Total
Balance at beginning of period	**$ 1,232**	**$ 2,414**	**$ 314**	**$ 115**	**$ 123**	**$ 4,198**
Loan charge-offs	**(231)**	**(40)**	**(78)**	**—**	**(205)**	**(554)**
Recoveries	**28**	**—**	**—**	**2**	**76**	**106**
Net loan recoveries (charge-offs)	**(203)**	**(40)**	**(78)**	**2**	**(129)**	**(448)**
Provision charged to operations	**727**	**(244)**	**98**	**(13)**	**147**	**715**
Balance at end of period	**$ 1,756**	**$ 2,130**	**$ 334**	**$ 104**	**$ 141**	**$ 4,465**

	(Amounts in thousands)					
December 31, 2018	Commercial	Commercial real estate	Residential real estate	Consumer - home equity	Consumer - other	Total
Balance at beginning of period	$ 1,591	$ 2,702	$ 117	$ 70	$ 98	$ 4,578
Loan charge-offs	(1,163)	—	—	—	(175)	(1,338)
Recoveries	—	166	3	5	59	233
Net loan recoveries (charge-offs)	(1,163)	166	3	5	(116)	(1,105)
Provision charged to operations	804	(454)	194	40	141	725
Balance at end of period	$ 1,232	$ 2,414	$ 314	$ 115	$ 123	$ 4,198

December 31, 2017	Commercial	Commercial real estate	Residential real estate	Consumer - home equity	Consumer - other	Total
	(Amounts in thousands)					
Balance at beginning of period	$ 1,394	$ 3,072	$ 163	$ 150	$ 89	$ 4,868
Loan charge-offs	—	(654)	(14)	(26)	(146)	(840)
Recoveries	388	—	5	10	47	450
Net loan recoveries (charge-offs)	388	(654)	(9)	(16)	(99)	(390)
Provision charged to operations	(191)	284	(37)	(64)	108	100
Balance at end of period	$ 1,591	$ 2,702	$ 117	$ 70	$ 98	$ 4,578

The commercial charge-off in 2018 related to loans that were restructured with no principal forgiveness with a new borrowing relationship, but with a substantial concession in interest rate. The below market rate triggered recognition of a charge-off equivalent to the difference in present value of loan payments discounted at the market rate of interest. The charged off amount of $1.1 million is recorded as a loan discount. As loan payments are made, interest will be recognized at the market rate versus the negotiated rate via the amortization of the discount over the various lives of the loans. There was $625,000 in specific reserve previously allocated to these loans at December 31, 2017. The decrease in commercial real estate and the majority of the increase in residential real estate is due to reclassification of loans between these categories in 2019.

The allowance for commercial loans includes an amount for a single loan impairment, otherwise the provision decreased modestly. The decrease in the provision for commercial real estate loans is due mainly to a decrease in the concentration of credit factor. The recent segmentation of the commercial real estate loan portfolio into its five largest concentrations has resulted in lower allocations to those segments. The residential real estate, consumer-home equity and other household provisions remained fairly constant. The amount of net charge-offs also impacts the provision charged to operations for any category of loans. Charge-offs affect the historical rate applied to each category, and the amount needed to replenish the amount charged-off, which impacted residential real estate and consumer loans as well as commercial real estate loans. Along with the impact of classified loans, the amount of net charge-offs impacts the provision charged to operations for any category of loans. Charge-offs affect the historical rate applied to each category, and the amount needed to replenish the charge off to the allowance. The total allowance reflects management's estimate of loan losses inherent in the loan portfolio at the Consolidated Balance Sheet date.

The following tables present a full breakdown by portfolio classification of the allowance for loan losses and the recorded investment in loans for the periods ended December 31, 2019 and 2018:

December 31, 2019	Commercial	Commercial real estate	Residential real estate	Consumer - home equity	Consumer - other	Total
	(Amounts in thousands)					
Allowance for loan losses:						
Ending allowance balance attributable to loans:						
Individually evaluated for impairment	**$ 579**	**$ —**	**$ —**	**$ —**	**$ —**	**$ 579**
Collectively evaluated for impairment	**1,177**	**2,130**	**334**	**104**	**141**	**3,886**
Total ending allowance balance	**$ 1,756**	**$ 2,130**	**$ 334**	**$ 104**	**$ 141**	**$ 4,465**
Loan Portfolio:						
Individually evaluated for impairment	**$ 4,909**	**$ 2,940**	**$ —**	**$ —**	**$ —**	**$ 7,849**
Collectively evaluated for impairment	**94,955**	**299,144**	**87,172**	**25,856**	**3,740**	**510,867**
Total ending loan balance	**$ 99,864**	**$ 302,084**	**$ 87,172**	**$ 25,856**	**$ 3,740**	**$ 518,716**

December 31, 2018	Commercial	Commercial real estate	Residential real estate	Consumer - home equity	Consumer - other	Total
	(Amounts in thousands)					
Allowance for loan losses:						
Ending allowance balance attributable to loans:						
Individually evaluated for impairment	$ —	$ —	$ —	$ —	$ —	$ —
Collectively evaluated for impairment	1,232	2,414	314	115	123	4,198
Total ending allowance balance	$ 1,232	$ 2,414	$ 314	$ 115	$ 123	$ 4,198
Loan Portfolio:						
Individually evaluated for impairment	$ 5,364	$ 4,340	$ —	$ —	$ —	$ 9,704
Collectively evaluated for impairment	107,076	299,464	69,845	25,076	3,227	504,688
Total ending loan balance	$ 112,440	$ 303,804	$ 69,845	$ 25,076	$ 3,227	$ 514,392

The following tables represent credit exposures by internally assigned grades for years ended December 31, 2019 and 2018, respectively. The grading analysis estimates the capability of the borrower to repay the contractual obligations of the loan agreements as scheduled or at all. The Company's internal credit risk grading system is based on experiences with similarly graded loans.

The Company's internally assigned grades are as follows:

- *Pass* – loans which are protected by the current net worth and paying capacity of the obligor or by the value of the underlying collateral. Within this category, there are grades of exceptional, quality, acceptable and pass monitor.
- *Special Mention* – loans where a potential weakness or risk exists, which could cause a more serious problem if not corrected.
- *Substandard* – loans that have a well-defined weakness based on objective evidence and are characterized by the distinct possibility that the Bank will sustain some loss if the deficiencies are not corrected.
- *Doubtful* – loans classified as doubtful have all the weaknesses inherent in a substandard asset but with the severity which makes collection in full highly questionable and improbable, based on existing circumstances.
- *Loss* – loans classified as a loss are considered uncollectible, or of such value that continuance as an asset is not warranted. This rating does not mean that the assets have no recovery or salvage value but rather that the assets should be charged off now, even though partial or full recovery may be possible in the future.

The following is a summary of credit quality indicators by internally assigned grade as of December 31, 2019 and 2018.

	Commercial	Commercial real estate
	(Amounts in thousands)	
December 31, 2019		
Pass	**$ 83,114**	**$ 275,763**
Special Mention	**6,273**	**21,995**
Substandard	**10,477**	**4,326**
Ending Balance	**$ 99,864**	**$ 302,084**

	Commercial	Commercial real estate
	(Amounts in thousands)	
December 31, 2018		
Pass	$ 94,316	$ 271,370
Special Mention	6,914	25,199
Substandard	11,210	7,235
Ending Balance	$ 112,440	$ 303,804

The Company evaluates the classification of consumer, home equity and residential loans primarily on a pooled basis. If the Company becomes aware that adverse or distressed conditions exist that may affect a particular loan, the loan is downgraded following the above definitions of special mention and substandard. Nonaccrual loans in these categories are evaluated for charge off or charge down, and the remaining balance has the same allowance factor as pooled loans.

The following is a summary of consumer credit exposure as of December 31, 2019 and 2018.

	(Amounts in thousands)		
	Residential real estate	Consumer - home equity	Consumer- other
December 31, 2019			
Performing	**$ 86,703**	**$ 25,709**	**$ 3,740**
Nonperforming	**469**	**147**	**—**
Total	**$ 87,172**	**$ 25,856**	**$ 3,740**

	(Amounts in thousands)		
	Residential real estate	Consumer - home equity	Consumer- other
December 31, 2018			
Performing	$ 69,535	$ 24,956	$ 3,227
Nonperforming	310	120	—
Total	$ 69,845	$ 25,076	$ 3,227

Loans are considered to be nonperforming when they become 90 days past due or on nonaccrual status, though the Company may be receiving partial payments of interest and partial repayments of principal on such loans. When a loan is placed in non-accrual status, previously accrued but unpaid interest is recorded against interest income. Loans in foreclosure are considered nonperforming. At December 31, 2019, there were $154,000 of loans in the process of foreclosure.

The following is a summary of classes of loans on non-accrual status as of:

	(Amounts in thousands) December 31,	
	2019	2018
Commercial	**$ 1,152**	$ 1,291
Commercial real estate	**566**	512
Residential real estate	**469**	310
Consumer:		
Consumer - home equity	**147**	120
Consumer - other	**—**	—
Total	**$ 2,334**	$ 2,233

Gross income that should have been recorded in income on nonaccrual loans was $210,000, $191,000 and $57,000 for the years ended December 31, 2019, 2018 and 2017, respectively. Actual interest included in income on these nonaccrual loans amounts to $46,000, $42,000 and $16,000 in 2019, 2018 and 2017, respectively.

Troubled Debt Restructuring

Nonperforming loans also include certain loans that have been modified in troubled debt restructurings (TDRs) where economic concessions have been granted to borrowers who have experienced or are expected to experience financial difficulties. These concessions typically result from the Company’s loss mitigation activities and could include reductions in the interest rate, payment extensions, forgiveness of principal, forbearance or other actions. Certain TDRs are classified as nonperforming at the time of restructure and may only be returned to performing status after considering the borrower’s sustained repayment performance for a reasonable period, generally six months.

There were no loans modified as TDRs during the years ended December 31, 2019 and 2017. The following presents, by class, information related to loans modified in a TDR during the period ended December 31, 2018.

	(Dollar amounts in thousands) December 31, 2018			
	Number of contracts	Pre-modification recorded investment	Post-modification recorded investment	Increase in the allowance
Commercial	7	$ 5,373	$ 4,210	$ —
Total restructured loans	7	$ 5,373	$ 4,210	$ —
Subsequently defaulted	—	$ —		

The seven commercial loans were all to one new borrowing relationship. The loans were restructured with no principal forgiveness, but with a substantial concession in interest rate. The below market rate triggered recognition of a charge-off equivalent to the difference in present value of loan payments discounted at the market rate of interest. The charged off amount of $1.1 million is recorded as loan discount. As loan payments are made, interest will be recognized at the market rate versus the negotiated rate via the amortization of the discount over the various lives of the loans.

The following is an aging analysis of the recorded investment of past due loans as of the periods ended December 31, 2019 and 2018:

(Amounts in thousands)

	30-59 Days Past Due	60-89 Days Past Due	90 Days Or Greater	Total Past Due	Current	Total Loans	Recorded Investment > 90 Days and Accruing
December 31, 2019							
Commercial	$ 1	$ —	$ 1,152	$ 1,153	$ 98,711	$ 99,864	$ —
Commercial real estate	—	—	253	253	301,831	302,084	—
Residential real estate	5	214	454	673	86,499	87,172	—
Consumer:							
Consumer - home equity	24	25	123	172	25,684	25,856	—
Consumer - other	14	—	—	14	3,726	3,740	—
Total	$ 44	$ 239	$ 1,982	$ 2,265	$ 516,451	$ 518,716	$ —

(Amounts in thousands)

	30-59 Days Past Due	60-89 Days Past Due	90 Days Or Greater	Total Past Due	Current	Total Loans	Recorded Investment > 90 Days and Accruing
December 31, 2018							
Commercial	$ 14	$ —	$ 1,291	$ 1,305	$ 111,135	$ 112,440	$ —
Commercial real estate	—	—	167	167	303,637	303,804	—
Residential real estate	36	182	257	475	69,370	69,845	—
Consumer:							
Consumer - home equity	—	141	25	166	24,910	25,076	—
Consumer - other	17	—	—	17	3,210	3,227	—
Total	$ 67	$ 323	$ 1,740	$ 2,130	$ 512,262	$ 514,392	$ —

An impaired loan is a loan on which, based on current information and events, it is probable that the Company will be unable to collect all amounts due (including both interest and principal) according to the contractual terms of the loan agreement. However, an insignificant delay or insignificant shortfall in amount of payments on a loan does not indicate that the loan is impaired.

When a loan is determined to be impaired, impairment should be measured based on the present value of expected future cash flows discounted at the loan's effective interest rate. However, as a practical expedient, the Company will measure impairment based on a loan's observable market price, or the fair value of the collateral if the loan is collateral dependent.

The following are the criteria for selecting individual loans / relationships for impairment analysis. Non-homogenous loans which meet the criteria below are evaluated quarterly.

- All borrowers whose loans are classified doubtful by examiners and internal loan review
- All loans on non-accrual status
- Any loan in foreclosure
- Any loan with a specific reserve
- Any loan determined to be collateral dependent for repayment
- Loans classified as troubled debt restructuring

Commercial loans and commercial real estate loans evaluated for impairment are excluded from the general pool of loans in the ALLL calculation regardless if a specific reserve was determined. If management determines that the value of the impaired loan is less than the recorded investment in the loan (net of previous charge-offs, deferred loan fees or costs and unamortized premium or discount), impairment is recognized through an allowance estimate or a charge-off to the allowance.

The following table presents the recorded investment and unpaid principal balances for impaired loans with the associated allowance amount, if applicable, at December 31, 2019 and 2018. Also presented are the average recorded investments in the impaired balances and interest income recognized after impairment for the years ended December 31, 2019, 2018 and 2017.

	(Amounts in thousands)		
	Recorded Investment	Unpaid Principal Balance	Related Allowance
December 31, 2019			
With no related allowance recorded:			
Commercial	**$ 3,925**	**$ 4,946**	**$ —**
Commercial real estate	**2,940**	**2,940**	**—**
With an allowance recorded:			
Commercial	**984**	**984**	**579**
Commercial real estate	**—**	**—**	**—**
Total:			
Commercial	**$ 4,909**	**$ 5,930**	**$ 579**
Commercial real estate	**$ 2,940**	**$ 2,940**	**$ —**

	(Amounts in thousands)		
	Recorded Investment	Unpaid Principal Balance	Related Allowance
December 31, 2018			
With no related allowance recorded:			
Commercial	$ 5,364	$ 6,411	$ —
Commercial real estate	4,340	4,340	—
With an allowance recorded:			
Commercial	—	—	—
Commercial real estate	—	—	—
Total:			
Commercial	$ 5,364	$ 6,411	$ —
Commercial real estate	$ 4,340	$ 4,340	$ —

	(Amounts in thousands)	
	Average Recorded Investment	Interest Income Recognized
December 31, 2019		
With no related allowance recorded:		
Commercial	**$ 4,298**	**$ 300**
Commercial real estate	**3,108**	**195**
With an allowance recorded:		
Commercial	**823**	**—**
Commercial real estate	**—**	**—**
Total:		
Commercial	**$ 5,121**	**$ 300**
Commercial real estate	**$ 3,108**	**$ 195**

	(Amounts in thousands)	
	Average Recorded Investment	Interest Income Recognized
December 31, 2018		
With no related allowance recorded:		
Commercial	$ 4,231	$ 25
Commercial real estate	4,405	293
With an allowance recorded:		
Commercial	911	46
Commercial real estate	—	—
Total:		
Commercial	$ 5,142	$ 71
Commercial real estate	$ 4,405	$ 293

	(Amounts in thousands)	
	Average Recorded Investment	Interest Income Recognized
December 31, 2017		
With no related allowance recorded:		
Commercial	$ 85	$ 6
Commercial real estate	5,062	291
With an allowance recorded:		
Commercial	460	—
Commercial real estate	527	—
Total:		
Commercial	$ 545	$ 6
Commercial real estate	$ 5,589	$ 291

NOTE 4 - PREMISES AND EQUIPMENT

The following is a summary of premises and equipment:

	(Amounts in thousands) December 31,	
	2019	2018
Land	**$ 2,984**	$ 2,984
Premises	**12,493**	10,346
Equipment	**11,083**	10,760
Leasehold improvements	**695**	480
Total premises and equipment	**27,255**	24,570
Less accumulated depreciation	**15,237**	14,368
Net book value	**$ 12,018**	$ 10,202

Depreciation expense was $869,000 in 2019, $771,000 in 2018 and $880,000 in 2017.

NOTE 5 - DEPOSITS

The following is a summary of interest-bearing deposits:

	(Amounts in thousands) December 31,	
	2019	2018
Demand	**$ 55,421**	$ 54,901
Money market	**176,733**	179,430
Savings	**110,864**	111,837
Time:		
In denominations $250,000 or under	**119,211**	101,146
In denominations of over $250,000	**22,812**	20,219
Total	**$ 485,041**	$ 467,533

Stated maturities of time deposits were as follows:

	(Amounts in thousands) 2019
2020	**$ 88,034**
2021	**36,133**
2022	**7,523**
2023	**5,510**
2024	**1,069**
2025 and beyond	**3,754**
Total	**$ 142,023**

The following is a summary of time deposits of $100,000 or more by remaining maturities:

	(Amounts in thousands) December 31, 2019		
	Certificates of Deposit	Other Time Deposits	Total
Three months or less	**$ 13,980**	**$ 1,614**	**$ 15,594**
Three to six months	**6,245**	**2,551**	**8,796**
Six to twelve months	**6,308**	**3,840**	**10,148**
One through five years	**26,106**	**225**	**26,331**
Over five years	**1,894**	**—**	**1,894**
Total	**$ 54,533**	**$ 8,230**	**$ 62,763**

NOTE 6 - FEDERAL HOME LOAN BANK (FHLB) ADVANCES AND OTHER SHORT-TERM BORROWINGS

The following is a summary of FHLB advances and other short-term borrowings:

	Weighted Average Interest Rate	(Amounts in thousands) December 31, 2019	2018
FHLB advances - long-term:			
Fixed rate payable and convertible fixed rate FHLB advances, with monthly interest payments:			
Due in 2019		**$ —**	$ 6,000
Due in 2020	**2.04%**	**6,000**	6,000
Due in 2021	**2.62%**	**8,000**	4,000
Due in 2026	**0.96%**	**5,000**	—
Due in 2029	**0.96%**	**5,000**	—
Total FHLB advances - long-term	**1.78%**	**24,000**	16,000
FHLB advances - short-term:			
Short-term	**—%**	**—**	8,000
Cash management	**—%**	**—**	4,000
Total FHLB advances - short-term	**—%**	**—**	12,000
Total FHLB advances	**1.78%**	**24,000**	28,000
Other short-term borrowings:			
Securities sold under repurchase agreements	**0.34%**	**1,922**	2,206
Total FHLB advances and other short-term borrowings	**1.68%**	**$ 25,922**	$ 30,206

The following is a summary of FHLB advances – short term:

	(Amounts in thousands) 2019	2018	2017
Average balance during the year	**$ 4,786**	$ 18,899	$ 16,917
Average interest rate during the year	**2.70%**	1.98%	1.03%
Maximum month-end balance during the year	**$ 16,000**	$ 30,000	$ 32,000
Weighted average interest rate at year end	**—%**	2.47%	1.38%

At December 31, 2019, FHLB advances were collateralized by FHLB stock owned by the Bank with a carrying value of $2.6 million, a blanket lien against the Bank's qualified mortgage loan portfolio of $90.7 million, $4.9 million in mortgage-backed securities and $3.1 million in U.S. Government-guaranteed small business administration pools. In comparison, in the prior year FHLB advances were collateralized by FHLB stock owned by the Bank with a carrying value of $2.4 million, a blanket lien against the Bank's qualified mortgage loan portfolio of $71.6 million, $7.0 million in mortgage-backed securities and $3.8 million in U.S. Government-guaranteed small business administration pools. Maximum borrowing capacities from FHLB totaled $44.9 million and $55.3 million at December 31, 2019 and 2018, respectively.

At December 31, 2019 there were $10.0 million of the FHLB fixed rate advances that were putable on or after certain specified dates at the option of the FHLB. At December 31, 2018, there were no FHLB fixed rate advances that were putable on or after certain specified dates at the option of the FHLB. Should the FHLB elect to exercise the put, the Company is required to pay the advance off on that date without penalty.

The following is a summary of other short-term borrowings:

	(Amounts in thousands) 2019	2018	2017
Average balance during the year	**$ 1,493**	$ 1,679	$ 2,018
Average interest rate during the year	**0.33%**	0.33%	0.33%
Maximum month-end balance during the year	**$ 1,922**	$ 2,206	$ 2,678
Weighted average interest rate at year end	**0.34%**	0.34%	0.34%

Securities sold under repurchase agreements represent arrangements the Bank has entered into with certain deposit customers within its local market areas. These borrowings are collateralized with securities. At December 31, 2019 and 2018, securities allocated for this purpose, owned by the Bank and held in safekeeping accounts at independent correspondent banks, amounted to $2.8 million and $3.1 million, respectively.

The following table provides additional detail regarding other short-term borrowings:

	(Amounts in thousands) Repurchase Agreements (Sweep) Accounted for as Secured Borrowings	
	At December 31, 2019	At December 31, 2018
	Remaining Contractual Maturity of the Agreements	
	Overnight and Continuous	Overnight and Continuous
Repurchase agreements:		
U.S. Government-sponsored mortgage-backed securities	**$ 2,750**	$ 3,066
Total collateral carrying value	**$ 2,750**	$ 3,066
Total short-term borrowings	**$ 1,922**	$ 2,206

NOTE 7 - SUBORDINATED DEBT

In July 2007, a trust formed by the Company issued $5.0 million of floating rate trust preferred securities as part of a pooled offering of such securities due December 2037. The Company owns all $155,000 of the common securities issued by the trust. The securities bear interest at the 3-month LIBOR rate plus 1.45%. The rates at December 31, 2019 and 2018 were 3.34% and 4.24%, respectively. The Company issued subordinated debentures to the trust in exchange for the proceeds of the trust preferred offering. The debentures represent the sole assets of this trust. The Company may redeem the subordinated debentures, in whole or in part, at par.

The trust is not consolidated with the Company's financial statements. Accordingly, the Company does not report the securities issued by the trust as liabilities, but instead reports as liabilities the subordinated debentures issued by the Company and held by the trust. The subordinated debentures qualify as Tier 1 capital for regulatory purposes in determining and evaluating the Company's capital adequacy.

NOTE 8 – COMMITMENTS AND CONTINGENCIES

At December 31, 2019, the Bank was required to maintain aggregate cash reserves amounting to $6.0 million in order to satisfy federal regulatory requirements. The reserves are held in useable vault cash and interest-earning balances at the Federal Reserve Bank of Cleveland.

The Bank grants commercial and industrial loans, commercial and residential mortgage loans, and consumer loans to customers in Northeastern Ohio and Western Pennsylvania. Although the Bank has a diversified portfolio, exposure to credit loss can be adversely impacted by downturns in local economic and employment conditions. Approximately 0.23% of total loans are unsecured at December 31, 2019 and approximately 0.28% at December 31 2018.

The Bank is a party to financial instruments with off-balance sheet risk in the normal course of business to meet the financing needs of its customers. These financial instruments include commitments to extend credit, standby letters of credit and financial guarantees. Such instruments involve, to varying degrees, elements of credit risk in excess of the amount recognized on the Consolidated Balance Sheets. The contract or notional amounts on those instruments reflect the extent of involvement the Company has in particular classes of financial instruments.

In the event of nonperformance by the other party, the Company's exposure to credit loss on these financial instruments is represented by the contract or notional amount of the instrument. The Company uses the same credit policies in making commitments and conditional obligations as it does for instruments recorded on the balance sheet. The amount and nature of collateral obtained, if any, is based on management's credit evaluation.

The following is a summary of such contractual commitments:

	(Amounts in thousands) December 31,	
	2019	2018
Commitments to extend credit:		
Fixed rate	**$ 19,755**	**$ 31,225**
Variable rate	**75,147**	**74,050**
Standby letters of credit	**3,905**	**3,455**

Commitments to extend credit are agreements to lend to a customer as long as there is no violation of any condition established in the contract. Generally, these financial arrangements have fixed expiration dates or other termination clauses and may require payment of a fee. Standby letters of credit are conditional commitments issued by the Company to guarantee the performance of a customer to a third party. Since many of the commitments are expected to expire without being drawn upon, the total commitment amounts do not necessarily represent future cash requirements. The Company evaluates each customer’s creditworthiness on a case-by-case basis. The amount of collateral obtained, if deemed necessary by the Company upon extension of credit, is based on management’s credit evaluation of the counterparty. Collateral held varies but may include accounts receivable, inventory, property, plant and equipment and income-producing commercial properties. The increase in commitments is in line with the Company’s increased focus on commercial and industrial lending, and specifically lines of credit.

The Company also offers limited overdraft protection as a non-contractual courtesy which is available to businesses as well as individually/jointly owned accounts in good standing for personal or household use. The Company reserves the right to discontinue this service without prior notice.

The following table is a summary of overdraft protection for the periods indicated:

	(Amounts in thousands) December 31,	
	2019	2018
Overdraft protection available on depositors' accounts	**$ 8,070**	$ 8,708
Balance of overdrafts included in loans	**130**	116
Average daily balance of overdrafts	**112**	104
Average daily balance of overdrafts as a percentage of available	**1.39%**	1.19%

Customer Derivatives - Interest Rate Swaps/Floors – The Company enters into interest rate swaps that allow our commercial loan customers to effectively convert a variable-rate commercial loan agreement to a fixed-rate commercial loan agreement. Under these agreements, the Company enters into a variable-rate loan agreement with a customer in addition to an interest rate swap agreement, which serves to effectively swap the customer’s variable-rate into a fixed-rate. The Company then enters into a corresponding swap agreement with a third party in order to economically hedge its exposure through the customer agreement. The interest rate swaps with both the customers and third parties are not designated as hedges under FASB ASC 815 and are not marked to market through earnings. As the interest rate swaps are structured to offset each other, changes to the underlying benchmark interest rates considered in the valuation of these instruments do not result in an impact to earnings; however, there may be fair value adjustments related to credit quality variations between counterparties, which may impact earnings as required by FASB ASC 820. There was no effect on earnings in any periods presented. At December 31, 2019, based upon the swap contract values, the company had two U.S. Government-sponsored mortgage-backed securities pledged for collateral on its interest rate swaps with a third-party financial institution with a fair value $2.8 million. At December 31, 2018, based upon the swap contract values at that time, it was not necessary for any collateral to be pledged on the interest rate swaps.

Summary information regarding these derivatives is presented below:

(Amounts in thousands)

	Notional Amount December 31,				Fair Value December 31,	
	2019	2018	Interest Rate Paid	Interest Rate Received	2019	2018
Customer interest rate swap						
Maturing in 2020	**$ 2,312**	$ 2,410	**1 Mo. Libor + Margin**	**Fixed**	**$ 4**	$ (30)
Maturing in 2025	**4,557**	4,930	**1 Mo. Libor + Margin**	**Fixed**	**134**	(28)
Maturing in 2026	**1,822**	1,946	**1 Mo. Libor + Margin**	**Fixed**	**19**	(64)
Maturing in 2027	**13,363**	13,790	**1 Mo. Libor + Margin**	**Fixed**	**636**	(54)
Maturing in 2028	**6,068**	6,395	**1 Mo. Libor + Margin**	**Fixed**	**548**	268
Maturing in 2029	**3,721**	—	**1 Mo. Libor + Margin**	**Fixed**	**(19)**	—
Maturing in 2030	**3,649**	—	**1 Mo. Libor + Margin**	**Fixed**	**44**	—
Maturing in 2033	**1,121**	—	**1 Mo. Libor + Margin**	**Fixed**	**56**	—
Total	**$ 36,613**	$ 29,471			**$ 1,422**	$ 92
Third party interest rate swap						
Maturing in 2020	**$ 2,312**	$ 2,410	**Fixed**	**1 Mo. Libor + Margin**	**$ (4)**	$ 30
Maturing in 2025	**4,557**	4,930	**Fixed**	**1 Mo. Libor + Margin**	**(134)**	28
Maturing in 2026	**1,822**	1,946	**Fixed**	**1 Mo. Libor + Margin**	**(19)**	64
Maturing in 2027	**13,363**	13,790	**Fixed**	**1 Mo. Libor + Margin**	**(636)**	54
Maturing in 2028	**6,068**	6,395	**Fixed**	**1 Mo. Libor + Margin**	**(548)**	(268)
Maturing in 2029	**3,721**	—	**Fixed**	**1 Mo. Libor + Margin**	**19**	—
Maturing in 2030	**3,649**	—	**Fixed**	**1 Mo. Libor + Margin**	**(44)**	—
Maturing in 2033	**1,121**	—	**Fixed**	**1 Mo. Libor + Margin**	**(56)**	—
Total	**$ 36,613**	$ 29,471			**$ (1,422)**	$ (92)

The following table presents the fair values of derivative instruments in the Consolidated Balance Sheet.

(Amounts in thousands)

	Assets		Liabilities	
	Balance Sheet Location	Fair Value	Balance Sheet Location	Fair Value
December 31, 2019				
Interest rate derivatives	Other assets	**$ 1,422**	Other liabilities	**$ 1,422**
December 31, 2018				
Interest rate derivatives	Other assets	$ 92	Other liabilities	$ 92

NOTE 9 – BENEFIT PLANS

The Bank has a contributory defined contribution retirement plan (401(k) plan) which covers substantially all employees. Total expense under the plan was $367,000 for 2019, $337,000 for 2018 and $361,000 for 2017. The Bank matches participants' voluntary contributions up to 5% of gross pay. Participants were able to make voluntary contributions to the plan up to a maximum of $19,000 with an additional $6,000 catch-up deferral for plan participants over the age of 50. The Bank makes bi-weekly contributions to this plan equal to amounts accrued for plan expense.

The Company provides supplemental retirement benefit plans for the benefit of certain officers and non-officer directors. The plan for officers is designed to provide post-retirement benefits to supplement other sources of retirement income such as social security and 401(k) benefits. The benefits will be paid for a period of 15 years after retirement. Director Retirement Agreements provide for a benefit of $10,000 annually on or after the director reaches normal retirement age, which is based on a combination of age and years of service. Director retirement benefits are paid over a period of 10 years following retirement. The Company accrues the cost of these post-retirement benefits during the working careers of the officers and directors. At December 31, 2019, the accumulated liability for these benefits totaled $3.7 million, with $3.2 million accrued for the officers' plan and $517,000 for the directors' plan.

The following table reconciles the accumulated liability for the benefit obligation of these agreements:

	(Amounts in thousands) Years Ended December 31,		
	2019	2018	2017
Beginning balance	**$ 3,465**	$ 3,182	$ 2,957
Benefit expense	**409**	445	387
Benefit payments	**(181)**	(162)	(162)
Ending balance	**$ 3,693**	$ 3,465	$ 3,182

Supplemental executive retirement agreements are unfunded plans and have no plan assets. The benefit obligation represents the vested net present value of future payments to individuals under the agreements. The benefit expense, as specified in the agreements for the entire year 2020, is expected to be approximately $440,000. The benefits expected to be paid in the next year are approximately $196,000.

The Bank has purchased insurance contracts on the lives of the participants in the supplemental retirement benefit plan and has named the Bank as the beneficiary. Similarly, the Company has purchased insurance contracts on the lives of the directors with the Bancorp as beneficiary. While no direct linkage exists between the supplemental retirement benefit plan and the life insurance contracts, it is management's current intent that the revenue from the insurance contracts be used as a funding source for the plan.

The Company accrues for the monthly benefit expense of postretirement cost of insurance for split-dollar life insurance coverage. The following table presents the changes in the accumulated liability.

	(Amounts in thousands) December 31,		
	2019	2018	2017
Beginning balance	**$ 831**	$ 876	$ 840
(Income) expense recorded	**(55)**	23	50
Other comprehensive income recorded	**(31)**	(68)	(14)
Ending balance	**$ 745**	$ 831	$ 876

NOTE 10 - FEDERAL INCOME TAXES

With the passage of the Tax Cuts and Jobs Act ("Tax Act"), tax law for corporations had several material changes effective beginning in 2018. The most significant change is the reduction in the corporate tax rate from 34% to 21%. Because this reduced rate was signed into law in December 2017, generally accepted accounting principles required recognition of the lower rate on the Company's deferred tax position as of December 31, 2017. As the Company is in a net deferred tax asset position, the reduction of this benefit resulted in a $1.2 million additional charge to Federal Income Tax expense in the Company's 2017 Consolidated Statements of Income.

The composition of income tax expense is as follows:

	(Amounts in thousands) Years Ended December 31,		
	2019	2018	2017
Current	**$ 1,150**	$ 407	$ 1,199
Deferred	**209**	1,008	(28)
Change in corporate tax rate	**—**	—	1,246
Total	**$ 1,359**	$ 1,415	$ 2,417

The ability to realize the benefit of deferred tax assets is dependent upon a number of factors, including the generation of future taxable income, the ability to carry back taxes paid in previous years, the ability to offset capital losses with capital gains, the reversal of deferred tax liabilities, and certain tax planning strategies. A valuation allowance of $28,000 was established in 2018 to offset in its entirety capital losses.

The following is a summary of net deferred taxes included in other assets:

	(Amounts in thousands) December 31,	
	2019	2018
Gross deferred tax assets:		
Allowance for loan and other real estate losses	**$ 938**	$ 882
Deferred loan origination cost - net	**195**	232
Deferred compensation	**775**	727
Capital loss carryforward	**28**	28
Unrealized loss on available-for-sale securities	**—**	980
Other items	**868**	390
Total gross deferred tax assets	**2,804**	3,239
Valuation allowance	**(28)**	(28)
Total net deferred tax assets	**2,776**	3,211
Gross deferred tax liabilities:		
Unrealized gain on available-for-sale securities	**(294)**	—
Premises and equipment	**(832)**	(477)
Other items	**(719)**	(320)
Total net deferred tax liabilities	**(1,845)**	(797)
Net deferred tax asset	**$ 931**	$ 2,414

The following is a reconciliation of the valuation allowance for net deferred tax assets:

	(Amounts in thousands) December 31,	
	2019	2018
Valuation allowance at beginning of year	**$ 28**	$ —
Capital loss carryover	**—**	28
Valuation allowance at end of year	**$ 28**	$ 28

The following is a reconciliation between tax expense using the statutory tax rate of 21% for 2019 and 2018 and 34% for 2017 and the income tax provision:

	(Amounts in thousands) Years Ended December 31,		
	2019	2018	2017
Statutory tax expense	**$ 1,815**	$ 2,153	$ 2,301
Tax effect of non-taxable interest income	**(347)**	(319)	(663)
Tax effect of earnings on bank-owned life insurance-net	**(94)**	(403)	(414)
Tax effect of deferred tax valuation provision	**—**	28	—
Change in corporate tax rate (1)	**—**	—	1,246
Tax effect of low income housing credit	**(156)**	(140)	(149)
Tax effect of non-deductible expenses	**141**	96	96
Federal income tax expense	**$ 1,359**	$ 1,415	$ 2,417

(1) The tax act lowers the base corporate tax rate from 35% to 21% which was applied to the existing deferred tax balance.

The related income tax (benefit) expense on investment securities gains (losses) amounted to $(9,000) for 2019, $(4,000) for 2018 and $3,000 for 2017 and is included in the federal income tax expense.

The Company prescribes a recognition threshold and a measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. Benefits from tax positions should be recognized in the financial statements only when it is more-likely-than-not that the tax position will be sustained upon examination by the appropriate taxing authority that would have full knowledge of all relevant information. A tax position that meets the more-likely-than-not recognition threshold is measured at the largest amount of benefit that is greater than fifty percent likely of being realized upon ultimate settlement. Tax positions that previously failed to meet the more-likely-than-not recognition threshold should be recognized in the first subsequent financial reporting period in which that threshold is met. Previously recognized tax positions that no longer meet the more-likely-than-not recognition threshold should be derecognized in the first subsequent financial reporting period in which that threshold is no longer met. The provision also provides guidance on the accounting for and disclosure of unrecognized tax benefits, interest and penalties. There were no significant unrecognized tax benefits at December 31, 2019 and the Company does not expect any significant increase in unrecognized tax benefits in the next twelve months. No interest or penalties were incurred for income taxes which would have been recorded as a component of income tax expense.

There is currently no liability for uncertain tax positions and no known unrecognized tax benefits. The Company's federal and state income tax returns for taxable years through 2015 have been closed for purposes of examination by the Internal Revenue Service and the Ohio Department of Revenue.

NOTE 11 – FAIR VALUE

Measurements

The Company groups assets and liabilities recorded at fair value into three levels based on the markets in which the assets and liabilities are traded and the reliability of the assumptions used to determine fair value. A financial instrument's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement (with level 1 considered highest and level 3 considered lowest). A brief description of each level follows:

Level 1: Quoted prices are available in active markets for identical assets or liabilities as of the reported date.

Level 2: Pricing inputs are other than quoted prices in active markets, which are either directly or indirectly observable as of the reported date. The nature of these assets and liabilities include items for which quoted prices are available but which trade less frequently, and items that are fair valued using other financial instruments, the parameters of which can be directly observed.

Level 3: Assets and liabilities that have little to no pricing observability as of the reported date. These items do not have two-way markets and are measured using management's best estimate of fair value, where inputs into the determination of fair value require significant management judgment or estimation.

The following table presents the assets reported on the consolidated balance sheets at their fair value as of December 31, 2019 and December 31, 2018 by level within the fair value hierarchy. Financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

		(Amounts in thousands) Fair Value Measurements at December 31, 2019 Using		
Description	December 31, 2019	Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
ASSETS				
U.S. Government agencies and corporations	$ **3,310**	$ —	$ **3,310**	$ —
Obligations of states and political subdivisions	**69,626**	—	**69,626**	—
U.S. Government-sponsored mortgage-backed securities	**48,237**	—	**48,237**	—
U.S. Government-sponsored collateralized mortgage obligations	**8,481**	—	**8,481**	—
U.S. Government-guaranteed small business administration pools	**6,477**	—	**6,477**	—
Loans held for sale	**4,890**	**4,890**	—	—
Interest rate derivatives	**1,422**	—	**1,422**	—
LIABILITIES				
Interest rate derivatives	$ **1,422**	$ —	$ **1,422**	$ —

Description	December 31, 2018	Quoted Prices in Active Markets For Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
	(Amounts in thousands) Fair Value Measurements at December 31, 2018 Using			
ASSETS				
U.S. Government agencies and corporations	$ 9,002	$ —	$ 9,002	$ —
Obligations of states and political subdivisions	51,658	—	51,658	—
U.S. Government-sponsored mortgage-backed securities	56,587	—	56,587	—
U.S. Government-sponsored collateralized mortgage obligations	11,976	—	11,976	—
U.S. Government-guaranteed small business administration pools	7,700	—	7,700	—
Loans held for sale	1,040	1,040	—	—
Interest rate derivatives	92	—	92	—
LIABILITIES				
Interest rate derivatives	$ 92	$ —	$ 92	$ —

The following tables present the changes in the Level 3 fair value category for the years ended December 31, 2019, 2018 and 2017. The Company classifies financial instruments in Level 3 of the fair-value hierarchy when there is reliance on at least one significant unobservable input to the valuation model. In addition to these unobservable inputs, the valuation models for Level 3 financial instruments typically also rely on a number of inputs that are readily observable either directly or indirectly.

	(Amounts in thousands) December 31,		
	2019	2018	2017
	Trust preferred securities	Trust preferred securities	Trust preferred securities
Beginning balance	**$ —**	$ 895	$ 825
Net realized/unrealized gains/(losses) included in:			
Noninterest income	**—**	—	—
Other comprehensive income	—	723	72
Discount accretion (premium amortization)	**—**	—	—
Sales	—	(1,618)	—
Purchases, issuance, and settlements	**—**	—	(2)
Ending balance	**$ —**	$ —	$ 895
Losses included in net income for the period relating to assets held at period end	**$ —**	$ —	$ —

The Company conducts OTTI analyses on a quarterly basis. The initial indication of other-than-temporary impairment for both debt and equity securities is a decline in the fair value below the amount recorded for an investment. A decline in value that is considered to be other-than-temporary is recorded as a loss within non-interest income in the Consolidated Statements of Income. In determining whether an impairment is other than temporary, the Company considers a number of factors, including, but not limited to, the length of time and extent to which the market value has been less than cost, recent events specific to the issuer, including investment downgrades by rating agencies and economic conditions of its industry, and a determination that the Company does not intend to sell those investments and it is not more-likely-than-not that the Company will be required to sell the investments before recovery of its amortized cost basis less any current period credit loss. Among the factors that are considered in determining the Company's intent and ability is a review of its capital adequacy, interest rate risk position and liquidity.

The Company also considers the issuer's financial condition, capital strength and near-term prospects. In addition, for debt securities the Company considers the cause of the price decline (general level of interest rates and industry- and issuer-specific factors), current ability to make future payments in a timely manner and the issuer's ability to service debt, the assessment of a security's ability to recover any decline in market value, the ability of the issuer to meet contractual obligations and the Company's intent and ability to retain the security. All of the foregoing require considerable judgment.

Trust Preferred Securities

Trust preferred securities, which are accounted for under FASB ASC Topic 325 *Investments Other,* were held in the investment portfolio until June 2018. Prior to the sale, the Company evaluated current available information in estimating the future cash flows of securities and determined whether there had been favorable or adverse changes in estimated cash flows from the cash flows previously projected. The Company considered the structure and term of the pool and the financial condition of the underlying issuers. Specifically, the evaluation incorporated factors such as interest rates and appropriate risk premiums, the timing and amount of interest and principal payments and the allocation of payments to the various note classes. Estimates of cash flows were based on the most recent trustee reports, announcements of deferrals or defaults, expected future default rates and other relevant market information.

The following table details the breakdown of trust preferred securities for the periods indicated:

	(Dollar amounts in thousands) December 31, 2017
Total number of trust preferred securities	2
Par value	$ 1,939
Number not considered OTTI	1
Par value	$ 903
Number considered OTTI	1
Par value	$ 1,036
Life-to-date impairment recognized in earnings	$ 140
Life-to-date impairment recognized in other comprehensive income	723
Total life-to-date impairment	$ 863

The following table details the one debt security with other-than-temporary impairment, its credit rating at December 31, 2017 and the related losses recognized in earnings:

(Dollar amounts in thousands)

	Moody's/Fitch Rating	Amount of OTTI related to credit loss at January 1, 2017	Additions in QTD March 31, 2017	Additions in QTD June 30, 2017	Additions in QTD September 30, 2017	Additions in QTD December 31, 2017	Amount of OTTI related to credit loss at December 31, 2017
Trapeza IX B-1	Caa2/CC	$ 140	$ —	$ —	$ —	$ —	$ 140

The following table provides additional information related to the Company's trust preferred securities as of December 31, 2017 used to evaluate other-than-temporary impairments:

(Dollar amounts in thousands)

Deal	Class	Amortized Cost	Fair Value	Unrealized Gain/(Loss)	Moody's/ Fitch Rating	Number of Issuers Currently Performing	Deferrals and Defaults as a % of Current Collateral	Excess Subordination as a % of Current Performing Collateral
PreTSL XXIII	C-2	$ 758	$ 336	$ (422)	Ba1/CCC	90	20.9%	7.12%
Trapeza IX	B-1	860	559	(301)	Caa2/CC	30	14.0	—
Total		$ 1,618	$ 895	$ (723)				

The market for these securities at December 31, 2017 was not active and markets for similar securities are also not active. The inactivity was evidenced first by a significant widening of the bid-ask spread in the brokered markets in which trust preferred securities trade and then by a significant decrease in the volume of trades relative to historical levels. The new issue market is also inactive as new issuance is essentially nonexistent. There are currently very few market participants who are willing and/or able to transact for these securities. The pooled market value for these securities remains very depressed relative to historical levels. Although there has been marked improvement in the credit spread premium in the corporate bond space, little improvement has been noted in the market for trust preferred securities.

Given conditions in the current debt markets and the absence of observable transactions in the secondary and the new issue markets, the Company determined the following:

- The few observable transactions and market quotations that are available are not reliable for purposes of determining fair value;
- An income valuation approach technique (present value technique) that maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs will be equally or more representative of fair value than the market approach valuation technique used at measurement dates prior to 2008; and
- The trust preferred securities will be classified within Level 3 of the fair value hierarchy because the Company determined that significant judgments are required to determine fair value at the measurement date.

The Company enlisted the aid of an independent third party to perform the trust preferred security valuations. The approach to determining fair value involved the following process:

1. Estimate the credit quality of the collateral using average probability of default values for each issuer (adjusted for rating levels).
2. Consider the potential for correlation among issuers within the same industry for default probabilities (e.g. banks with other banks).
3. Forecast the cash flows for the underlying collateral and apply to each trust preferred security tranche to determine the resulting distribution among the securities, including prepayment and cures.
4. Discount the expected cash flows to calculate the present value of the security.

The following table presents the assets measured on a nonrecurring basis on the Consolidated Balance Sheets at their fair value as of December 31, 2019, by level within the fair value hierarchy. Impaired loans that are collateral dependent are written down to fair value through the establishment of specific reserves. Techniques used to value the collateral that secure the impaired loans include: quoted market prices for identical assets classified as Level 1 inputs; observable inputs, employed by certified appraisers, for similar assets classified as Level 2 inputs. In cases where valuation techniques include inputs that are unobservable and are based on estimates and assumptions developed by management based on the best information available under each circumstance, the asset valuation is classified as Level 3 inputs. Other real estate owned is carried at the lower of cost or fair value less estimated costs to sell. There were no impaired loans carried at fair value in 2018.

	(Amounts in thousands) December 31, 2019			
	Level 1	Level 2	Level 3	Total
Assets measured on a nonrecurring basis:				
Impaired loans	$ —	$ —	$ 405	$ 405

Financial Instruments

The Company discloses fair value information about financial instruments, whether or not recognized in the Consolidated Balance Sheets, for which it is practicable to estimate the value. In cases where quoted market prices are not available, fair values are based on estimates using present value or other estimation techniques. Those techniques are significantly affected by the assumptions used, including the discount rate and estimates of future cash flows.

Such techniques and assumptions, as they apply to individual categories of the financial instruments, are as follows:

Investment securities available for sale – Fair values of securities are based on quoted market prices, where available. If quoted market prices are not available, fair values are based on quoted market prices of comparable securities. Prices on trust preferred securities were calculated using a discounted cash-flow technique. Cash flows were estimated based on credit and prepayment assumptions. The present value of the projected cash flows was calculated using a discount rate equal to the current yield used to accrete the beneficial interest.

Loans held for sale – Loans held for sale consist of residential mortgage loans originated for sale. Loans held for sale are recorded at fair value based on what the secondary markets have offered on best efforts commitments.

Interest rate derivatives – The fair value is based on settlement values adjusted for credit risks associated with the counter parties and the Company and observable market interest rate curves.

In addition, other assets and liabilities of the Company that are not defined as financial instruments are not included in the disclosures, such as property and equipment. Also, non-financial instruments typically not recognized in financial statements nevertheless may have value but are not included in the above disclosures. These include, among other items, the estimated earning power of core deposit accounts, the trained work force, customer goodwill and similar items. 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 measured at amortized cost are as follows:

	(Amounts in thousands) December 31, 2019				
	Carrying Amount	Level 1	Level 2	Level 3	Fair Value
ASSETS:					
Cash and cash equivalents	**$ 27,815**	**$ 27,815**	**$ —**	**$ —**	**$ 27,815**
Loans	**514,251**	**—**	**—**	**517,787**	**517,787**
Bank-owned life insurance	**17,768**	**17,768**	**—**	**—**	**17,768**
Accrued interest receivable	**2,336**	**2,336**	**—**	**—**	**2,336**
LIABILITIES:					
Demand, savings and money market deposits	**$ 476,358**	**$ 476,358**	**$ —**	**$ —**	**$ 476,358**
Time deposits	**142,023**	**—**	**—**	**143,485**	**143,485**
Short-term borrowings	**1,922**	**1,922**	**—**	**—**	**1,922**
Federal Home Loan Bank advances - short term	**—**	**—**	**—**	**—**	**—**
Federal Home Loan Bank advances - long term	**24,000**	**—**	**—**	**24,005**	**24,005**
Subordinated debt	**5,155**	**—**	**—**	**4,835**	**4,835**
Accrued interest payable	**510**	**510**	**—**	**—**	**510**

	(Amounts in thousands) December 31, 2018				
	Carrying Amount	Level 1	Level 2	Level 3	Fair Value
ASSETS:					
Cash and cash equivalents	$ 19,692	$ 19,692	$ —	$ —	$ 19,692
Loans	510,194	—	—	513,103	513,103
Bank-owned life insurance	15,711	15,711	—	—	15,711
Accrued interest receivable	2,255	2,255	—	—	2,255
LIABILITIES:					
Demand, savings and money market deposits	$ 483,054	$ 483,054	$ —	$ —	$ 483,054
Time deposits	121,365	—	—	122,295	122,295
Short-term borrowings	2,206	2,206	—	—	2,206
Federal Home Loan Bank advances - short term	12,000	—	—	11,987	11,987
Federal Home Loan Bank advances - long term	16,000	—	—	15,880	15,880
Subordinated debt	5,155	—	—	4,620	4,620
Accrued interest payable	371	371	—	—	371

The following table presents quantitative information about the Level 3 significant inputs for assets and liabilities measured at fair value on a recurring and nonrecurring basis at December 31, 2019. There were no such Level 3 measurements at December 31, 2018.

	(Amounts in thousands) Fair value at December 31, 2019	Valuation Technique	Significant Unobservable Input	Range of Inputs
Impaired loans	$ 405	Appraisal of Collateral	Appraisal Adjustment	(76)%
			Liquidation Expenses	(10)%

NOTE 12 - ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The following table presents the changes in accumulated other comprehensive income (loss) by component net of tax for the years ended December 31, 2019, 2018 and 2017.

	(Amounts in thousands)	
	Unrealized gains (losses) on available-for-sale securities (a)	Change in pension and postretirement obligations (a)
Balance as of December 31, 2016	$ (2,909)	$ (52)
Other comprehensive income before reclassification	1,420	14
Reclassification of certain income tax effects from accumulated other comprehensive income	(294)	—
Amount reclassified from accumulated other comprehensive loss	(4)	—
Total other comprehensive income	1,122	14
Balance as of December 31, 2017	$ (1,787)	$ (38)
Other comprehensive (loss) income before reclassification	(1,916)	68
Amount reclassified from accumulated other comprehensive loss	17	—
Total other comprehensive (loss) income	(1,899)	68
Balance as of December 31, 2018	$ (3,686)	$ 30
Other comprehensive income before reclassification	**4,758**	**31**
Amount reclassified from accumulated other comprehensive income	**35**	**—**
Total other comprehensive income	**4,793**	**31**
Balance as of December 31, 2019	**$ 1,107**	**$ 61**

(a) All amounts are net of tax. Amounts in parentheses indicate debits.

The following table presents significant amounts reclassified out of each component of accumulated other comprehensive income (loss) for the years ended December 31, 2019, 2018 and 2017.

	(Amounts in thousands) December 31,			
	2019	2018	2017	
	Amount reclassified from accumulated other comprehensive income (a)	Amount reclassified from accumulated other comprehensive loss (a)	Amount reclassified from accumulated other comprehensive loss (a)	Affected line item in the statement where net income is presented
Details about other comprehensive income or loss:				
Unrealized (losses) gains on available-for-sale securities	**$ (44)**	$ (21)	$ 7	Investment securities available-for-sale (losses) gains, net
	9	4	(3)	Federal income tax expense
	$ (35)	$ (17)	$ 4	

(a) Amounts in parentheses indicate debits to net income.

NOTE 13 - REGULATORY MATTERS

The Company and the Bank are subject to regulatory capital requirements administered by federal banking agencies. Capital adequacy guidelines and prompt corrective action regulations involve quantitative measures of assets, liabilities, and certain off-balance-sheet items calculated under regulatory accounting practices. Capital amounts and classifications are also subject to qualitative judgments by regulators about components, risk weightings, and other factors, and the regulators can lower classifications in certain cases. Failure to meet various capital requirements can initiate regulatory action that could have a direct material effect on the financial statements.

The prompt corrective action regulations provide five categories, including well capitalized, adequately capitalized, undercapitalized, significantly undercapitalized, and critically undercapitalized, although these terms are not used to represent overall financial condition. If a bank is only adequately capitalized, regulatory approval is required to, among other things, accept, renew or roll-over brokered deposits. If a bank is undercapitalized, capital distributions and growth and expansion are limited, and plans for capital restoration are required.

In July 2013, the Board of Governors of the Federal Reserve Board and the FDIC approved the final rules implementing the Basel Committee on Banking Supervision's capital guidelines for U.S. banks and their holding companies (commonly known as Basel III). Under the final rules, which began for the Company and the Bank on January 1, 2015 and are subject to a phase-in period through January 1, 2019, minimum requirements will increase for both the quantity and quality of capital held by the Company and the Bank. The rules include a new common equity Tier 1 capital to risk-weighted assets ratio (CET1 ratio) of 4.5% and a capital conservation buffer of 2.5% of risk-weighted assets, which when fully phased-in, effectively results in a minimum CET1 ratio of 7.0%. Basel III raises the minimum ratio of Tier 1 capital to risk-weighted assets from 4.0% to 6.0% (which, with the capital conservation buffer, effectively results in a minimum Tier 1 capital ratio of 8.5% when fully phased-in), effectively results in a minimum total capital to risk-weighted assets ratio of 10.5% (with the capital conservation buffer fully phased-in), and requires a minimum leverage ratio of 4.0%. Basel III also makes changes to risk weights for certain assets and off-balance-sheet exposures. Management expects that the capital ratios for the Company and the Bank under Basel III will continue to exceed the well capitalized minimum capital requirements, as they currently exceed the fully phased in 2019 requirements.

In addition to the capital requirements for bank holding companies generally, financial holding companies are also required to meet "well-capitalized" requirements of the Federal Reserve Board. A bank holding company or financial holding company that is covered by the Federal Reserve's Small Bank Holding Company Policy is not required to comply with the consolidated capital requirements, although its bank subsidiaries still must comply with the applicable capital requirements. As a bank holding company with assets of less than $1 billion and meeting certain other requirements, the Company is covered by the Small Bank Holding Company Policy.

At December 31, 2019 and December 31, 2018, actual capital levels and minimum required levels for the Company, if it were not covered by the Small Bank Holding Company Policy, were:

	(Amounts in thousands)			
	Actual		Minimum required for capital adequacy purposes	
December 31, 2019	Amount	Ratio	Amount	Ratio
CET1 capital (to risk-weighted assets)	**$ 73,091**	**12.76%**	**$ 25,775**	**4.5%**
Tier 1 capital (to risk-weighted assets)	**78,091**	**13.63%**	**34,367**	**6.0%**
Total capital (to risk-weighted assets)	**82,640**	**14.43%**	**45,823**	**8.0%**
Tier 1 capital (to average assets)	**78,091**	**10.98%**	**28,461**	**4.0%**

	(Amounts in thousands)			
	Actual		Minimum required for capital adequacy purposes	
December 31, 2018	Amount	Ratio	Amount	Ratio
CET1 capital (to risk-weighted assets)	$ 68,574	12.01%	$ 25,700	4.5%
Tier 1 capital (to risk-weighted assets)	73,574	12.88%	34,267	6.0%
Total capital (to risk-weighted assets)	77,856	13.63%	45,689	8.0%
Tier 1 capital (to average assets)	73,574	10.72%	27,452	4.0%

$5.0 million of trust preferred securities outstanding at December 31, 2019 and December 31, 2018, respectively, qualified as Tier 1 capital. Refer to Note 7, "Subordinated Debt."

The Bank met all capital requirements to be categorized as "well capitalized" at December 31, 2019 and December 31, 2018.

NOTE 14 - RELATED PARTY TRANSACTIONS

Certain directors, executive officers and companies with whom they are affiliated were loan customers during 2019. The following is an analysis of such loans:

	(Amounts in thousands)
Total related-party loans at December 31, 2018	$ 4,462
New related-party loans	**2,742**
Repayments or other	**(2,617)**
Total related-party loans at December 31, 2019	**$ 4,587**

Deposit balances of executive officers, directors, and their affiliates at December 31, 2019 and 2018 were $8.1 million and $8.4 million, respectively.

The banking relationships were made in the ordinary course of business with the Bank.

NOTE 15 - CONDENSED FINANCIAL INFORMATION – PARENT COMPANY

Below is condensed financial information of Cortland Bancorp (parent company only). In this information, the Parent's investment in subsidiaries is stated at cost, including equity in the undistributed earnings of the subsidiaries, adjusted for any unrealized gains or losses on available-for-sale securities.

BALANCE SHEETS

(Amounts in thousands)

	December 31,	
	2019	2018
ASSETS		
Cash	**$ 119**	$ 240
Investment in bank subsidiary	**70,936**	61,272
Subordinated note from subsidiary bank	**6,000**	6,000
Other assets	**3,326**	3,538
Total assets	**$ 80,381**	$ 71,050
LIABILITIES		
Other liabilities	**$ 888**	$ 977
Subordinated debt (Note 7)	**5,155**	5,155
Total liabilities	**6,043**	6,132
SHAREHOLDERS' EQUITY		
Common stock	**23,641**	23,641
Additional paid-in capital	**21,266**	20,984
Retained earnings	**36,187**	31,089
Accumulated other comprehensive income (loss)	**1,168**	(3,656)
Treasury stock	**(7,924)**	(7,140)
Total shareholders' equity	**74,338**	64,918
Total liabilities & shareholders' equity	**$ 80,381**	$ 71,050

STATEMENTS OF COMPREHENSIVE INCOME

(Amounts in thousands)

	Years ended December 31,		
	2019	2018	2017
Dividends from bank subsidiary	**$ 3,400**	$ 4,150	$ 1,900
Interest and dividend income	**231**	213	153
Other income	**101**	56	58
Interest on subordinated debt	**(203)**	(189)	(138)
Other expenses	**(1,399)**	(606)	(568)
Income before income tax and equity in undistributed earnings of subsidiaries	**2,130**	3,624	1,405
Income tax benefit	**313**	136	106
Equity in undistributed earnings of subsidiaries	**4,839**	5,075	2,839
Net income	**$ 7,282**	$ 8,835	$ 4,350
Comprehensive income	**$ 12,106**	$ 7,004	$ 5,780

STATEMENTS OF CASH FLOWS

(Amounts in thousands)

	Years ended December 31,		
	2019	2018	2017
Cash flow from operating activities			
Net income	**$ 7,282**	$ 8,835	$ 4,350
Adjustments to reconcile net income to net cash flow from operating activities:			
Equity in undistributed earnings of subsidiaries	**(4,839)**	(5,075)	(2,839)
Deferred tax benefit	**(35)**	(13)	62
Equity compensation	**774**	214	153
Change in other assets and liabilities	**157**	(52)	178
Net cash flow from operating activities	**3,339**	3,909	1,904
Cash deficit from financing activities			
Dividends paid	**(2,184)**	(2,149)	(1,726)
Treasury shares purchased	**(1,336)**	(1,781)	(237)
Treasury shares reissued	**60**	—	—
Net cash deficit from financing activities	**(3,460)**	(3,930)	(1,963)
Net change in cash	**(121)**	(21)	(59)
Cash			
Beginning of year	**240**	261	320
End of year	**$ 119**	$ 240	$ 261

NOTE 16 - DIVIDEND RESTRICTIONS

The Bank is subject to a dividend restriction that generally limits the amount of dividends that can be paid by an Ohio state-chartered bank. Under the Ohio Banking Code, cash dividends may not exceed net profits as defined for that year combined with retained net profits for the two preceding years less any required transfers to surplus. Under this formula, the amount available for payment of dividends in 2020 is $9.9 million plus 2020 profits retained up to the date of the dividend declaration.

NOTE 17 – LITIGATION

The Bank is involved in legal actions arising in the ordinary course of business. In the opinion of management, the outcomes from these other matters, either individually or in the aggregate, are not expected to have any material effect on the Company.

NOTE 18 – STOCK REPURCHASE PROGRAM

On January 24, 2017, the Company's Board of Directors approved a program which allowed the Company to repurchase up to 100,000 shares, or approximately 2.3% of the 4,420,055 shares outstanding at January 24, 2017, of the Company's outstanding common stock. This program terminated on December 31, 2017. The Company purchased 12,863 shares under this program. On January 23, 2018, the Company's Board of Directors approved a program which allowed the Company to repurchase up to 100,000 shares, or approximately 2.3% of the 4,420,136 shares outstanding at January 23, 2018, of the Company's outstanding common stock. On May 22, 2018 the Company's Board of Directors approved an increase in the number of shares authorized for repurchase under the January 23, 2018 plan by 200,000 shares bringing the total to 300,000 shares authorized. This program terminated on December 31, 2018. The Company purchased 80,944 shares under this program. On December 18, 2018, the Company's Board of Directors approved a program which allowed the Company to repurchase up to 300,000 shares, or approximately 6.9% of the 4,349,624 outstanding shares of common stock at December 18, 2018. This program terminated on December 31, 2019. The Company purchased 54,000 shares under this program. On December 17, 2019, the Company's Board of Directors approved a new program which allows the Company to repurchase up to 200,000 shares, or approximately 4.6% of the 4,323,822 outstanding shares of common stock at December 17, 2019. This program will terminate on December 31, 2020, or upon purchase of 200,000 shares if earlier or at any time without prior notice. Repurchased shares are designated as treasury shares, available for general corporate purposes, including possible use in connection with the Company's dividend reinvestment program, employee benefit plans, acquisitions or other distributions. Based on the value of the Company's stock on December 31, 2019, the remaining authorization to repurchase the stock for the program is approximately $4.4 million.

NOTE 19 – EQUITY COMPENSATION

During 2015, the Company, created the 2015 Omnibus Equity Plan and The Director Equity Plan.

The Omnibus Equity Plan permits the award of up to 340,000 shares to the Company's employees to promote the long-term financial success of the Company, increasing shareholder value by providing employees the opportunity to acquire an ownership interest in the Company and enabling the Company and its related entities to attract and retain the services of those upon whom the successful conduct of business depends. There were 30,156 restricted Board approved shares granted under the plan in calendar 2019 and 12,593 restricted Board approved shares granted under the plan in calendar 2018. The Company is expensing the grant date fair value of all share-based compensation over the requisite vesting periods on a prorated straight-line basis. In 2019 and 2018, compensation expense of $740,000 and $192,000, respectively, was recorded in the Consolidated Statements of Income. As of December 31, 2019, there was $113,000 of total unrecognized compensation expense related to the non-vested shares granted under the Plan. Shares awarded under this plan can vest immediately and/or on the anniversary of the award date from one to three years out if the employee remains employed with Cortland Bancorp. The remaining cost is expected to be recognized over a weighted average period of 5.8 months.

Granted shares are awarded upon meeting achievement of performance objectives derived from one or more of the performance criteria. The main metrics used for the periods presented were three-year earnings per share growth and three-year total shareholder return each ranked versus a peer group.

The following is the activity under the Omnibus Equity Plan during the period ended December 31, 2019:

	Restricted Stock Units		
	Units	Price at Grant Date	
Nonvested at January 1, 2019	**23,591**	**$**	**19.67**
Granted	**30,156**		**22.58**
Vested	**(26,821)**		**20.81**
Forfeited	**(901)**		**22.41**
Nonvested at December 31, 2019	**26,025**	**$**	**21.78**

The Director Equity Plan permits the award of up to 113,000 shares to nonemployee directors to promote the long-term financial success of the Company, increasing shareholder value by enabling the Company and its related entities to attract and retain the services of those directors upon whom the successful conduct of business depends. There were 1,525 Board approved shares granted under the plan in calendar 2019 with immediate vesting, and 989 Board approved shares granted under the plan in calendar 2018 with immediate vesting. In 2019 and 2018, expense of $34,000 and $22,000 was recorded in the Consolidated Statements of Income, respectively.

NOTE 20 – LEASES

Operating leases in which the Company is the lessee are recorded as operating lease Right of Use ("ROU") assets and operating lease liabilities, included in other assets and other liabilities, respectively, on the consolidated balance sheets. The Company does not currently have any significant finance leases in which it is the lessee. Operating lease ROU assets represent the Company's right to use an underlying asset during the lease term and operating lease liabilities represent the obligation to make lease payments arising from the lease. The Company elected to adopt the transition method, which uses a modified retrospective transition approach. ROU assets and operating lease liabilities are recognized as of the date of adoption based on the present value of the remaining lease payments using a discount rate that represents the incremental borrowing rate at the date of initial application. Operating lease expense, which is comprised of amortization of the ROU asset and the implicit interest accreted on the operating lease liability, is recognized on a straight-line basis over the lease term, and is recorded in occupancy and equipment expense in the consolidated statements of income and other comprehensive income. The Company leases relate primarily to office space and bank branches with remaining lease terms of generally 5 to 10 years. Certain lease arrangements contain extension options which typically range from 5 to 15 years at the then fair market rental rates. As these extension options are generally considered reasonably certain of exercise, they are included in the lease term. As of December 31, 2019, operating lease ROU assets and liabilities were $1.8 million. For year ended December 31, 2019, the Company recognized $320,000 in operating lease cost, $300,000 is operating cash flows from operating leases and $20,000 is noncash expense amortization of the ROU asset and the implicit interest, respectively.

The following table summarizes other information related to operating leases:

	December 31, 2019
Weighted-average remaining lease term-operating leases in years	16.49
Weighted-average discount rate - operating leases	3.29%

The following table presents aggregate lease maturities and obligations as of December 31, 2019:

	(Amounts in thousands) December 31, 2019	
2020	$	185
2021		151
2022		155
2023		157
2024		160
2025 and thereafter		1,506
Total lease payments		2,314
Less: interest		467
Present value of lease liabilities	$	1,847

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosures - None

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures. With the supervision and participation by management, including the Company's principal executive officer and principal financial officer, the effectiveness of disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act")) has been evaluated as of the end of the period covered by this report. Based upon that evaluation, the Company's principal executive officer and principal financial officer have concluded that these controls and procedures were effective.

Management's Annual Report on Internal Control Over Financial Reporting. The report on management's assessment of internal control over financial reporting is included in Item 8.

Changes in Internal Control Over Financial Reporting. Our Chief Executive Officer and Chief Financial Officer have concluded that there have been no changes during the fourth quarter of 2019 in the Company's internal control over financial reporting (as defined in Rules 13a-13 and 15d-15 of the Exchange Act) that have materially affected, or are reasonably likely to materially affect, internal control over financial reporting.

S.R. Snodgrass, P.C., the Company's registered public accounting firm, has audited the Company's internal control over financial reporting as of December 31, 2019. The audit report by S.R. Snodgrass, P.C. is located in Item 8 of this report.

Item 9B. Other Information – Not applicable.

PART III

Item l0. Directors, Executive Officers and Corporate Governance

Information relating to this item will be set forth in the Company's definitive proxy statement to be filed on or about March 11, 2020 in connection with the Annual Meeting of Shareholders to be held April 29, 2020 (the "Proxy Statement"). The information contained in the Proxy Statement under the following captions is incorporated herein by reference: "Board Nominees," "Continuing Directors," "The Board of Directors and Committees of the Board," and "Section 16(a) Beneficial Ownership Reporting Compliance."

Information about our Executive Officers of the Company is set forth in Part I of this Form 10-K.

Item ll. Executive Compensation

Information relating to this item is incorporated herein by reference to the information in the Proxy Statement that is set forth under the following captions of "Executive Compensation" and "Director Compensation in 2019."

Item l2. Security Ownership of Certain Beneficial Owners and Management and Related Shareholders Matters

Information relating to this item is incorporated herein by reference to the information in the Proxy Statement that is set forth under the caption "Share Ownership of Directors and Executive Officers."

Information relating to equity compensation is incorporated herein by reference to the information in the Proxy Statement that is set forth under the caption "Outstanding Equity Awards."

Item l3. Certain Relationships and Related Transactions, and Director Independence

Information relating to this item is incorporated herein by reference to the information in the Proxy Statement that is set forth under the captions of "Transactions with Related Persons" and "The Board of Directors and Committees of the Board."

Item l4. Principal Accountant Fees and Services

Information relating to this item is incorporated herein by reference to the information in the Proxy Statement that is set forth under the caption "Ratification of Independent Auditors."

PART IV

Item l5. Exhibits, Financial Statement Schedules

(a) l. Financial Statements

Included in Part II of this report:

Item 8. Financial Statements

Consolidated Financial Statements included in this Annual Report:

Management's Annual Report on Internal Control Over Financial Reporting	53
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(a) 2. Financial Statement Schedules

Financial statements schedules are omitted because the required information is either not applicable, not required or is not shown in the respective financial statements or in the notes thereto.

(a) 3. Exhibits Required by Item 601 of Regulation S-K

All exhibits omitted.

SIGNATURES

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

CORTLAND BANCORP

Date: March 5, 2020

By: /s/ James M. Gasior
James M. Gasior
President, Chief Executive Officer, Director
(Principal Executive Officer)

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

Signature	Title	Date
/s/ Timothy K. Woofter Timothy K. Woofter	Director and Chairman of the Board	March 5, 2020 Date
/s/ Thomas P. Perciak Thomas P. Perciak	Director and Vice Chairman of the Board	March 5, 2020 Date
/s/ James M. Gasior James M. Gasior	President, Chief Executive Officer and Director (Principal Executive Officer)	March 5, 2020 Date
/s/ Timothy Carney Timothy Carney	Director	March 5, 2020 Date
/s/ David C. Cole David C. Cole	Director	March 5, 2020 Date
/s/ James E. Hoffman, III James E. Hoffman, III	Director	March 5, 2020 Date
/s/ Neil J. Kaback Neil J. Kaback	Director	March 5, 2020 Date
/s/ Joseph E. Koch Joseph E. Koch	Director	March 5, 2020 Date
/s/ Joseph P. Langhenry Joseph P. Langhenry	Director	March 5, 2020 Date
/s/ Richard B. Thompson Richard B. Thompson	Director	March 5, 2020 Date
/s/ Anthony R. Vross Anthony R. Vross	Director	March 5, 2020 Date
/s/ David J. Lucido David J. Lucido	Chief Financial Officer (Principal Financial and Accounting Officer)	March 5, 2020 Date

CORTLAND BANCORP AND THE CORTLAND SAVINGS AND BANKING COMPANY

BOARD OF DIRECTORS

TIMOTHY K. WOOFTER
Chairman of the Board
President and Chief Executive Officer, Stan-Wade Metal Products
Tank Manufacturer and Oil Equipment Distributor

JAMES M. GASIOR
President and Chief Executive Officer
Cortland Bancorp and The Cortland Savings and Banking Company

ANTHONY R. VROSS
Executive, Simon Roofing
Commercial Roofing and Industrial Roof Maintenance

DAVID C. COLE
Partner and President, Cole Valley Motor Company
Automobile Dealership

HICHAM S. CHAHINE
Retired Principal, Crowe LLP
Accounting, Consulting and Technology Firm

JAMES E. HOFFMAN, III
Attorney, Hoffman and Walker
Law Firm

THOMAS P. PERCIAK
Vice Chairman of the Board
Mayor, Strongsville, OH
Government

TIMOTHY CARNEY
Executive Vice President and Chief Operating Officer
Cortland Bancorp and The Cortland Savings and Banking Company

JOSEPH E. KOCH
President, Joe Koch Construction
Homebuilding, Developing and Remodeling Company

JOSEPH P. LANGHENRY
Managing Principal, Langhenry Venture Partners
Investment Firm

NEIL J. KABACK
Vice President, Cohen & Company, Ltd.
Accounting Firm

RICHARD B. THOMPSON
Executive, Therm-O-Link, Inc.
Electrical Wire and Cable Manufacturer

DIRECTOR EMERITUS

K. RAY MAHAN

CORTLAND BANCORP

EXECUTIVE OFFICERS

JAMES M. GASIOR
President and Chief Executive Officer

TIMOTHY CARNEY
Executive Vice President, Chief Operating Officer and Corporate Secretary

DAVID J. LUCIDO
Senior Vice President and Chief Financial Officer

STANLEY P. FERET
Senior Vice President and Chief Lending Officer

THE CORTLAND SAVINGS AND BANKING COMPANY

OFFICERS

JAMES M. GASIOR
President and Chief Executive Officer

TIMOTHY CARNEY
Executive Vice President, Chief Operating Officer and Corporate Secretary

SHIRLEY A. WADE
Assistant Vice President
Executive Secretary

ROCCO PAGE
Senior Vice President
Mortgage Sales Manager

MARK CHUEY
Vice President
CRA Mortgage Banking Officer

DEBORAH L. EAZOR
Vice President
Operations Manager

JOAN M. FRANGIAMORE
Vice President
Controller

MELANIE CHRISTIE
Vice President
BSA/Compliance Officer/Director of Security

KAREN JINDRA
Vice President
Retail Mortgage Banking Officer

KEITH STINSON
Vice President
Retail Mortgage Banking Officer

PETER OPPERMAN
Vice President
Business Banking and Private Bank Services

MARK E. TAYLOR
Vice President
Commercial Banking Officer

JACQUELINE TREHARNE
Vice President
Mortgage Operations Manager

HEATHER J. BOWSER
Assistant Vice President
Collection Officer

BRENT MARAKAS
Assistant Vice President
Commercial Banking Portfolio Manager

JAMES RING
Vice President
Retail Mortgage Banking Officer

NATHANIEL J. MARSHALL
Vice President
Business Banking and Private Bank Services

SHERRY SNYDER
Assistant Vice President
Commercial Banking Portfolio Manager

DAVID J. LUCIDO
Senior Vice President and Chief Financial Officer

STANLEY P. FERET
Senior Vice President and Chief Lending Officer

MICHAEL LIPKE
Senior Vice President
Chief Credit Officer

JULIANNA BEGALLA
Vice President
Marketing, Communications and Investor Relations Officer

J. MICHAEL BRAINARD
Vice President
Commercial Banking Officer

NICOLE WHITSEL
Vice President
Risk Manager/Compliance

KEITH MROZEK
Senior Vice President
Senior Credit Officer

PATRICIA JONES
Assistant Vice President
Human Resources Manager

MICHAEL KANE
Assistant Vice President
Private Bank Officer/Hudson

MICHELLE REILLY
Vice President, Assistant Treasurer
Mortgage Banking/ Funds Management

BARBARA R. SANDROCK
Vice President
Information Systems Manager

KAREN SHARP
Vice President
Mortgage Manager/Fairlawn

PAULA PETERSON
Assistant Vice President
Commercial Banking Portfolio Manager

CARRIE STACKHOUSE
Vice President
Commercial Banking Officer

JANET K. HOUSER
Assistant Vice President
Electronic Banking Specialist

JAMES E. WELLINGTON
Vice President
Retail Mortgage Banking Officer

STANLEY MAGIELSKI
Vice President
Senior Commercial Banking Officer

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Bank Local.
Invest Local.

NASDAQ: CLDB

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330-889-3062

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194 West Main Street
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