

## Banking Built on Values

National Bankshares, Inc. will strive to maximize earnings by practicing "Banking Built on Values" where our customers and shareholders can expect excellence in service based on honesty, integrity and accountability delivered by knowledgeable and valued employees who are committed to serving our communities as genuine professionals.

Corporate Values of National Bankshares
Positive Attitude
Accountability
Honesty and Integrity
Excellence in Service
Respect for Others
Open and Clear Communication
Knowledgeable
How do these values translate into our daily work? By fully investing in and immersing ourselves in these values, we will exhibit behaviors that show:

## Team First

We value our coworkers as much as ourselves
Excellence in Service
We value our customers
Focus on Profitability
We value our shareholders
Focus on Stewardship
We value our communities

## National Bankshares

National Bankshares, Inc. is a community bank holding company with headquarters in Blacksburg in Southwest Virginia. National Bankshares is the parent company of National Bank, a community bank with over 127 years of service in the area. National Bank currently operates 25 office locations and one loan production office throughout Southwest Virginia and offers a full range of financial products and services, including deposit accounts, commercial, consumer and mortgage loans, credit cards and trust services.

National Bankshares also operates an insurance and brokerage subsidiary, National Bankshares Financial Services, Inc., which does business as National Bankshares Insurance Services and National Bankshares Investment Services.

## Financial Highlights

(\$ in thousands, except ratios, share and per share data)

| FOR THE YEAR |  | 2018 | 2017 | 2016 | 2015 | 2014 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Net income | \$ | 16,151 | 14,092 | 14,942 | 15,833 | 16,914 |
| Basic net income per share |  | 2.32 | 2.03 | 2.15 | 2.28 | 2.43 |
| Diluted net income per share |  | 2.32 | 2.03 | 2.15 | 2.28 | 2.43 |
| Cash dividends per share |  | 1.21 | 1.17 | 1.16 | 1.14 | 1.13 |
| Return on average assets |  | 1.29\% | 1.14\% | 1.24\% | 1.37\% | 1.51\% |
| Return on average equity |  | 8.65\% | 7.64\% | 8.30\% | 9.22\% | 10.72\% |
| Net interest margin |  | 3.36\% | 3.45\% | 3.51\% | 3.86\% | 4.00\% |
| Efficiency ratio ${ }^{(1)}$ |  | 53.20\% | 50.41\% | 49.32\% | 49.41\% | 47.08\% |
| Average equity to average assets |  | 14.91\% | 14.93\% | 14.92\% | 14.86\% | 14.08\% |
| AT YEAR-END |  | 2018 | 2017 | 2016 | 2015 | 2014 |
| Loans, net |  | 702,409 | 660,144 | 639,452 | 610,711 | 597,203 |
| Allowance for loan losses to total loans |  | 1.04\% | 1.19\% | 1.28\% | 1.34\% | 1.36\% |
| Total securities |  | 426,230 | 459,751 | 440,409 | 389,288 | 385,385 |
| Total assets |  | 1,256,032 | 1,256,757 | 1,233,942 | 1,203,519 | 1,158,798 |
| Total deposits |  | 1,051,942 | 1,059,734 | 1,043,442 | 1,018,859 | 982,428 |
| Stockholders' equity |  | 190,238 | 184,896 | 178,263 | 172,114 | 166,303 |
| Book value per share |  | 27.34 | 26.57 | 25.62 | 24.74 | 23.93 |



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## To Our Shareholders

## At National Bankshares, we believe in local community banking. In a world where many

 financial institutions serve customers across the nation and globe, we think that there is still a place for a bank deeply rooted in the many communites that we serve. A bank where personal service is the foundation of the business and our customers are also our friends and neighbors. For over 127 years, we have proven that community banking can be profitable and purposedriven. 2018 was no exception, and we are pleased to share the following good news with you:- Net income increased by $14.61 \%$ to $\$ 16.15$ million (vs. \$14.09 million in 2017)
- Net loans increased by $6.40 \%$ to $\$ 702.41$ million (vs. $\$ 660.14$ million in 2017)
- Return on average assets increased to $1.29 \%$ (vs. 1.14\% in 2017)
- Return on average equity increased to 8.65\% (vs. 7.64\% in 2017)
- Allowance for loan losses to total loans decreased to $1.04 \%$ (vs. $1.19 \%$ in 2017)
- Per share dividend increased to \$1.21 (vs. \$1.17 in 2017)

As we anticipated in last year's report, The Tax Cuts and Jobs Act of 2017 has been very beneficial for our bottom line. However, it is worth noting that underlying factors - in particular loan growth and asset quality improvement - contributed significantly to our increased earnings in 2018. Making good loans can be a challenging task, especially in some of the markets we serve where economic growth is measured and competition from other banks is significant. Despite these challenges, our lenders have been successful in securing new loans that are a dependable source of income and are of good credit quality.

This year's tax savings have been put to work in several key areas of our organization. As a community bank dedicated to personalized service, providing an inviting branch environment for our customers is very important. In 2018 we completed renovations at most of our branch offices as part of our larger plan for physical improvements across our network of 25 offices.

Our Company invested heavily in technology in 2018. An overhaul of our items processing systems has greatly increased operational efficiency. The Company hired an experienced Information Security Officer and launched a bank-wide security initiative. Under this program, improvements to hardware, software and staff training have led to measurably higher security throughout our organization.

We have also put powerful new banking tools into the hands of our customers. In the first quarter of 2019 we launched a new and improved mobile banking app that allows users to deposit checks from anywhere with their phone. Select business customers are now originating Automated Clearing House (ACH) transactions, with plans to expand this convenient service.

As we look toward the future, we are actively seeking ways to better serve our communities while ensuring ongoing profitability. As part of this effort, National Bank will relocate its Abingdon Office to a centralized downtown location later this year. We are optimistic that this new location will improve convenience for our customers and give our brand more visibility in this dynamic market.

At National Bankshares, we value our customers, our communities, our shareholders and our fellow employees. We believe that community banking is a people business, and that by serving you well, our business will thrive. Your support and trust is the key to our success. Thank you for helping to make 2018 another successful year at National Bankshares.


A complete discussion of the Company's financial results is available in the SEC Form 10-K for 2018 that follows this summary annual report.

## National Bankshares Inc. Board of Directors



## Lawrence J. Ball

President, Retired
Moog Components Group

## F. Brad Denardo

President \& CEO
National Bankshares, Inc.
Chairman, President \& CEO
National Bank
Chairman, President \& CEO
National Bankshares
Financial Services, Inc.

## Dr. John E. Dooley CEO

Virginia Tech Foundation, Inc.

Michael E. Dye
Pharmacist/Owner New Graham Pharmacy

Norman V. Fitzwater, III
President
A Cleaner World, Blacksburg
Charles E. Green, III
Financial Planner
AXA Advisors, L.L.C.
Mildred R. Johnson
Dean of Admissions Radford University

Dr. Jack M. Lewis Past President
New River Community College

Dr. Mary G. Miller
Director
Regional Acceleration and Mentoring Program

William A. Peery
President
Cargo Oil Co., Inc.

James G. Rakes
Chairman
National Bankshares, Inc.

## Glenn P. Reynolds

President
Reynolds Architects, Inc.
James C. Thompson
Chairman
Thompson \& Litton, Inc.
Dr. J. Lewis Webb, Jr.
Retired Dentist

## National Bank Board of Directors



## Corporate Information

## National Bankshares, Inc. Executive Officers

F. Brad Denardo<br>President and Chief Executive Officer

David K. Skeens
Treasurer and Chief Financial Officer

## Annual Meeting

The Annual Meeting of Stockholders will be held on Tuesday, May 14, 2019 at 3:00 p.m. at Custom Catering Center, 902 Patrick Henry Drive, Blacksburg, Virginia.

## Corporate Stock

National Bankshares, Inc. common stock trades on the NASDAQ Capital Market under the symbol "NKSH".

## Financial Information

Investors and analysts seeking financial information about National Bankshares, Inc. should contact:
F. Brad Denardo

President and Chief Executive Officer
540-951-6300 or 800-552-4123
bdenardo@nbbank.com

Written requests may be directed to:
National Bankshares, Inc.
P.O. Box 90002, Blacksburg, VA 24062-9002

## Stockholder Services and Stock Transfer Agent

Stockholders seeking information about stock transfer requirements, lost certificates, dividends and other stockholder matters should contact:

Joe Beury
Senior Vice President/Trust Officer
540-961-8500 or 800-552-4123
jbeury@nbbank.com
or
Computershare, Inc.
P.O. Box 30170

College Station, TX 77842
800-368-5948
www.computershare.com
A copy of National Bankshares, Inc.'s annual report to the Securities and Exchange Commission on Form 10-K will be furnished without charge to any stockholder upon written request. The Form $10-\mathrm{K}$ and other corporate publications are also available at www. nationalbankshares.com. Proxy materials for the Annual Meeting of Stockholders are available at www.nationalbanksharesproxy.com.

## Corporate Office

National Bankshares, Inc.
101 Hubbard Street
Blacksburg, Virginia 24060
P.O. Box 90002

Blacksburg, Virginia 24062-9002
www.nationalbankshares.com
540-951-6300 or 800-552-4123

## National Bank Locations

1. Abingdon
2. Blacksburg 6 offices
3. Bluefield, VA 2 offices
4. Christiansburg 2 offices
5. Claypool Hill
6. Dublin
7. Galax
8. Pearisburg
9. Pembroke
10. Pulaski 2 offices
11. Radford
12. Rich Creek
13. Richlands
14. Roanoke Loan Production Office
15. Tazewell 3 offices
16. Wytheville


# UNITED STATES <br> SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549 FORM 10-K 

[x] Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the Fiscal Year Ended December 31, 2018
[ ] Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from $\qquad$ to $\qquad$ -.

Commission File Number: 0-15204

## NATIONAL BANKSHARES, INC.

(Exact name of registrant as specified in its charter)

Virginia<br>(State of incorporation)

54-1375874
(I.R.S. Employer Identification No.)
101 Hubbard Street
P.O. Box 90002

Blacksburg, VA 24062-9002
(540) 951-6300
(Address and telephone number of principal executive offices)

Securities registered Pursuant to Section 12(g) of the Act: Common Stock, Par Value $\$ 1.25$ per share

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes [ ] No [x]
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section $15(\mathrm{~d})$ of the Act. Yes [ ] No [x]
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes [x] No [ ]

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation $\mathrm{S}-\mathrm{T}$ ( $\$ 232.405$ of this chapter) during the preceding 12 months (or for such period that the registrant was required to submit files). Yes [x] No [ ]

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K ( $\$ 229.405$ of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]
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 definition of "accelerated filer, large accelerated filer, smaller reporting company and emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):
Large accelerated filer [ ] Accelerated filer [x] 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 [x]
The aggregate market value of the voting common stock of the registrant held by stockholders (not including voting common stock held by Directors, Executive Officers and Corporate Governance) on June 30, 2018 (the last business day of the most recently completed second fiscal quarter) was approximately $\$ 322,849,994$. As of March 11, 2019, the registrant had 6,505,574 shares of voting common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE
Portions of the following documents are incorporated herein by reference into the Part of the Form 10-K indicated.

## Document

Part of Form 10-K into which incorporated

| National Bankshares, Inc. 2018 Annual Report to Stockholders | Part II |
| :--- | :---: |
| National Bankshares, Inc. Proxy Statement for the 2019 Annual Meeting of Stockholders | Part III |


|  | NATIONAL BANKSHARES, INC. AND SUBSIDIARIES <br> Form 10-K <br> Index |  |
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## Part I

\$ in thousands, except per share data

## Item 1. Business

## History and Business

National Bankshares, Inc. (the "Company" or "NBI") is a financial holding company that was organized in 1986 under the laws of Virginia and is registered under the Bank Holding Company Act of 1956. It conducts most of its operations through its wholly-owned community bank subsidiary, the National Bank of Blacksburg ("NBB"). It also owns National Bankshares Financial Services, Inc. ("NBFS"), which does business as National Bankshares Insurance Services and National Bankshares Investment Services.

## The National Bank of Blacksburg

The National Bank of Blacksburg, which does business as National Bank, was originally chartered in 1891 as the Bank of Blacksburg. Its state charter was converted to a national charter in 1922 and it became the National Bank of Blacksburg. In 2004, NBB purchased Community National Bank of Pulaski, Virginia. In May, 2006, Bank of Tazewell County, a Virginia bank which since 1996 was a wholly-owned subsidiary of NBI, was merged with and into NBB.

NBB is community-oriented and offers a full range of retail and commercial banking services to individuals, businesses, non-profits and local governments from its headquarters in Blacksburg, Virginia and its twenty-four branch offices throughout southwest Virginia and one loan production office in Roanoke Virginia. NBB has telephone, mobile and internet banking and it operates twenty-four automated teller machines in its service area.

The Bank's primary source of revenue stems from lending activities. The Bank focuses lending on small and mid-sized businesses and individuals. Loan types include commercial and agricultural, commercial real estate, construction for commercial and residential properties, residential real estate, home equity and various consumer loan products. The Bank believes its prudent lending policies align its underwriting and portfolio management with its risk tolerance and income strategies. Underwriting and documentation requirements are tailored to the unique characteristics and inherent risks of each loan category.

The Bank's loan policy is updated and approved by the Board of Directors annually and disseminated to lending and loan portfolio management personnel to ensure consistent lending practices. The policy communicates the Company's risk tolerance by prescribing underwriting guidelines and procedures, including approval limits and hierarchy, documentation standards, requirements for collateral and loan-to-value limits, debt coverage, overall credit-worthiness and guarantor support.

Of primary consideration is the repayment ability of the borrowers and (if secured) the collateral value in relation to the principal balance. Collateral lowers risk and may be used as a secondary source of repayment. The credit decision must be supported by documentation appropriate to the type of loan, including current financial information, income verification or cash flow analysis, tax returns, credit reports, collateral information, guarantor verification, title reports, appraisals (where appropriate) and other documents. A discussion of underwriting policies and procedures specific to the major loan products follows.

Commercial Loans. Commercial and agricultural loans primarily finance equipment acquisition, expansion, working capital, and other general business purposes. Because these loans have a higher degree of risk, the Bank generally obtains collateral such as inventory, accounts receivables or equipment and personal guarantees from the borrowing entity's principal owners. The Bank's policy limits lending up to $60 \%$ of the appraised value for inventory, up to $90 \%$ of the lower of cost of market value of equipment and up to $70 \%$ for accounts receivables less than 90 days old. Credit decisions are based upon an assessment of the financial capacity of the applicant, including the primary borrower's ability to repay within proposed terms, a risk assessment, financial strength of guarantors and adequacy of collateral. Credit agency reports of individual owners' credit history supplement the analysis.

Commercial Real Estate Loans. Commercial mortgages and construction loans are offered to investors, developers and builders primarily within the Bank's market area in southwest Virginia. These loans generally are secured by first mortgages on real estate. The loan amount is generally limited to $80 \%$ of the collateral value and is individually determined based on the property type, quality, location and financial strength of any guarantors. Commercial properties financed include retail centers, office space, hotels and motels, apartments, and industrial properties.

Underwriting decisions are based upon an analysis of the economic viability of the collateral and creditworthiness of the borrower. The Bank obtains appraisals from qualified certified independent appraisers to establish the value of collateral properties. The property's projected net cash flows compared to the debt service requirement (the "debt service coverage ratio" or "DSCR") is required to be $115 \%$ or greater and is computed after deduction for a vacancy factor and property expenses, as appropriate. Borrower cash flow may be supplemented by a personal guarantee from the principal(s) of the borrower and guarantees from other parties. The Bank requires title insurance, fire, extended coverage casualty insurance and flood insurance, if appropriate, in order to protect the security interest in the underlying property. In addition, the Bank may employ stress testing techniques on higher balance loans to determine repayment ability in a changing rate environment before granting loan approval.

Public Sector and Industrial Development Loans. The Company provides both long and short term loans to municipalities and other governmental entities within its geographical footprint. Borrowers include general taxing authorities such as a city or county, industrial/economic development authorities or utility authorities. Repayment sources are derived from taxation, such as property taxes
and sales taxes, or revenue from the project financed with the loan. The Company's underwriting considers local economic and population trends, reserves and liabilities, including pension liabilities.

Construction Loans. Construction loans are underwritten against projected cash flows from rental income, business and/or personal income from an owner-occupant or the sale of the property to an end-user. Associated risks may be mitigated by requiring fixed-price construction contracts, performance and payment bonding, controlled disbursements, and pre-sale contracts or pre-lease agreements.

Consumer Real Estate Loans. The Bank offers a variety of first mortgage and junior lien loans secured by primary residences to individuals within our markets. Credit decisions are primarily based on loan-to-value ("LTV") ratios, debt-to-income ("DTI") ratios, liquidity and net worth. Income and financial information is obtained from personal tax returns, personal financial statements and employment documentation. A maximum LTV ratio of $80 \%$ is generally required, although higher levels are permitted. The DTI ratio is limited to $43 \%$ of gross income.

Consumer real estate mortgages may have fixed interest rates for the entire term of the loan or variable interest rates subject to change after the first, third, or fifth year. Variable rates are based on the weekly average yield of United States Treasury Securities and are underwritten at fully-indexed rates. We do not offer certain high risk loan products such as interest-only consumer mortgage loans, hybrid loans, payment option ARMs, reverse mortgage loans, loans with initial teaser rates or any product with negative amortization. Hybrid loans are loans that start out as a fixed rate mortgage, but after a set number of years they automatically adjust to an adjustable rate mortgage. Payment option ARMs usually have adjustable rates, for which borrowers choose their monthly payment of either a full payment, interest only, or a minimum payment which may be lower than the payment required to reduce the balance of the loan in accordance with the originally underwritten amortization.

Home equity loans are secured primarily by second mortgages on residential property. The underwriting policy for home equity loans generally permits aggregate (the total of all liens secured by the collateral property) borrowing availability up to $80 \%$ of the appraised value of the collateral. We offer both fixed rate and variable rate home equity loans, with variable rate loans underwritten at fully-indexed rates. Decisions are primarily based on LTV ratios, DTI ratios, liquidity and credit history. We do not offer home equity loan products with reduced documentation.

Consumer Loans. Consumer loans include loans secured by automobiles, loans to consumers secured by other non-real estate collateral and loans to consumers that are unsecured. Automobile loans include loans secured by new or used automobiles. We originate automobile loans on a direct basis. During 2018 and years prior, automobile loans were also originated on an indirect basis through selected dealerships. This program has been discontinued in 2019. We require borrowers to maintain collision insurance on automobiles securing consumer loans. Our procedures for underwriting consumer loans include an assessment of an applicant's overall financial capacity, including credit history and the ability to meet existing obligations and payments on the proposed loan. An applicant's creditworthiness is the primary consideration, and if the loan is secured by an automobile or other collateral, the underwriting process also includes a comparison of the value of the collateral security to the proposed loan amount.

Other Products and Services. Deposit products offered by the Bank include interest-bearing and non-interest bearing demand deposit accounts, money market deposit accounts, savings accounts, certificates of deposit, health savings accounts and individual retirement accounts. Deposit accounts are offered to both individuals and commercial businesses. Business and consumer debit and credit cards are available. NBB offers other miscellaneous services normally provided by commercial banks, such as letters of credit, night depository, safe deposit boxes, utility payment services and automatic funds transfer. NBB conducts a general trust business that has wealth management, trust and estate services for individual and business customers.

At December 31, 2018, NBB had total assets of $\$ 1,253,172$ and total deposits of $\$ 1,052,082$. NBB's net income for 2018 was $\$ 16,877$, which produced a return on average assets of $1.35 \%$ and a return on average equity of $9.14 \%$. Refer to Note 11 of the Notes to Consolidated Financial Statements for NBB's risk-based capital ratios.

## National Bankshares Financial Services, Inc.

In 2001, National Bankshares Financial Services, Inc. was formed in Virginia as a wholly-owned subsidiary of NBI. NBFS offers non-deposit investment products and insurance products for sale to the public. NBFS works cooperatively with Infinex Investments, Inc. to provide investments and with Bankers Insurance, LLC for insurance products. NBFS does not significantly contribute to NBI's net income.

## Operating Revenue

The following table displays components that contributed $15 \%$ or more of the Company's total operating revenue for the years ended December 31, 2018, 2017 and 2016.

| Period | Class of Service | Percentage of <br> Total Revenues |
| :---: | :--- | :---: |
| December 31, 2018 | Interest and Fees on Loans | $61.49 \%$ |
|  | Interest on Investments | $22.02 \%$ |
| December 31, 2017 | Noninterest Income | $15.17 \%$ |
|  | Interest and Fees on Loans | $61.22 \%$ |
|  | Interest on Investments | $21.55 \%$ |
| December 31, 2016 | Noninterest Income | $15.62 \%$ |
|  | Interest and Fees on Loans | $61.12 \%$ |
|  | Interest on Investments | $22.96 \%$ |
|  | Noninterest Income | $14.81 \%$ |

## Market Area

The Company's market area in southwest Virginia is made up of the counties of Montgomery, Roanoke, Giles, Pulaski, Tazewell, Wythe, Smyth and Washington. It includes the independent cities of Roanoke, Radford and Galax, and the portions of Carroll and Grayson Counties that are adjacent to Galax. The Company also serves those portions of Mercer County, Monroe County and McDowell County, West Virginia that are contiguous with Tazewell County, Virginia. Although largely rural, the market area is home to two major universities, Virginia Tech and Radford University, and to three community colleges. Virginia Tech, located in Blacksburg, Virginia, is the area's largest employer and is the Commonwealth's second largest university. A second state supported university, Radford University, is located nearby. In recent years, Virginia Tech's Corporate Research Center has brought a number of technology-related companies to Montgomery County.

In addition to education, the market area has a diverse economic base with manufacturing, agriculture, tourism, healthcare, retail and service industries. Large manufacturing facilities in the region include Celanese Acetate, the largest employer in Giles County, and Volvo Heavy Trucks, the largest company in Pulaski County. Both of these firms have experienced cycles of hiring and layoffs within the past several years. Tazewell County is largely dependent on the coal mining industry and on agriculture for its economic base. Coal production is a cyclical industry that has declined significantly in recent years and suffered from increased regulations. Montgomery County, Bluefield in Tazewell County and Abingdon in Washington County are regional retail centers and have facilities to provide basic health care for the region.

NBI's market area offers the advantages of a good quality of life, scenic beauty, moderate climate and historical and cultural attractions. The region has had some recent success attracting retirees, particularly from the Northeast and urban northern Virginia.

Because NBI's market area is economically diverse and includes large public employers, it has historically avoided the most extreme effects of past economic downturns. If the economy wavers or experiences recession, it is likely that unemployment will rise and that other economic indicators will negatively impact the Company's trade area.

## Competition

The banking and financial services industry in NBI's market area is highly competitive. The competitive business environment is a result of changes in regulation, changes in technology and product delivery systems and competition from other financial institutions as well as non-traditional financial services. NBB competes for loans and deposits with other commercial banks, credit unions, securities and brokerage companies, mortgage companies, insurance companies, retailers, automobile companies and other nonbank financial service providers. Many of these competitors are much larger in total assets and capitalization, have greater access to capital markets and offer a broader array of financial services than NBB. In order to compete, NBB relies upon a deep knowledge of its markets, a service-based business philosophy, personal relationships with customers, specialized services tailored to meet customers' needs and the convenience of office locations. In addition, the bank is generally competitive with other financial institutions in its market area with respect to interest rates paid on deposit accounts, interest rates charged on loans and other service charges on loans and deposit accounts.

## Cybersecurity

As a financial institution holding company, NBI is subject to cybersecurity risks and has suffered two cybersecurity incidents. To manage and mitigate cybersecurity risk, the Company limits certain transactions and interactions with customers. The Company does not offer online account openings or loan originations, limits the dollar amount of online banking transfers to other banks, does not permit customers to submit address changes or wire requests through online banking, requires a special vetting process for commercial
customers who wish to originate ACH transfers, and limits certain functionalities of mobile banking. The Company also requires assurances from key vendors regarding their cybersecurity. While these measures reduce the likelihood and scope of the risk of further cybersecurity breaches, in light of the evolving sophistication of system intruders, the risk of such breaches continues to exist. We maintain insurance for these risks but insurance policies are subject to exceptions, exclusions and terms whose applications have not been widely interpreted in litigation. Accordingly, insurance can provide less than complete protection against the losses that result from cybersecurity breaches and pursuing recovery from insurers can result in significant expense. In addition, some risks such as reputational damage and loss of customer goodwill, which can result from cybersecurity breaches cannot be insured against.

## Organization and Employment

NBI, NBB and NBFS are organized in a holding company/subsidiary structure. At December 31, 2018, NBB had 231 full time equivalent employees and NBFS had 4 full time employees. NBB performs services and charges commensurate fees to NBI and NBFS.

## Regulation, Supervision and Government Policy

NBI and NBB are subject to state and federal banking laws and regulations that provide for general regulatory oversight of all aspects of their operations. As a result of substantial regulatory burdens on banking, financial institutions like NBI and NBB are at a disadvantage to other competitors who are not as highly regulated, and NBI and NBB's costs of doing business are accordingly higher. Legislative efforts to prevent a repeat of the 2008 financial crisis culminated in the Dodd-Frank Wall Street Reform Act of 2010. This legislation, together with existing and planned regulations, dramatically increased the regulatory burden on commercial banks. The burden falls disproportionately on community banks like NBB, which must devote a higher proportion of their human and other resources to compliance than do their larger competitors. The financial crisis also heightened the examination focus by banking regulators, particularly on Bank Secrecy Act, real estate-related assets and commercial loans. However, with the passage of the Economic Growth, Regulatory Reform and Consumer Protection Act ("EGRRCPA") in 2018, a number of regulatory requirements for smaller financial institutions like the Company were reduced or eliminated (see below). The following is a brief summary of certain laws, rules and regulations that affect NBI and NBB.

## National Bankshares, Inc.

NBI is a bank holding company qualified as a financial holding company under the Federal Bank Holding Company Act ("BHCA"), which is administered by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). NBI is required to file an annual report with the Federal Reserve and may be required to furnish additional information pursuant to the BHCA. The Federal Reserve is authorized to examine NBI and its subsidiaries. With some limited exceptions, the BHCA requires a bank holding company to obtain prior approval from the Federal Reserve before acquiring or merging with a bank or before acquiring more than $5 \%$ of the voting shares of a bank unless it already controls a majority of shares.

The Bank Holding Company Act. Under the BHCA, a bank holding company is generally prohibited from engaging in nonbanking activities unless the Federal Reserve has found those activities to be incidental to banking. Bank holding companies also may not acquire more than $5 \%$ of the voting shares of any company engaged in nonbanking activities. Amendments to the BHCA that were included in the Gramm-Leach-Bliley Act of 1999 (see below) permitted any bank holding company with bank subsidiaries that are well-capitalized, well-managed and which have a satisfactory or better rating under the Community Reinvestment Act (see below) to file an election with the Federal Reserve to become a financial holding company. A financial holding company may engage in any activity that is (i) financial in nature (ii) incidental to a financial activity or (iii) complementary to a financial activity. Financial activities include insurance underwriting, insurance agency activities, securities dealing and underwriting and providing financial, investment or economic advising services. NBI is a financial holding company that currently engages in insurance agency activities and providing financial, investment or economic advising services.

The Virginia Banking Act. The Virginia Banking Act requires all Virginia bank holding companies to register with the Virginia State Corporation Commission (the "Commission"). NBI is required to report to the Commission with respect to its financial condition, operations and management. The Commission may also make examinations of any bank holding company and its subsidiaries and must approve the acquisition of ownership or control of more than $5 \%$ of the voting shares of any Virginia bank or bank holding company.

The Gramm-Leach-Bliley Act. The Gramm-Leach-Bliley Act ("GLBA") permits significant combinations among different sectors of the financial services industry, allows for expansion of financial service activities by bank holding companies and offers financial privacy protections to consumers. GLBA preempts most state laws that prohibit financial holding companies from engaging in insurance activities. GLBA permits affiliations between banks and securities firms in the same holding company structure, and it permits financial holding companies to directly engage in a broad range of securities and merchant banking activities.

The Sarbanes-Oxley Act. The Sarbanes-Oxley Act ("SOX") protects investors by improving the accuracy and reliability of corporate disclosures. It impacts all companies with securities registered under the Securities Exchange Act of 1934, including NBI. SOX creates increased responsibility for chief executive officers and chief financial officers with respect to the content of filings with the Securities and Exchange Commission. Section 404 of SOX and related Securities and Exchange Commission rules focused increased scrutiny by internal and external auditors on NBI's systems of internal controls over financial reporting, which is designed to ensure that those internal controls are effective in both design and operation. SOX sets out enhanced requirements for audit committees, including independence and expertise, and it includes stronger requirements for auditor independence and limits the types of non-audit services that auditors can provide. Finally, SOX contains additional and increased civil and criminal penalties for violations of securities laws.

Capital and Related Requirements. In August, 2018, the Federal Reserve updated the Small Bank Holding Company Policy Statement ("the Statement"), in compliance with the EGRRCPA. The Statement, among other things, exempts bank holding companies that fall below a certain asset threshold from reporting consolidated regulatory capital ratios and from minimum regulatory capital requirements. The interim final rule expands the exemption to bank holding companies with consolidated total assets of less than $\$ 3$ billion. Prior to August 2018, the statement exempted bank holding companies with consolidated total assets of less than $\$ 1$ billion. As a result of the interim final rule, the Company qualifies as of August, 2018 as a small bank holding company and is no longer subject to regulatory capital requirements on a consolidated basis.

The Bank continues to be subject to various capital requirements administered by banking agencies. Failure to meet minimum capital requirements can trigger certain mandatory and discretionary actions by regulators that could have a direct material effect on the Company's financial statements. The Bank's capital amounts and classifications are also subject to qualitative judgments by regulators about components, risk weightings and other factors.

The regulations require a minimum ratio of certain capital measures. In addition, the Bank is required to maintain a "capital conservation buffer" in excess of the minimum ratio requirements. The implementation period for the capital conservation buffer began in 2016 and will be fully phased in on January 1, 2019. The following table presents the required minimum ratios and minimum ratios with the capital conservation buffer for 2018 , as well as the final minimum ratios with the capital conservation buffer when fully phased in:

|  | Minimum Ratio | Minimum Ratio With <br> Capital Conservation <br> Buffer as of <br> December 31, 2018 | Minimum Ratio With <br> Capital Conservation <br> Buffer beginning <br> January 1, 2019 |
| :--- | :---: | :---: | :---: |
| Regulatory Capital Ratios | $4.50 \%$ |  |  |
| Common Equity Tier 1 Capital to Risk Weighted | $6.00 \%$ | $6.375 \%$ | $7.00 \%$ |
| $\quad$ Assets | $8.00 \%$ | $7.875 \%$ | $8.50 \%$ |
| Tier 1 Capital to Risk Weighted Assets | $4.00 \%$ | $9.875 \%$ | $10.50 \%$ |
| Total Capital to Risk Weighted Assets | $4.00 \%$ | $4.00 \%$ |  |

Risk-weighted assets are assets on the balance sheet as well as certain off-balance sheet items, such as standby letters of credit, to which weights between $0 \%$ and $1250 \%$ are applied, according to the risk of the asset type. Common Equity Tier 1 Capital ("CET1") is capital according to the balance sheet, adjusted for goodwill and intangible assets and other prescribed adjustments. At the Company's election, CET1 is also adjusted to exclude accumulated other comprehensive income. Tier 1 Capital is CET1 adjusted for additional capital deductions. Total Capital is Tier 1 Capital increased for the allowance for loan losses and adjusted for other items. The leverage ratio is the ratio of Tier 1 capital to total average assets, less goodwill and intangibles and certain deferred tax assets. Pursuant to the EGRRCPA the regulators have proposed a single "Community Bank Leverage Ratio" which would eliminate the four required capital ratios disclosed above for qualifying and electing banks and require the disclosure of a single leverage ratio based on the new Community Capital Leverage Ratio.

NBI is expected to be a source of capital strength for its subsidiary bank, and regulators can undertake a number of enforcement actions against NBI if its subsidiary bank becomes undercapitalized. NBI's bank subsidiary is well capitalized and fully in compliance with capital guidelines. Failure to meet statutorily mandated capital guidelines or more restrictive ratios separately established for financial institutions could subject NBB or the Company to a variety of enforcement remedies, including issuance of a capital directive, the termination of deposit insurance by the FDIC, a prohibition on accepting or renewing brokered deposits, limitations on the rates of interest that the institution may pay on its deposits and other restrictions on its business. Failure to maintain excess reserves for the capital conservation buffer would limit the ability to make capital distributions and pay discretionary bonuses to executives. As described above, significant additional restrictions can be imposed on NBB if it would fail to meet applicable capital requirements.

Dodd-Frank Wall Street Reform and Consumer Protection Act. The Dodd-Frank Act was signed into law on July 21, 2010. Its wide ranging provisions affect all federal financial regulatory agencies and nearly every aspect of the American financial services industry. The Dodd-Frank Act created an independent Consumer Financial Protection Bureau ("CFPB") which has the ability to write rules for consumer protections governing all financial institutions. All consumer protection responsibility formerly handled by other banking
regulators was consolidated in the CFPB. It oversees the enforcement of all federal laws intended to ensure fair access to credit. For smaller financial institutions such as NBI and NBB, the CFPB coordinates its examination activities through their primary regulators.

The Dodd-Frank Act contains provisions designed to reform mortgage lending, which includes the requirement of additional disclosures for consumer mortgages, and the CFPB implemented many mortgage lending regulations to carry out its mandate. Additionally, in response to the Dodd-Frank Act, the Federal Reserve issued rules in 2011 which had the effect of limiting the fees charged to merchants by credit card companies for debit card transactions. The Dodd-Frank Act also contains provisions that affect corporate governance and executive compensation.

The Dodd-Frank Act provisions are extensive and have required the Company and the Bank to deploy resources to comply with them. Several federal agencies, including the Federal Reserve, the CFPB and the Securities and Exchange Commission, have been in the process of issuing final regulations implementing major portions of the legislation, and this process will be affected by the EGRRCPA, which rolls back many provisions of the Dodd-Fran Act (see below).

Source of Strength. Federal Reserve policy has historically required bank holding companies to act as a source of financial and managerial strength to their subsidiary banks. The Dodd-Frank Act codified this policy as a statutory requirement. Under this requirement, the Company is expected to commit resources to support NBB, including at times when the Company may not be in a financial position to provide such resources. Any capital loans by a bank holding company to any of its subsidiary banks are subordinate in right of payment to depositors and to certain other indebtedness of such subsidiary banks. In the event of a bank holding company's bankruptcy, any commitment by the bank holding company to a federal bank regulatory agency to maintain the capital of a subsidiary bank will be assumed by the bankruptcy trustee and entitled to priority of payment.

The Economic Growth, Regulatory Reform and Consumer Protection Act of 2018. In May 2018 the EGRRCPA amended provisions of the Dodd-Frank Act and other statutes administered by banking regulators. Among these amendments are provisions to tailor applicability of certain of the enhanced prudential standards for Systemically Important Financial Institutions ("SIFI's") and to increase the $\$ 50$ billion asset threshold in two stages to $\$ 250$ billion to which these enhanced standards apply. The Act exempts insured depositary institutions (and their parent companies) with less than $\$ 10$ billion in consolidated assets and that meet certain tests from the Volker Rule (which prohibits banks from conducting certain investment activities with their own accounts). As discussed above, the EGRRCPA requires the regulators to promulgate rules establishing a new Community Bank Leverage Ratio (currently proposed to be 9\%) for financial institutions with less than $\$ 10$ billion in consolidated assets. If the financial institution maintains its tangible equity above the Community Bank Leverage Ratio it will be deemed in compliance with the various regulatory capital requirements currently in effect. The Act increases the asset threshold from $\$ 1$ billion to $\$ 3$ billion for financial institutions to qualify for an 18 month on site examination schedule. The EGRRCPA changes numerous other regulatory requirements based on the size and complexity of financial institutions, particularly benefiting smaller institutions like the Company.

## The National Bank of Blacksburg

NBB is a national banking association incorporated under the laws of the United States, and the bank is subject to regulation and examination by the Office of the Comptroller of the Currency ("the OCC"). NBB's deposits are insured by the Federal Deposit Insurance Corporation ("the FDIC") up to the limits of applicable law. The OCC, as the primary regulator, and the FDIC regulate and monitor all areas of NBB's operation. These areas include adequacy of capitalization and loss reserves, loans, deposits, business practices related to the charging and payment of interest, investments, borrowings, payment of dividends, security devices and procedures, establishment of branches, corporate reorganizations and maintenance of books and records. NBB is required to maintain certain capital ratios. It must also prepare quarterly reports on its financial condition for the OCC and conduct an annual audit of its financial affairs. The OCC requires NBB to adopt internal control structures and procedures designed to safeguard assets and monitor and reduce risk exposure. While appropriate for the safety and soundness of banks, these requirements add to overhead expense for NBB and other banks.

The Community Reinvestment Act. NBB is subject to the provisions of the Community Reinvestment Act ("CRA"), which imposes an affirmative obligation on financial institutions to meet the credit needs of the communities they serve, including low and moderate income neighborhoods. The OCC monitors NBB's compliance with the CRA and assigns public ratings based upon the bank's performance in meeting stated assessment goals. Unsatisfactory CRA ratings can result in restrictions on bank operations or expansion. NBB received a "satisfactory" rating in its last CRA examination by the OCC.

The Gramm-Leach-Bliley Act. In addition to other consumer privacy provisions, the Gramm-Leach-Bliley Act ("GLBA") restricts the use by financial institutions of customers' nonpublic personal information. At the inception of the customer relationship and annually thereafter, NBB is required to provide its customers with information regarding its policies and procedures with respect to handling of customers' nonpublic personal information. GLBA generally prohibits a financial institution from providing a customer's nonpublic personal information to unaffiliated third parties without prior notice and approval by the customer.

The USA Patriot Act. The USA Patriot Act ("Patriot Act") facilitates the sharing of information among government entities and financial institutions to combat terrorism and money laundering. The Patriot Act imposes an obligation on NBB to establish and maintain
anti-money laundering policies and procedures, including a customer identification program. The Bank must screen all customers against government lists of known or suspected terrorists. The Patriot Act, particularly as it relates to money laundering, is a significant focus of regulators and there is substantial regulatory oversight to insure compliance.

Consumer Laws and Regulations. There are a number of laws and regulations that regulate banks' consumer loan and deposit transactions. Among these are the Truth in Lending Act, the Truth in Savings Act, the Expedited Funds Availability Act, the Equal Credit Opportunity Act, the Fair Housing Act, the Fair Credit Reporting Act, the Electronic Funds Transfer Act, the Fair Debt Collections Practices Act, the Home Mortgage Disclosure Act, the Service Members Civil Relief Act, laws governing flood insurance, federal and state laws prohibiting unfair and deceptive business practices, foreclosure laws and various regulations that implement some or all of the foregoing. NBB is required to comply with these laws and regulations in its dealings with customers. In addition, the CFPB has adopted and may continue to refine rules regulating consumer mortgage lending pursuant to the Dodd-Frank Act. There are numerous disclosure and other compliance requirements associated with the consumer laws and regulations. The EGRRCPA modified a number of these requirements, including, for qualifying institutions with less than $\$ 10$ billion in assets, a safe harbor for compliance with the "ability to pay" requirements for consumer mortgage loans.

Deposit Insurance. NBB has deposits that are insured by the FDIC. The FDIC maintains a Deposit Insurance Fund ("DIF") that is funded by risk-based insurance premium assessments on insured depository institutions. Assessments are determined based upon several factors, including the level of regulatory capital and the results of regulatory examinations. The FDIC may adjust assessments if the insured institution's risk profile changes or if the size of the DIF declines in relation to the total amount of insured deposits. Beginning April 1, 2011, an institution's assessment base became consolidated total assets less its average tangible equity as defined by the FDIC. The FDIC has authority to impose (and has imposed during the recent financial crisis) special measures to boost the deposit insurance fund such as prepayments of assessments and additional special assessments.

After giving primary regulators an opportunity to first take action, FDIC may initiate an enforcement action against any depository institution it determines is engaging in unsafe or unsound actions or which is in an unsound condition, and the FDIC may terminate that institution's deposit insurance. NBB has no knowledge of any matter that would threaten its FDIC insurance coverage.

Capital Requirements. The capital requirements discussed above with relation to NBI are applied to NBB by the OCC. The OCC guidelines provide that banks experiencing internal growth or making acquisitions are expected to maintain strong capital positions well above minimum levels, without reliance on intangible assets. In addition, implementation of the BASEL III requirements increase required capital minimums as well as compliance costs due to their complexity unless the Bank qualifies and elects to comply with the new Community Bank Leverage Ratio discussed above.

Limits on Dividend Payments. A significant portion of NBI's income is derived from dividends paid by NBB. As a national bank, NBB may not pay dividends from its capital, and it may not pay dividends if the bank would become undercapitalized, as defined by regulation, after paying the dividend. Without prior OCC approval, NBB's dividend payments in any calendar year are restricted to the bank's retained net income for that year, as that term is defined by the laws and regulations, combined with retained net income from the preceding two years, less any required transfer to surplus.

The OCC and FDIC have authority to limit dividends paid by NBB if the payments are determined to be an unsafe and unsound banking practice. Any payment of dividends that depletes the bank's capital base could be deemed to be an unsafe and unsound banking practice.

Branching. As a national bank, NBB is required to comply with the state branch banking laws of Virginia, the state in which the bank is located. NBB must also have the prior approval of the OCC to establish a branch or acquire an existing banking operation. Under Virginia law, NBB may open branch offices or acquire existing banks or bank branches anywhere in the state. Virginia law also permits banks domiciled in the state to establish a branch or to acquire an existing bank or branch in another state. The Dodd-Frank Act permits the OCC to approve applications by national banks like NBB to establish de novo branches in any state in which a bank located in that state is permitted to establish a branch.

Ability-to-Repay and Qualified Mortgage Rule. Pursuant to the Dodd-Frank Act, the CFPB amended Regulation Z as implemented by the Truth in Lending Act, requiring mortgage lenders to make a reasonable and good faith determination based on verified and documented information that a consumer applying for a mortgage loan has a reasonable ability to repay the loan according to its terms. Mortgage lenders are required to determine consumers' ability to repay in one of two ways. The first alternative requires the mortgage lender to consider the following eight underwriting factors when making the credit decision: (i) current or reasonably expected income or assets; (ii) current employment status; (iii) the monthly payment on the covered transaction; (iv) the monthly payment on any simultaneous loan; (v) the monthly payment for mortgage-related obligations; (vi) current debt obligations, alimony, and child support; (vii) the monthly debt-to-income ratio or residual income; and (viii) credit history. Alternatively, the mortgage lender can originate "qualified mortgages," which are entitled to a presumption that the creditor making the loan satisfied the ability-to-repay requirements. In general, a "qualified mortgage" is a mortgage loan without negative amortization, interest-only payments, balloon payments or terms exceeding 30 years. In addition, to be a qualified mortgage the points and fees paid by a consumer cannot exceed $3 \%$ of the total loan
amount. Qualified mortgages that are "higher-priced" (e.g. subprime loans) create a rebuttable presumption of compliance with the ability-to-repay rules, while qualified mortgages that are not "higher-priced" (e.g. prime loans) are given a safe harbor of compliance. The Company is predominantly an originator of compliant qualified mortgages.

## Monetary Policy

The monetary and interest rate policies of the Federal Reserve, as well as general economic conditions, affect the business and earnings of NBI. NBB and other banks are particularly sensitive to interest rate fluctuations. The spread between the interest paid on deposits and that which is charged on loans is the most important component of the bank's earnings. In addition, interest earned on investments held by NBI and NBB has a significant effect on earnings. U.S. fiscal policy, including deficits requiring increased governmental borrowing also can affect interest rates. As conditions change in the national and international economy and in the money markets, the Federal Reserve's actions, particularly with regard to interest rates, and the effects of fiscal policies can impact loan demand, deposit levels and earnings at NBB. It is not possible to accurately predict the effects on NBI of economic and interest rate changes.

## Other Legislative and Regulatory Concerns

Particularly because of uncertain economic conditions and the current political environment, federal and state laws and regulations are regularly proposed that could affect the regulation of financial institutions. New, revised or rescinded regulations could add to the regulatory burden on banks and other financial service providers and increase the costs of compliance, or they could change the products that can be offered and the manner in which financial institutions do business. We cannot foresee how regulation of financial institutions may change in the future and how those changes might affect NBI.

## Company Website

NBI maintains a website at www.nationalbankshares.com. The Company's annual report on Form 10-K, quarterly reports on Form $10-\mathrm{Q}$, current reports on Form $8-\mathrm{K}$ and all amendments to those reports are made available on its website as soon as is practical after the material is electronically filed with the Securities and Exchange Commission. The Company's proxy materials for the 2019 annual meeting of stockholders are also posted on a separate website at www.nationalbanksharesproxy.com. Access through the Company's websites to the Company's filings is free of charge. The Securities and Exchange Commission maintains an internet site (http://www.sec.gov) that contains reports, proxy, and information statements, and other information the Company files electronically with the SEC.

## Item 1A. Risk Factors

## If economic trends reverse or recession returns, our credit risk will increase and there could be greater loan losses.

A reversal in economic trends or return to a recession is likely to result in a higher rate of business closures and increased job losses in the region in which we do business. In addition, reduced State funding for the public colleges and universities that are large employers in our market area could have an adverse effect on employment levels and on the area's economy. These factors would increase the likelihood that more of our customers would become delinquent or default on their loans. A higher level of loan defaults could result in higher loan losses, which could adversely affect our performance.

## A reversal in economic trends, return to recession, or change in interest rates could increase the risk of losses in our investment portfolio.

The Company holds both corporate and municipal bonds in its investment portfolio. A reversal in economic recovery or return to recession could increase the actual or perceived risk of default by both corporate and government issuers and, in either case, could adversely affect the value of these investments. In addition, the value of these investments could be affected by a change in interest rates and related factors, including the pricing of securities.

## The condition of the local real estate market could negatively affect our business.

Substantially all of the Company's real property collateral is located in its market area. If there is a decline in real estate values, especially in the Company's market area, the collateral for loans would deteriorate and provide significantly less security.

## Focus on lending to small to mid-sized community-based businesses may increase its credit risk.

Most of the Company's commercial business and commercial real estate loans are made to small business or middle market customers. These businesses generally have fewer financial resources in terms of capital or borrowing capacity than larger entities and have a heightened vulnerability to economic conditions. If general economic conditions in the market areas in which the Company operates negatively impact this important customer sector, the Company's results of operations and financial condition may be adversely affected. Moreover, a portion of these loans have been made by the Company in recent years and the borrowers may not have experienced a complete business or economic cycle since becoming borrowers of the Bank. The deterioration of the borrowers'
businesses may hinder their ability to repay their loans with the Company, which could have a material adverse effect on the Company's financial condition and results of operations.

## Market interest rates are rising. When market interest rates rise further, our net interest income can be negatively affected in the short term.

The direction and speed of interest rate changes affect our net interest margin and net interest income. In the short term, rising interest rates may negatively affect our net interest income if our interest-bearing liabilities (generally deposits) reprice sooner than our interest-earning assets (generally loans).

## The allowance for loan losses may not be adequate to cover actual losses.

In accordance with accounting principles generally accepted in the United States, an allowance for loan losses is maintained to provide for loan losses. The allowance for loan losses may not be adequate to cover actual credit losses, and future provisions for credit losses could materially and adversely affect operating results. The allowance for loan losses is based on prior experience, as well as an evaluation of the risks in the current portfolio. The amount of future losses is susceptible to changes in economic, operating, and other outside forces and conditions, including changes in interest rates, all of which are beyond the Company's control; and these losses may exceed current estimates. Federal regulatory agencies, as an integral part of their examination process, review the Company's loans and allowance for loan losses. The Company also outsources an independent loan review. While management believes that the allowance for loan losses is adequate to cover current losses, it cannot make assurances that it will not further increase the allowance for loan losses or that regulators will not require it to increase this allowance. Either of these occurrences could adversely affect earnings.

The allowance for loan losses requires management to make significant estimates that affect the financial statements. Due to the inherent nature of this estimate, management cannot provide assurance that it will not significantly increase the allowance for loan losses, which could materially and adversely affect earnings.

## Nonperforming assets take significant time to resolve and adversely affect the Company's results of operations and financial condition.

The Company's nonperforming assets adversely affect its net income in various ways. The Company expects to continue to incur additional losses relating to volatility in nonperforming loans. The Company does not record interest income on nonaccrual loans, which adversely affects its income and increases credit administration costs. When the Company receives collateral through foreclosures and similar proceedings, it is required to mark the related asset to the then fair market value of the collateral less estimated selling costs, which may, and often does, result in a loss. An increase in the level of nonperforming assets also increases the Company's risk profile and may impact the capital levels regulators believe are appropriate in light of such risks. The Company utilizes various techniques such as workouts and restructurings to manage problem assets. Increases in or negative adjustments in the value of these problem assets, the underlying collateral, or in the borrowers' performance or financial condition, could adversely affect the Company's business, results of operations and financial condition. In addition, the resolution of nonperforming assets requires significant commitments of time from management and staff, which can be detrimental to the performance of their other responsibilities, including generation of new loans. There can be no assurance that the Company will avoid further increases in nonperforming loans in the future.

The Company relies upon independent appraisals to determine the value of the real estate which secures a significant portion of its loans, and the values indicated by such appraisals may not be realizable if the Company is forced to foreclose upon such loans.

A significant portion of the Company's loan portfolio consists of loans secured by real estate. The Company relies upon independent appraisers to estimate the value of such real estate. Appraisals are only estimates of value and the independent appraisers may make mistakes of fact or judgment which adversely affect the reliability of their appraisals. In addition, events occurring after the initial appraisal may cause the value of the real estate to increase or decrease. As a result of any of these factors, the real estate securing some of the Company's loans may be more or less valuable than anticipated at the time the loans were made. If a default occurs on a loan secured by real estate that is less valuable than originally estimated, the Company may not be able to recover the outstanding balance of the loan and will suffer a loss.

## If more competitors come into our market area, our business could suffer.

The financial services industry in our market area is highly competitive, with a number of commercial banks, credit unions, insurance companies and stockbrokers seeking to do business with our customers. If there is additional competition from new business or if our existing competitors focus more attention on our market, we could lose customers and our business could suffer.

Additional laws and regulations or revisions and rescission of existing laws and regulations could lead to a significant increase in our regulatory burden.

While the risk appears to have diminished somewhat, both federal and state governments could enact new laws affecting financial institutions that would further increase our regulatory burden and could negatively affect our profits. Likewise, revisions or rescission of existing laws and regulations already implemented may result in additional compliance costs, at least in the short-term or, if done imprudently, could ultimately create economic risks negatively affecting our revenues.

## New laws and regulations could limit our sources of noninterest income.

While the risk appears to have diminished somewhat, new laws and regulations could limit our ability to offer certain profitable products and services. This could have a negative effect on the level of noninterest income.

## Intense oversight by regulators could result in stricter requirements and higher overhead costs.

Regulators for the Company and the subsidiary bank are tasked with ensuring compliance with applicable laws and regulations. Laws and regulations are subject to a degree of interpretation. The regulatory environment has caused financial industry regulators to take more extreme interpretations, which could impact the Company's earnings.

## Political risks in the U.S. and the rest of the world could negatively affect the financial markets.

Political risks in the U.S. and the rest of the world could affect financial markets and affect fiscal policy which could negatively affect our investment portfolio and earnings.

## Our information systems may experience an interruption or security breach.

We rely heavily on communications and information systems to conduct our business. Any failure, interruption or breach in security of these systems could result in failures or disruptions of our internet banking, deposit, loan and other systems. While we have policies and procedures designed to prevent or limit the effect of the possible failure, interruption or security breach of our information systems, there can be no assurance that any such failure, interruption or security breach will not occur or, if they do occur, that they will be adequately addressed.

In the ordinary course of business, the Company collects and stores sensitive data, including proprietary business information and personally identifiable information of its customers and employees, in systems and on networks. The secure processing, maintenance and use of this information is critical to the Company's operations and business strategy. The Company has invested in accepted technologies, and annually reviews its processes and practices that are designed to protect its networks, computers and data from damage or unauthorized access. Despite these security measures, the Company's computer systems experienced two cyber-intrusions, one in May 2016 and one in January 2017 in which certain customer information was compromised, but which did not cause interruption to the Company's normal operations. The Company has implemented additional security measures since the breaches. The Company's computer systems and infrastructure may in the future be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. A breach of any kind could compromise systems and the information stored there could be accessed, damaged or disclosed. The occurrence of any failure, interruption or security breach of our communications and information systems could damage our reputation, result in a loss of customer business, subject us to additional regulatory scrutiny or expose us to civil litigation and possible financial liability.

## Cyber-attacks may disarm and/or bypass system safeguards and allow unauthorized access and misappropriation of financial data and assets.

As a financial institution holding company, we are vulnerable to and the target of cyber-attacks that attempt to access our digital technology systems, disarm and/or bypass system safeguards, access customer data and ultimately increase the risk of economic and reputational loss.

The Company experienced two cyber-intrusions, one in May 2016 and one in January 2017 in which certain customer information was compromised. The Company has strengthened its multi-faceted approach to reduce the exposure of our systems to cyber- intrusions, strengthen our defenses against hackers and protect customer accounts and information relevant to customer accounts from unauthorized access. These tools include digital technology safeguards, internal policies and procedures, and employee training.

The Company believes its cybersecurity risk management program reasonably addresses the risk from cybersecurity attacks. However, it is not possible to fully eliminate exposure. We may experience human error or have unknown susceptibilities that allow our systems to become victim to a highly-sophisticated cyber-attack. If hackers gain entry to our systems, they may disable other safeguards that limit loss, including limits on the number, amount, and frequency of ATM withdrawals, as well as other loss-prevention or detection measures.

## Cybersecurity attacks are probable and may result in additional costs.

The Company has experienced many attempted cybersecurity attacks, of which two resulted in a breach. The Company estimates that the probability of future attempted cyber-attacks is high. To reduce the risk of loss from cyber-attacks and to remediate vulnerabilities discovered through the breach investigations, the Company has incurred costs related to forensic investigations, legal and advisory expenses, insurance premiums, system monitoring and testing, and installing new technological infrastructure and defenses. The Company has implemented every recommendation from the forensic investigations. If the Company experiences another cyberbreach, these costs will increase as well as potential costs for litigation, reputational harm and regulatory costs.

## Insurance may not cover losses from cybersecurity attacks.

The Company has invested in insurance related to cybersecurity. Insurance policies are necessary to protect the Company from major losses but may be written in such a way as to limit the protection from certain risks, including cyber risks for which the availability of insurance coverage is currently limited. If the insurance carrier denies coverage of losses the Company may litigate, resulting in additional legal expense. Because of policy technicalities, litigation may not result in a favorable outcome for the Company.

## The Company relies on other companies to provide key components of the Company's business infrastructure.

Third parties provide key components of the Company's business operations such as data processing, recording and monitoring transactions, online banking interfaces and services, internet connections and network access. While the Company has selected these third party vendors carefully, it does not control their actions. Any problem caused by these third parties, including those resulting from disruptions in communication services provided by a vendor, failure of a vendor to handle current or higher volumes, failures of a vendor to provide services for any reason or poor performance of services, could adversely affect the Company's ability to deliver products and services to its customers and otherwise conduct its business. Financial or operational difficulties of a third party vendor could also hurt the Company's operations if those difficulties interface with the vendor's ability to serve the Company. Replacing these third party vendors could also create significant delay and expense and damage the Company's ability to service its customers resulting in a loss of goodwill. Accordingly, use of such third parties creates an unavoidable inherent risk to the Company's business operations.

## Consumers may increasingly decide not to use the Bank to complete their financial transactions, which would have a material adverse impact on the Company's financial condition and operations.

Technology and other changes are allowing parties to complete financial transactions through alternative methods that historically have involved banks. For example, consumers can now maintain funds that would have historically been held as bank deposits in brokerage accounts, mutual funds or general-purpose reloadable prepaid cards. Consumers can also complete transactions such as paying bills and/or transferring funds directly without the assistance of banks. The process of eliminating banks as intermediaries could result in the loss of fee income, as well as the loss of customer deposits and the related income generated from those deposits. The loss of these revenue streams and the lower cost of deposits as a source of funds could have a material adverse effect on the Company's financial condition and results of operations.

## Changes in funding for higher education could materially affect our business.

Two major employers in the Company's market area are Virginia Tech and Radford University, both state-supported institutions. If federal or state support for public colleges and universities wanes, our business may be adversely affected from declines in university programs, capital projects, employment, enrollment and other related factors.

## The Company is dependent on key personnel and the loss of one or more of those key personnel may materially and adversely affect the Company's operations and prospects.

The Company currently depends on the services of a number of key management personnel. The loss of key personnel could materially and adversely affect the results of operations and financial condition. The Company's success also depends in part on the ability to attract and retain additional qualified management personnel. Competition for such personnel is strong and the Company may not be successful in attracting or retaining the personnel it requires.

## Changes in accounting standards could impact reported earnings.

The authorities who promulgate accounting standards, including the Financial Accounting Standards Board, SEC, and other regulatory authorities, periodically change the financial accounting and reporting standards that govern the preparation of the Company's consolidated financial statements. These changes are difficult to predict and can materially impact how the Company records and reports its financial condition and results of operations. In some cases, the Company could be required to apply a new or revised standard retroactively, resulting in the restatement of financial statements for prior periods. Such changes could also require the Company to incur additional personnel or technology costs. Most notably, new guidance on the calculation of credit reserves using current expected credit losses ("CECL") was finalized in June, 2016. The standard will be effective for the Company beginning January 1, 2020. The Company has formed a management committee to prepare for the new standards. The committee has implemented new data collection and has begun the process to run preliminary CECL models along with the incurred loss model currently in use. To implement the new standard, the Company will incur costs related to data collection and documentation, technology, training and increased audit expenses to validate the model. The Company expects that implementation could significantly impact our required credit reserves. Other impacts to capital levels, profit and loss and various financial metrics will also result.

## The Company is subject to claims and litigation pertaining to fiduciary responsibility.

From time to time, customers make claims and take legal action pertaining to the performance of the Company's fiduciary responsibilities. Whether customer claims and legal action related to the performance of the Company's fiduciary responsibilities are founded or unfounded, if such claims and legal actions are not resolved in a manner favorable to the Company, they may result in significant financial liability and/or adversely affect the market perception of the Company and its products and services, as well as
impact customer demand for those products and services. Any financial liability or reputation damage could have a material adverse effect on the Company's business, which, in turn, could have a material adverse effect on the Company's financial condition and results of operations.

## The Company's ability to pay dividends depends upon the results of operations of its subsidiaries.

The Company is a financial holding company and a bank holding company that conducts substantially all of its operations through NBB. As a result, the Company's ability to make dividend payments on its common stock depends primarily on certain federal regulatory considerations and the receipt of dividends and other distributions from NBB. There are various regulatory restrictions on the ability of NBB to pay dividends or make other payments to the Company. Although the Company has historically paid a cash dividend to the holders of its common stock, holders of the common stock are not entitled to receive dividends, and regulatory or economic factors may cause the Company's Board of Directors to consider, among other things, the reduction of dividends paid on the Company's common stock.

## While the Company's common stock is currently traded on the NASDAQ Capital Market, it has less liquidity than stocks for larger companies quoted on a national securities exchange.

The trading volume in the Company's common stock on the NASDAQ Capital Market has been relatively low when compared with larger companies listed on the NASDAQ Capital Market or other stock exchanges. There is no assurance that a more active and liquid trading market for the common stock will exist in the future. Consequently, stockholders may not be able to sell a substantial number of shares for the same price at which stockholders could sell a smaller number of shares. In addition, the Company cannot predict the effect, if any, that future sales of its common stock in the market, or the availability of shares of common stock for sale in the market, will have on the market price of the common stock. Sales of substantial amounts of common stock in the market, or the potential for large amounts of sales in the market, could cause the price of the Company's common stock to decline, or reduce the Company's ability to raise capital through future sales of common stock.

## A change in tax rates applicable to the Company may cause impairment of deferred tax assets.

The Company determines deferred income taxes using the balance sheet method. Under this method, each asset and liability is examined to determine the difference between its book basis and its tax basis. The difference between the book basis and the tax basis of each asset and liability is multiplied by the Company's marginal tax rate to determine the net deferred tax asset or liability. If the applicable tax rate changes, the effect of the change on deferred tax assets is recognized as an increase or decrease to income tax expense.

When changes in tax rates and laws are enacted, the company must recognize the changes in the period in which they are enacted. On December 22, 2017, The Tax Cuts and Jobs Act ("the ACT") was signed into law and became effective January 1, 2018. The Act changed the Company's applicable tax rate from a $35 \%$ marginal rate in 2017 and years prior to a flat $21 \%$ for 2018. Deferred tax assets were re-valued from $35 \%$ to $21 \%$ in 2017 , with a resulting charge to income tax expense.

## Item 1B. Unresolved Staff Comments

There are no unresolved staff comments.

## Item 2. Properties

NBB owns and has a branch bank in NBI's headquarters building located at 101 Hubbard Street, Blacksburg, Virginia. NBB's main office is at 100 South Main Street, Blacksburg, Virginia. NBB owns an additional seventeen branch offices and it leases six branch locations and a loan production office. We believe that existing facilities are adequate for current needs and to meet anticipated growth.

## Item 3. Legal Proceedings

NBI, NBB, and NBFS are not currently involved in any material pending legal proceedings. There are no legal proceedings against the company related to cybersecurity. As of December 31, 2018, the Company is party to a lawsuit to recover from the insurance carrier damages related to the two cybersecurity incidents. The lawsuit was settled during the first quarter of 2019 subject to a non-disclosure agreement.

## Item 4. Mine Safety Disclosures

Not applicable.

## Part II

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

## Common Stock Information and Dividends

National Bankshares, Inc.'s common stock is traded on the NASDAQ Capital Market under the symbol "NKSH." As of December 31,2018 , there were 628 record stockholders of NBI common stock.

NBI's primary source of funds for dividend payments is dividends from its bank subsidiary, NBB. Bank dividend payments are restricted by regulators, as more fully disclosed in Note 10 of Notes to Consolidated Financial Statements.

On May 9, 2018, NBI's Board of Directors approved the repurchase of up to 100,000 shares of equity securities and on November 14, 2018 NBI's Board of Directors approved the repurchase of an additional 150,000 shares of equity securities that are registered by the Company pursuant to Section 12 of the Securities Exchange Act of 1934. During 2018, there were no shares repurchased, and 250,000 shares may yet be purchased under the program.

## Stock Performance Graph

The following graph compares the yearly percentage change in the cumulative total of stockholder return on NBI common stock with the cumulative return on the NASDAQ Composite Index, and the NASDAQ Bank Index for the five-year period commencing on December 31, 2013. These comparisons assume the investment of $\$ 100$ in National Bankshares, Inc. common stock in each of the indices on December 31, 2013, and the reinvestment of dividends.


|  | $\mathbf{2 0 1 3}$ |  | $\mathbf{2 0 1 4}$ | $\mathbf{2 0 1 5}$ | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 8}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| NATIONAL BANKSHARES, INC. | 100 | 85 | 104 | 131 | 141 | 116 |  |
| NASDAQ COMPOSITE INDEX | 100 | 115 | 123 | 134 | 174 | 169 |  |
| NASDAQ BANK INDEX | 100 | 104 | 112 | 155 | 163 | 138 |  |

## Item 6. Selected Financial Data

## National Bankshares, Inc. and Subsidiaries

Selected Consolidated Financial Data

| \$ in thousands, except per share data | Year ended December 31, |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $\mathbf{2 0 1 8}$ |  |  |  |  |  | $\mathbf{2 0 1 7}$ |
|  | $\mathbf{2 0 1 6}$ | $\mathbf{2 0 1 5}$ | $\mathbf{2 0 1 4}$ |  |  |  |  |
| Selected Income Statement Data: | $\mathbf{\$ 3 , 2 2 4}$ | $\$$ | 41,260 | $\$$ | 40,930 | $\$$ | 42,914 |
| Interest income | $\mathbf{5 , 0 4 7}$ | 4,125 | 4,166 | 4,183 | 43,944 |  |  |
| Interest expense | $\mathbf{3 8 , 1 7 7}$ | 37,135 | 36,764 | 38,731 | 39,899 |  |  |
| Net interest income | $\mathbf{( 8 1 )}$ | 157 | 1,650 | 2,009 | 1,641 |  |  |
| Provision for (recovery of) loan losses | $\mathbf{7 , 7 2 9}$ | 7,636 | 7,115 | 6,764 | 6,503 |  |  |
| Noninterest income | $\mathbf{2 7 , 2 7 6}$ | 24,229 | 23,335 | 22,913 | 21,815 |  |  |
| Noninterest expense | $\mathbf{2 , 5 6 0}$ | 6,293 | 3,952 | 4,740 | 5,178 |  |  |
| Income taxes | $\mathbf{1 6 , 1 5 1}$ | 14,092 | 14,942 | 15,833 | 16,914 |  |  |

## Per Share Data:

| Basic net income | $\mathbf{2 . 3 2}$ | 2.03 | 2.15 | 2.28 | 2.43 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Diluted net income | $\mathbf{2 . 3 2}$ | 2.03 | 2.15 | 2.28 | 2.43 |
| Cash dividends declared | $\mathbf{1 . 2 1}$ | 1.17 | 1.16 | 1.14 | 1.13 |
| Book value | $\mathbf{2 7 . 3 4}$ | 26.57 | 25.62 | 24.74 | 23.93 |

Selected Balance Sheet Data at End of Year:

| Loans, net of unearned income and deferred fees and |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| costs, and the allowance for loan losses | $\mathbf{7 0 2 , 4 0 9}$ | 660,144 | 639,452 | 610,711 | 597,203 |
| Total securities | $\mathbf{4 2 6 , 2 3 0}$ | 459,751 | 440,409 | 389,288 | 385,385 |
| Total assets | $\mathbf{1 , 2 5 6 , 0 3 2}$ | $1,256,757$ | $1,233,942$ | $1,203,519$ | $1,158,798$ |
| Total deposits | $\mathbf{1 , 0 5 1 , 9 4 2}$ | $1,059,734$ | $1,043,442$ | $1,018,859$ | 982,428 |
| Stockholders' equity | $\mathbf{1 9 0 , 2 3 8}$ | 184,896 | 178,263 | 172,114 | 166,303 |

## Selected Balance Sheet Daily Averages:

| Loans, net of unearned income and deferred fees and |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| costs, and the allowance for loan losses | $\mathbf{6 7 5 , 6 4 7}$ | 644,998 | 613,366 | 611,554 | 584,857 |
| Total securities | $\mathbf{4 5 5 , 8 1 0}$ | 442,101 | 420,915 | 379,805 | 361,028 |
| Total assets | $\mathbf{1 , 2 5 1 , 8 4 3}$ | $1,235,754$ | $1,206,745$ | $1,155,594$ | $1,120,848$ |
| Total deposits | $\mathbf{1 , 0 4 5 , 7 9 8}$ | $1,038,586$ | $1,013,787$ | 976,597 | 957,684 |
| Stockholders' equity | $\mathbf{1 8 6 , 6 3 7}$ | 184,539 | 180,047 | 171,732 | 157,832 |


| Selected Ratios: | $\mathbf{1 . 2 9 \%}$ | $1.14 \%$ | $1.24 \%$ | $1.37 \%$ | $1.51 \%$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Return on average assets | $\mathbf{8 . 6 5 \%}$ | $7.64 \%$ | $8.30 \%$ | $9.22 \%$ | $10.72 \%$ |
| Return on average equity | $\mathbf{5 2 . 1 3 \%}$ | $57.77 \%$ | $54.02 \%$ | $50.09 \%$ | $46.43 \%$ |
| Dividend payout ratio | $\mathbf{1 4 . 9 1 \%}$ | $14.93 \%$ | $14.92 \%$ | $14.86 \%$ | $14.08 \%$ |
| Average equity to average assets $^{\text {Efficiency ratio }^{(1)}}$ | $\mathbf{5 3 . 2 0} \%$ | $50.41 \%$ | $49.32 \%$ | $49.41 \%$ | $47.08 \%$ |

(1) The efficiency ratio is a non-GAAP financial measure that the Company believes provides investors with important information regarding operational efficiency. Such information is not prepared in accordance with U.S. generally accepted accounting principles (GAAP) and should not be viewed as a substitute for GAAP. See "Non-GAAP Financial Measures" included in Item 7 of this Form 10-K.

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

\$ in thousands, except per share data
The purpose of this discussion and analysis is to provide information about the results of operations, financial condition, liquidity and capital resources of National Bankshares, Inc. and its subsidiaries (the "Company"). The discussion should be read in conjunction with the material presented in Item 8, "Financial Statements and Supplementary Data," of this Form 10-K.

Subsequent events have been considered through the date on which the Form $10-\mathrm{K}$ was issued.

## Cautionary Statement Regarding Forward-Looking Statements

We make forward-looking statements in this Form 10-K that are subject to significant risks and uncertainties. These forwardlooking statements include statements regarding our profitability, liquidity, allowance for loan losses, interest rate sensitivity, market risk, growth strategy, and financial and other goals, and are based upon our management's views and assumptions as of the date of this report. The words "believes," "expects," "may," "will," "should," "projects," "contemplates," "anticipates," "forecasts," "intends," or other similar words or terms are intended to identify forward-looking statements.

These forward-looking statements are based upon or are affected by factors that could cause our actual results to differ materially from historical results or from any results expressed or implied by such forward-looking statements. These factors include, but are not limited to, changes in:

- interest rates,
- general economic conditions,
- the legislative/regulatory climate,
- monetary and fiscal policies of the U.S. Government, including policies of the U.S. Treasury, the Office of the Comptroller of the Currency, the Federal Reserve Board, the Consumer Financial Protection Bureau and the Federal Deposit Insurance Corporation, and the impact of any policies or programs implemented pursuant to the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act") and other financial reform legislation,
- unanticipated increases in the level of unemployment in the Company's trade area,
- the quality or composition of the loan and/or investment portfolios,
- demand for loan products,
- deposit flows,
- competition,
- demand for financial services in the Company's trade area,
- the real estate market in the Company's trade area,
- the Company's technology initiatives, and
- applicable accounting principles, policies and guidelines.

These risks and uncertainties should be considered in evaluating the forward-looking statements contained in this report. We caution readers not to place undue reliance on those statements, which speak only as of the date of this report. This discussion and analysis should be read in conjunction with the description of our "Risk Factors" in Item 1A. of this Form 10-K.

If the national economy or the Company's market area experience a downturn, it is likely that unemployment will rise and that other economic indicators will negatively impact the Company's trade area. Because of the importance to the Company's markets of statefunded universities, cutbacks in the funding provided by the Commonwealth could also negatively impact employment. This could lead to a higher rate of delinquent loans and a greater number of real estate foreclosures. Higher unemployment and the fear of layoffs causes reduced consumer demand for goods and services, which negatively impacts the Company's business and professional customers. An economic downturn could have an adverse effect on all financial institutions, including the Company.

## Non-GAAP Financial Measures

This report refers to certain financial measures that are computed under a basis other than GAAP ("non-GAAP"), including the efficiency ratio, the net interest margin and the noninterest margin.

The efficiency ratio is computed by dividing noninterest expense, excluding the write-down of insurance receivable, by the sum of net interest income on a tax-equivalent basis and noninterest income. The tax rate used to calculate fully taxable equivalent basis is $21 \%$ in 2018 and $35 \%$ in 2017 and years prior. This is a non-GAAP financial measure that the Company believes provides investors with important information regarding operational efficiency. Such information is not prepared in accordance with U.S. generally accepted accounting principles (GAAP) and should not be construed as such. Management believes such financial information is meaningful to the reader in understanding operating performance, but cautions that such information not be viewed as a substitute for GAAP. The components of the efficiency ratio calculation are summarized in the following table.

| \$ in thousands | Year ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Noninterest expense | \$ | 27,276 | \$ | 24,229 | \$ | 23,335 |
| Less: write-down of insurance receivable |  | $(2,010)$ |  | --- |  | --- |
| Noninterest expense for ratio calculation | \$ | 25,266 | \$ | 24,229 | \$ | 23,335 |
|  |  |  |  |  |  |  |
| Taxable-equivalent net interest income | \$ | 39,764 | \$ | 40,432 | \$ | 40,201 |
| Noninterest income |  | 7,729 |  | 7,636 |  | 7,115 |
| Total income for ratio calculation | \$ | 47,493 | \$ | 48,068 | \$ | 47,316 |
|  |  |  |  |  |  |  |
| Efficiency ratio |  | 53.20\% |  | 50.41\% |  | 49.32\% |

The net interest margin is calculated by dividing taxable equivalent net interest income by total average earning assets. Because a portion of interest income earned by the Company is nontaxable, the tax equivalent net interest income is considered in the calculation of this ratio. Tax equivalent net interest income is calculated by adding the tax benefit realized from interest income that is nontaxable to total interest income then subtracting total interest expense. The tax rate utilized in calculating the tax benefit for 2018 is $21 \%$ and $35 \%$ for 2017 and years prior. The reconciliation of tax equivalent net interest income, which is not a measurement under GAAP, to net interest income, is reflected in the table below.

| \$ in thousands | Year ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| GAAP measures: |  |  |  |  |  |  |
| Interest and fees on loans | \$ | 31,333 | \$ | 29,932 | \$ | 29,365 |
| Interest on interest-bearing deposits |  | 672 |  | 791 |  | 532 |
| Interest and dividends on securities - taxable |  | 6,856 |  | 5,711 |  | 5,910 |
| Interest on securities - nontaxable |  | 4,363 |  | 4,826 |  | 5,123 |
| Total interest income | \$ | 43,224 | \$ | 41,260 | \$ | 40,930 |
|  |  |  |  |  |  |  |
| Interest on deposits | \$ | 4,883 | \$ | 4,125 | \$ | 4,166 |
| Interest on borrowings |  | 164 |  | --- |  | --- |
| Total interest expense | \$ | 5,047 | \$ | 4,125 | \$ | 4,166 |
|  |  |  |  |  |  |  |
| Net interest income | \$ | 38,177 | \$ | 37,135 | \$ | 36,764 |
|  |  |  |  |  |  |  |
| Non-GAAP measures: |  |  |  |  |  |  |
| Tax benefit on nontaxable loan income | \$ | 406 | \$ | 661 | \$ | 628 |
| Tax benefit on nontaxable securities income |  | 1,181 |  | 2,636 |  | 2,809 |
| Total tax benefit on nontaxable interest income | \$ | 1,587 | \$ | 3,297 | \$ | 3,437 |
| Total tax-equivalent net interest income | \$ | 39,764 | \$ | 40,432 | \$ | 40,201 |

The noninterest margin is calculated by dividing noninterest expense (excluding the write-down of insurance receivable) less noninterest income (excluding realized securities gain/loss, net) by average year-to-date assets. The reconciliation of adjusted noninterest income and adjusted noninterest expense, which are not measurements under GAAP, is reflected in the table below.

| \$ in thousands | Year ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Noninterest expense under GAAP | \$ | 27,276 | \$ | 24,229 | \$ | 23,335 |
| Less: write-down of insurance receivable |  | $(2,010)$ |  | --- |  | --- |
| Noninterest expense for ratio calculation, non-GAAP | \$ | 25,266 | \$ | 24,229 | \$ | 23,335 |
| Noninterest income under GAAP | \$ | 7,729 | \$ | 7,636 | \$ | 7,115 |
| Less: realized securities gains, net |  | (17) |  | (14) |  | (232) |
| Noninterest income for ratio calculation, non-GAAP | \$ | 7,712 | \$ | 7,622 | \$ | 6,883 |
|  |  |  |  |  |  |  |
| Net noninterest expense, non-GAAP | \$ | 17,554 | \$ | 16,607 | \$ | 16,452 |
|  |  |  |  |  |  |  |
| Average assets | \$ | 1,251,843 | \$ | 1,235,755 | \$ | 1,206,745 |
|  |  |  |  |  |  |  |
| Noninterest margin |  | 1.40\% |  | 1.34\% |  | 1.36\% |

## Critical Accounting Policies

## General

The Company's financial statements are prepared in accordance with accounting principles generally accepted in the United States (GAAP). The financial information contained within our statements is, to a significant extent, financial information based on measures of the financial effects of transactions and events that have already occurred. A variety of factors could affect the ultimate value obtained when earning income, recognizing an expense, recovering an asset or relieving a liability. Although the economics of the Company's transactions may not change, the timing of events that would impact the transactions could change.

## Allowance for Loan Losses

The allowance for loan losses is an estimate of probable losses inherent in our loan portfolio. The allowance is funded by the provision for loan losses, reduced by charge-offs of loans and increased by recoveries of previously charged-off loans. The determination of the allowance is based on two accounting principles, Accounting Standards Codification ("ASC") Topic 450-20 (Contingencies) which requires that losses be accrued when occurrence is probable and the amount of the loss is reasonably estimable, and ASC Topic 310-10 (Receivables) which requires accrual of losses on impaired loans if the recorded investment exceeds fair value.

Probable losses are accrued through two calculations, individual evaluation of impaired loans and collective evaluation of the remainder of the portfolio. Impaired loans are larger non-homogeneous loans for which there is a probability that collection will not occur according to the loan terms, as well as loans whose terms have been modified in a troubled debt restructuring. Impaired loans that are not TDR's with an estimated impairment loss are placed on nonaccrual status. TDR's with an impairment loss may accrue interest if they have demonstrated six months of timely payment performance.

## Impaired loans

Impaired loans are identified through the Company's credit risk rating process. Estimated loss for an impaired loan is the amount of recorded investment that exceeds the loan's fair value. Fair value of an impaired loan is measured by one of three methods: the fair value of collateral ("collateral method"), the present value of future cash flows ("cash flow method"), or observable market price. The Company applies the collateral method to collateral-dependent loans, loans for which foreclosure is imminent and to loans for which the fair value of collateral is a more reliable estimate of fair value. The cash flow method is applied to loans that are not collateral dependent and for which cash flows may be estimated.

The Company bases collateral method fair valuation upon the "as-is" value of independent appraisals or evaluations. Valuations for impaired loans secured by residential 1-4 family properties with outstanding principal balances greater than $\$ 250$ are based on an appraisal. Appraisals are also used to value impaired loans secured by commercial real estate with outstanding principal balances greater than $\$ 500$. Collateral-method impaired loans secured by residential 1-4 family property with outstanding principal balances of $\$ 250$ or less, or secured by commercial real estate with outstanding principal balances of $\$ 500$ or less, are valued using an internal evaluation.

Appraisals and internal valuations provide an estimate of market value. Appraisals must conform to the Uniform Standards of Professional Appraisal Practice ("USPAP") and are prepared by an independent third-party appraiser who is certified and licensed and who is approved by the Company. Appraisals may incorporate market analysis, comparable sales analysis, cash flow analysis and market data pertinent to the property to determine market value.

Internal evaluations are prepared by third party providers and reviewed by employees of the Company who are independent of the loan origination, operation, management and collection functions. Evaluations provide a property's market value based on the property's current physical condition and characteristics and the economic market conditions that affect the collateral's market value. Evaluations incorporate multiple sources of data to arrive at a property's market value, including physical inspection, independent third-party automated tools, comparable sales analysis and local market information.

Updated appraisals or evaluations are ordered when the loan becomes impaired if the appraisal or evaluation on file is more than twenty-four months old. Appraisals and evaluations are reviewed for propriety and reasonableness and may be discounted if the Company determines that the value exceeds reasonable levels. If an updated appraisal or evaluation has been ordered but has not been received by a reporting date, the fair value may be based on the most recent available appraisal or evaluation, discounted for age.

The appraisal or evaluation value for a collateral-dependent loan for which recovery is expected solely from the sale of collateral is reduced by estimated selling costs. Estimated losses on collateral-dependent loans, as well as any other impairment loss considered uncollectible, are charged against the allowance for loan losses. Impairment losses that are not considered uncollectible or for loans that are not collateral dependent are accrued in the allowance. Impaired loans with partial charge-offs are maintained as impaired until the remaining balance is satisfied. Smaller homogeneous impaired loans that are not troubled debt restructurings and are not part of a larger impaired relationship are collectively evaluated.

Troubled debt restructurings are impaired loans and are measured for impairment under the same valuation methods as other impaired loans. Troubled debt restructurings are maintained in nonaccrual status until the loan has demonstrated reasonable assurance of repayment with at least six months of consecutive timely payment performance. Troubled debt restructurings may be removed from TDR status, and therefore from individual evaluation, if the restructuring agreement specifies a contractual interest rate that is a market interest rate at the time of restructuring and the loan is in compliance with its modified terms one year after the restructure was completed.

## Collectively-evaluated loans

Non-impaired loans and smaller homogeneous impaired loans that are not troubled debt restructurings and not part of a larger impaired relationship are grouped by portfolio segments. Portfolio segments are further divided into smaller loan classes. Loans within a segment or class have similar risk characteristics.

Probable loss is determined by applying historical net charge-off rates as well as additional percentages for trends and current levels of quantitative and qualitative factors. Loss rates are calculated for and applied to individual classes by averaging loss rates over the most recent 8 quarters. The look-back period of 8 quarters is applied consistently among all classes.

Two loss rates for each class are calculated: total net charge-offs for the class as a percentage of average class loan balance ("class loss rate"), and total net charge-offs for the class as a percentage of average classified loans in the class ("classified loss rate"). Classified loans are those with risk ratings that indicate credit quality is "substandard", "doubtful" or "loss". Net charge-offs in both calculations include charge-offs and recoveries of classified and non-classified loans as well as those associated with impaired loans. Class historical loss rates are applied to collectively-evaluated non-classified loan balances, and classified historical loss rates are applied to collectivelyevaluated classified loan balances.

Qualitative factors are evaluated and allocations are applied to each class. Qualitative factors include delinquency rates, loan quality and concentrations, loan officers' experience, changes in lending policies and changes in the loan review process. Economic factors such as unemployment rates, bankruptcy rates and others are evaluated, with standard allocations applied consistently to relevant classes.

The Company accrues additional allocations for criticized loans within each class and for loans designated high risk. Criticized loans include classified loans as well as loans rated "special mention". Loans rated special mention indicate weakened credit quality but to a lesser degree than classified loans. High risk loans are defined as junior lien mortgages, loans with high loan-to-value ratios and loans with terms that require interest only payments. Both criticized loans and high risk loans are included in the base risk analysis for each class and are allocated additional reserves.

## Estimation of the allowance for loan losses

The estimation of the allowance involves analysis of internal and external variables, methodologies, assumptions and our judgment and experience. Key judgments used in determining the allowance for loan losses include internal risk rating determinations, market and collateral values, discount rates, loss rates, and our view of current economic conditions. These judgments are inherently subjective and our actual losses could be greater or less than the estimate. Future estimates of the allowance could increase or decrease based on changes in the financial condition of individual borrowers, concentrations of various types of loans, economic conditions or the markets in which collateral may be sold. The estimate of the allowance accrual determines the amount of provision expense and directly affects our financial results.

The estimate of the allowance for December 31, 2018 considered market and portfolio conditions during 2018 as well as the levels of delinquencies and net charge-offs in the eight quarters prior to the quarter ended December 31, 2018. If the economy experiences a downturn, the ultimate amount of loss could vary from that estimate. For additional discussion of the allowance, see Note 5 to the consolidated financial statements and "Asset Quality," and "Provision and Allowance for Loan Losses."

## Goodwill

Goodwill is subject to at least an annual assessment for impairment by applying a fair value based test. The Company performs impairment testing in the fourth quarter of each year. The Company's most recent impairment test was performed using data from September 30, 2018. Accounting guidance provides the option of performing preliminary assessment of qualitative factors before performing more substantial testing for impairment. The Company opted not to perform the preliminary assessment. The Company's goodwill impairment analysis considered three valuation techniques appropriate to the measurement. The first technique uses the Company's market capitalization as an estimate of fair value; the second technique estimates fair value using current market pricing multiples for companies comparable to the Company; while the third technique uses current market pricing multiples for change-ofcontrol transactions involving companies comparable to the Company. Each measure indicated that the Company's fair value exceeded its book value, validating that goodwill is not impaired.

Certain key judgments were used in the valuation measurement. Goodwill is held by the Company's bank subsidiary. The bank subsidiary is $100 \%$ owned by the Company, and no market capitalization is available. Because most of the Company's assets are comprised of the subsidiary bank's equity, the Company's market capitalization was used to estimate the Bank's market capitalization. Other judgments include the assumption that the companies and transactions used as comparables for the second and third technique were appropriate to the estimate of the Company's fair value, and that the comparable multiples are appropriate indicators of fair value, and compliant with accounting guidance.

## Other Real Estate Owned ("OREO")

Real estate acquired through, or in lieu of, foreclosure is held for sale and is stated at fair value of the property, less estimated disposal costs, if any. Any excess of cost over the fair value less costs to sell at the time of acquisition is charged to the allowance for loan losses. The fair value is reviewed periodically by management and any write-downs are charged against current earnings. Accounting policy and treatment is consistent with accounting for impaired loans described above.

## Pension Plan

The Company's actuary determines plan obligations and annual pension expense using a number of key assumptions. Key assumptions may include the discount rate, the estimated return on plan assets and the anticipated rate of compensation increases. Changes in these assumptions in the future, if any, or in the method under which benefits are calculated may impact pension assets, liabilities or expense.

## Other Than Temporary Impairment of Securities ("OTTI")

Impairment of securities occurs when the fair value of a security is less than its amortized cost. For debt securities, impairment is considered other-than-temporary and recognized in its entirety in net income if either (i) the Company intends to sell the security or (ii) it is more likely than not that the Company will be required to sell the security before recovery of its amortized cost basis. If, however, the Company does not intend to sell the security and it is not more likely than not that the Company will be required to sell the security before recovery, the Company must determine what portion of the impairment is attributable to a credit loss, which occurs when the amortized cost basis of the security exceeds the present value of the cash flows expected to be collected from the security. If there is no credit loss, there is no other-than-temporary impairment. If there is a credit loss, other-than-temporary impairment exists, and the credit loss must be recognized in net income and the remaining portion of impairment must be recognized in other comprehensive income (loss). The Company regularly reviews each investment security for other-than-temporary impairment based on criteria that include the extent to which cost exceeds market price, the duration of that market decline, the financial health of and specific prospects for the issuer, the Company's best estimate of the present value of cash flows expected to be collected from debt securities, the Company's intention with regard to holding the security to maturity and the likelihood that the Company would be required to sell the security before recovery.

## Overview

National Bankshares, Inc. is a financial holding company incorporated under the laws of Virginia. Located in southwest Virginia, NBI has two wholly-owned subsidiaries, the National Bank of Blacksburg and National Bankshares Financial Services, Inc. The National Bank of Blacksburg ("NBB"), which does business as National Bank from twenty-five office locations and one loan production office, is a community bank. NBB is the source of nearly all of the Company's revenue. National Bankshares Financial Services, Inc. ("NBFS") does business as National Bankshares Investment Services and National Bankshares Insurance Services. Income from NBFS is not significant at this time, nor is it expected to be so in the near future.

National Bankshares, Inc. common stock is listed on the NASDAQ Capital Market and is traded under the symbol "NKSH." National Bankshares, Inc. has been included in the Russell Investments Russell 3000 and Russell 2000 Indexes since June 29, 2009.

## Performance Summary

The following table presents NBI's key performance ratios for the years ending December 31, 2018 and December 31, 2017:

|  | Year Ended December 31, |  |  |
| :--- | :--- | :--- | :--- |
|  | $\mathbf{2 0 1 8}$ |  | $\mathbf{2 0 1 7}$ |
| Return on average assets | $\mathbf{1 . 2 9 \%}$ | $1.14 \%$ |  |
| Return on average equity | $\mathbf{8 . 6 5 \%}$ | $7.64 \%$ |  |
| Basic net earnings per common share | $\mathbf{\$}$ | $\mathbf{2 . 3 2}$ | $\$$ |
| Fully diluted net earnings per common share $^{\mathbf{\$}}$ | $\mathbf{2 . 3 2}$ | $\$$ | 2.03 |
| Net interest margin $^{(1)}$ | $\mathbf{3 . 3 6 \%}$ | 2.03 |  |
| Noninterest margin $^{(2)}$ | $\mathbf{1 . 4 0 \%}$ | $3.45 \%$ |  |

(1) Net Interest Margin - Non-GAAP measure of year-to-date tax equivalent net interest income divided by year-to-date average earning assets. Please see Item 7 for a reconciliation of non-GAAP measures to GAAP.
(2) Noninterest Margin - Non-GAAP measure of noninterest expense (excluding the insurance receivable write-down, provision for bad debts and income taxes) less noninterest income (excluding securities gains and losses) divided by average year-todate assets. Please see Item 7 for a reconciliation of non-GAAP measures to GAAP.

The return on average assets for the year ended December 31, 2018 was $1.29 \%$, an increase from $1.14 \%$ for the year ended December 31, 2017. The return on average equity increased from $7.64 \%$ for the year ended December 31,2017 to $8.65 \%$ for the year ended December 31, 2018.

The net interest margin decreased from $3.45 \%$ for the year ended December 31, 2017 to $3.36 \%$ for the year ended December 31, 2018. The net interest margin benefitted from Federal Reserve interest rate increases but reflected a decline in the taxable-equivalent yield of tax-advantaged loans and securities. The taxable-equivalent yield is based on the Company's statutory tax rate, which fell from $35 \%$ in 2017 to $21 \%$ in 2018 when the Tax Cuts and Jobs Act became effective.

The noninterest margin increased from $1.34 \%$ to $1.40 \%$ over the same period, while basic net earnings per common share increased from $\$ 2.03$ for the year ended December 31, 2017 to $\$ 2.32$ for the year ended December 31, 2018.

## Growth

NBI's key growth indicators are shown in the following table:

| \$ in thousands | $\mathbf{1 2 / 3 1 / 2 0 1 8}$ |  | $\mathbf{1 2 / 3 1 / 2 0 1 7}$ |
| :--- | ---: | ---: | ---: |
| Securities | $\mathbf{\$ 2 6 , 2 3 0}$ | $\$$ | 459,751 |
| Loans, net of unearned income and deferred fees and |  |  |  |
| $\quad$ costs, and the allowance for loan losses | $\mathbf{7 0 2 , 4 0 9}$ | 660,144 |  |
| Deposits | $\mathbf{1 , 0 5 1 , 9 4 2}$ | $1,059,734$ |  |
| Total assets | $\mathbf{1 , 2 5 6 , 0 3 2}$ | $1,256,757$ |  |

Total assets decreased in 2018, as a result of a decrease in customer deposits. Customer deposits decreased $\$ 7,792$ or $0.74 \%$ from December 31, 2017, with decreases mainly from maturing certificates of deposit. The liquidity provided by the maturation of securities supported growth in loans of $\$ 42,265$ or $6.40 \%$. Securities decreased by $\$ 33,521$ or $7.29 \%$.

## Asset Quality

Key indicators of NBI's asset quality are presented in the following table:

| \$ in thousands | $\mathbf{1 2 / 3 1 / 2 0 1 8}$ |  |
| :--- | ---: | :---: |
| Nonperforming loans ${ }^{(1)}$ | $\mathbf{\$ 3 , 4 2 0}$ | $\mathbf{1 2} / \mathbf{3 1 / 2 0 1 7}$ |
| Loans past due 90 days or more and accruing | $\mathbf{3 5}$ | 2,769 |
| Other real estate owned | $\mathbf{2 , 0 5 2}$ | 51 |
| Allowance for loan losses to loans ${ }^{(2)}$ | $\mathbf{1 . 0 4 \%}$ | 2,817 |
| Net charge-off ratio | $\mathbf{0 . 0 7 \%}$ | $1.19 \%$ |

(1) Nonperforming loans include nonaccrual loans plus restructured loans in nonaccrual status. Accruing restructured loans are not included.
(2) Loans are net of unearned income and deferred fees and costs.

The Company monitors asset quality indicators in managing credit risk and in determining the allowance and provision for loan losses. At December 31, 2018, nonperforming loans were $\$ 3,420$ or $0.48 \%$ of loans net of unearned income and deferred fees and costs. This compares to $\$ 2,769$ or $0.41 \%$ at December 31, 2017. Loans past due 90 days or more and still accruing at year-end 2018 totaled $\$ 35$, a decrease from $\$ 51$ at December 31, 2017. The net charge-off ratio decreased from $0.08 \%$ for the year ended December 31, 2017 to $0.07 \%$ for the year ended December 31, 2018, while other real estate owned decreased $\$ 765$ for the same period.

The Company's risk analysis determined an allowance for loan losses of $\$ 7,390$ at December 31, 2018, resulting in a recovery for the year of $\$ 81$. This compares with an allowance for loan losses of $\$ 7,925$ as of December 31, 2017, and a provision of $\$ 157$ for the year ended December 31, 2017. The ratio of the allowance for loan losses to loans decreased to $1.04 \%$, from $1.19 \%$ at December 31, 2018. The methodology for determining the allowance for loan losses relies on historical charge-off trends, modified by trends in nonperforming loans and economic indicators. More information about the level and calculation methodology of the allowance for loan losses is provided in "Provision and Allowance for Loan Losses", "Balance Sheet - Loans - Risk Elements," "Balance Sheet - Loans - Troubled Debt Restructurings," as well as Notes 1 and 5 to the financial statements.

Sufficient resources have been dedicated to working out problem assets, and exposure to loss is somewhat mitigated because most of the nonperforming loans are collateralized. More information about nonaccrual and past due loans is provided in "Balance Sheet Loans - Risk Elements" and Note 5 to the financial statements. The Company continues to monitor risk levels within the loan portfolio and expects that any further increase in the allowance for loan losses would be the result of the refinement of loss estimates and would not dramatically affect net income.

## Net Interest Income

Net interest income for the year ended December 31, 2018 was $\$ 38,177$, an increase of $\$ 1,042$, or $2.81 \%$, when compared to the prior year. The net interest margin for 2018 was $3.36 \%$, compared to $3.45 \%$ for 2017 . Total interest income for the period ended December 31, 2018 was $\$ 43,224$, an increase of $\$ 1,964$ from the period ended December 31, 2017. Interest expense increased by $\$ 922$ during the same time frame, from $\$ 4,125$ for the year ended December 31, 2017 to $\$ 5,047$ for the year ended December 31, 2018. The increase in interest expense came about in part because of deposit pricing increases required to remain competitive in a rising interest rate environment. The Company also engaged in short-term borrowings during 2018 to meet loan demand while anticipating maturity of securities and an increase in deposits that is typical during the fourth quarter. Please refer to the section titled "Analysis of Changes In Interest Income and Interest Expense" for further information related to rate and volume changes.

The amount of net interest income earned is affected by various factors, including changes in market interest rates due to the Federal Reserve Board's monetary policy, U.S. fiscal policy, the level and composition of the earning assets and the composition of interestbearing liabilities. The Company has the ability to respond over time to interest rate movements and reduce volatility in the net interest margin. However, the frequency and/or magnitude of changes in market interest rates are difficult to predict and may have a greater impact on net interest income than adjustments by management.

The Federal Reserve increased its target federal funds rate by 25 basis points in December 2017 and raised rates by 25 basis points again in March, June, September and December, 2018, ending the year at a target of $2.50 \%$. The rate increases positively affected the yield on the Company's interest-bearing deposits in other banks and taxable securities for 2018. The yield on interest-bearing deposits increased from $1.10 \%$ for 2017 to $1.84 \%$ for 2018 and the yield on taxable securities increased from $1.82 \%$ for 2017 to $2.07 \%$ for 2018 . The rate increases also positively affected the yield on loans, but was offset by the decline in the Company's tax rate. The Tax Cuts and Jobs Act became effective January 1, 2018 and decreased the Company's tax rate from a marginal $35 \%$ to a flat $21 \%$. The resulting decrease in the fully taxable equivalent value of income on tax-exempt loans exceeded the benefit of the rate increases.

The primary source of funds used to support the Company's interest-earning assets is deposits. Deposits are obtained in the Company's trade area through traditional marketing techniques. Other funding sources, such as the Federal Home Loan Bank, while
available, are only used occasionally. The cost of funds is dependent on interest rate levels and competitive factors. This limits the ability of the Company to react to interest rate movements.

Federal Reserve policies and market forces influence the Company's net interest margin. Rates may increase or decrease in the future. The Company anticipates any rate increases will have a positive impact on the Company's future net interest income. Management cannot predict the timing and level of interest rate movements.

## Analysis of Net Interest Earnings

The following table shows the major categories of interest-earning assets and interest-bearing liabilities, the interest earned or paid, the average yield or rate on the daily average balance outstanding, net interest income and net yield on average interest-earning assets for the years indicated.

|  | December 31, 2018 |  |  |  | December 31, 2017 |  |  |  |  | December 31, 2016 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| \$ in thousands |  | Average <br> Balance | Interest | Average Yield/ Rate |  | Average <br> Balance |  | Interest | Average Yield/ Rate |  | Average Balance | Interest | Average Yield/ Rate |
| Interest-earning assets: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Loans, net of unearned income and deferred fees and costs (1)(2)(3)(4) | \$ | 683,624 | \$ 31,739 | 4.64\% | \$ | 653,756 |  | 30,593 | 4.68\% | \$ | 622,239 \$ | 29,993 | 4.82\% |
| Taxable securities ${ }^{(5)}$ |  | 340,594 | 6,856 | $2.01 \%$ |  | 313,255 |  | 5,711 | 1.82\% |  | 280,842 | 5,910 | 2.10\% |
| Nontaxable securities ${ }^{(1)(5)}$ |  | 123,668 | 5,544 | 4.48\% |  | 131,762 |  | 7,462 | 5.66\% |  | 139,429 | 7,932 | 5.69\% |
| Interest-bearing deposits |  | 36,562 | 672 | 1.84\% |  | 71,603 |  | 791 | 1.10\% |  | 102,819 | 532 | 0.52\% |
| Total interest-earning assets |  | 1,184,448 | \$ 44,811 | 3.78\% | \$ | 1,170,376 |  | 44,557 | 3.81\% | \$ | 1,145,329 \$ | 44,367 | 3.87\% |
| Interest-bearing liabilities: |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Interest-bearing demand deposits | \$ | 606,766 | \$ 4,121 | 0.68\% | \$ | 598,661 | \$ | 3,344 | 0.56\% | \$ | 567,971 \$ | 3,144 | 0.55\% |
| Savings deposits |  | 140,918 | 236 | 0.17\% |  | 140,997 |  | 244 | 0.17\% |  | 134,982 | 315 | 0.23\% |
| Time deposits |  | 105,674 | 526 | 0.50\% |  | 120,220 |  | 537 | 0.45\% |  | 140,490 | 707 | 0.50\% |
| Borrowings |  | 7,192 | 164 | 2.28\% |  | --- |  | --- | --- |  | --- | --- | --- |
| Total interest-bearing liabilities | \$ | 860,550 | \$ 5,047 | 0.59\% | \$ | 859,878 | \$ | 4,125 | 0.48\% | \$ | 843,443 \$ | 4,166 | 0.49\% |
| Net interest income ${ }^{(1)}$ and interest rate spread |  |  | \$ 39,764 | 3.19\% |  |  | \$ | 40,432 | 3.33\% |  | \$ | 40,201 | 3.38\% |
| Net yield on average interest-earning assets |  |  |  | 3.36\% |  |  |  |  | 3.45\% |  |  |  | 3.51\% |

(1) Interest on nontaxable loans and securities is computed on a fully taxable equivalent basis using a Federal income tax rate of $21 \%$ in 2018 and $35 \%$ in 2017 and 2016.
(2) Loan fees of $\$ 115$ in 2018, $\$ 303$ in 2017 and $\$ 360$ in 2016 are included in total interest income.
(3) Nonaccrual loans are included in average balances for yield computations.
(4) Includes loans held for sale.
(5) Daily averages are shown at amortized cost.

The following table reconciles net interest income on a fully-taxable equivalent basis to net interest income on a GAAP basis.

| \$ in thousands | December 31, |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
|  |  | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 6}$ |  |
| Net interest income, GAAP | $\mathbf{\$}$ | $\mathbf{3 8 , 1 7 7}$ | $\$$ | 37,135 | $\$$ |
| Taxable equivalent adjustment |  | $\mathbf{1 , 5 8 7}$ | 3,297 | 36,764 |  |
| Net interest income, fully taxable equivalent | $\mathbf{\$}$ | $\mathbf{3 9 , 7 6 4}$ | $\$$ | 40,432 | $\$$ |

## Analysis of Changes in Interest Income and Interest Expense

The Company's primary source of revenue is net interest income, which is the difference between the interest and fees earned on loans and investments and the interest paid on deposits and other funds. The Company's net interest income is affected by changes in the amount and mix of interest-earning assets and interest-bearing liabilities and by changes in yields earned on interest-earning assets and rates paid on interest-bearing liabilities. The following table sets forth, for the years indicated, a summary of the changes in interest income and interest expense resulting from changes in average asset and liability balances (volume) and changes in average interest rates (rate).
\$ in thousands

|  | Changes Due To |  |  |  | Changes Due To |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rates ${ }^{(2)}$ |  | Volume ${ }^{(2)}$ |  | Net Dollar Change |  | Rates ${ }^{(2)}$ |  | Volume ${ }^{(2)}$ |  | Net Dollar Change |  |
| Interest income: ${ }^{(1)}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| Loans | \$ | (243) | \$ | 1,389 | \$ | 1,146 | \$ | (891) | \$ | 1,491 | \$ | 600 |
| Taxable securities |  | 623 |  | 522 |  | 1,145 |  | (839) |  | 640 |  | (199) |
| Nontaxable securities |  | $(1,482)$ |  | (436) |  | $(1,918)$ |  | (36) |  | (434) |  | (470) |
| Interest-bearing deposits |  | 377 |  | (496) |  | (119) |  | 460 |  | (201) |  | 259 |
| Increase (decrease) in income on interest-earning assets | \$ | (725) | \$ | 979 | \$ | 254 | \$ | $(1,306)$ | \$ | 1,496 | \$ | 190 |
| Interest expense: |  |  |  |  |  |  |  |  |  |  |  |  |
| Interest-bearing demand deposits | \$ | 731 | \$ | 46 | \$ | 777 | \$ | 29 | \$ | 171 | \$ | 200 |
| Savings deposits |  | (8) |  | --- |  | (8) |  | (84) |  | 13 |  | (71) |
| Time deposits |  | 58 |  | (69) |  | (11) |  | (74) |  | (96) |  | (170) |
| Short-term borrowings |  | --- |  | 164 |  | 164 |  | --- |  | --- |  | --- |
| Increase (decrease) in expense of interest-bearing liabilities | \$ | 781 | \$ | 141 | \$ | 922 | \$ | (129) | \$ | 88 | \$ | (41) |
| Increase (decrease) in net interest income |  | $(1,506)$ | \$ | 838 | \$ | (668) | \$ | $(1,177)$ | \$ | 1,408 | \$ | 231 |

(1) Taxable equivalent basis using a Federal income tax rate of $21 \%$ in 2018 and $35 \%$ in 2017 and 2016.
(2) Variances caused by the change in rate times the change in volume have been allocated to rate and volume changes proportional to the relationship of the absolute dollar amounts of the change in each.

Net interest income on a taxable-equivalent basis decreased $\$ 668$ when 2018 is compared with 2017. Total interest income on a taxable equivalent basis increased $\$ 254$ while total interest expense increased by $\$ 922$. A decline in the yield of interest-earning assets and an increase in the yield on interest-bearing liabilities decreased net interest income by $\$ 1,506$, offset by increases due to volume of $\$ 838$.

The Federal Reserve increased rates by 25 basis points in December 2017 and four times in 2018. The rate increases had a direct and immediate effect on the Company's interest-bearing deposits. Interest income on interest-bearing deposits increased $\$ 377$ due to rates, but declined by $\$ 496$ due to reduced volume, for a net decrease of $\$ 119$ when 2018 is compared with 2017. Taxable securities also benefitted from the increased interest rate environment, as matured and called securities were invested at higher rates. Interest income on taxable securities increased $\$ 1,145$ when 2018 is compared with 2017 , the result of an increase of $\$ 522$ due to volume along with an increase of $\$ 623$ due to rates.

Taxable equivalent interest income on loans increased $\$ 1,146$ when 2018 and 2017 are compared, due to robust growth in the loan portfolio. The average balance of loans increased from $\$ 653,756$ in 2017 to $\$ 683,624$ in 2018 , increasing interest income by $\$ 1,389$. Increase due to volume was offset slightly by a decrease of $\$ 243$ due to yield. Taxable equivalent yields on tax-advantaged loans were negatively impacted by a decrease in the Company's statutory tax rate from $35 \%$ in 2017 to $21 \%$ in 2018 . If the $35 \%$ rate were applicable during 2018, yields would have shown an increase.

Taxable-equivalent interest on non-taxable securities declined $\$ 1,482$ due to rates and $\$ 436$ due to volume. The lower yields available upon reinvestment of called and matured securities negatively impacted income from securities during 2018.

Interest on time deposits declined $\$ 11$ from 2017 to 2018, with a increase of $\$ 58$ due to rates offset by a decline of $\$ 69$ due to decreased volume. See "Net Interest Income" for additional information related to the decline in interest expense.

When 2017 is compared with 2016, taxable-equivalent net interest income increased by $\$ 231$. Total interest income on a taxable equivalent basis increased $\$ 190$ while total interest expense declined by $\$ 41$. Declining yields impacted net interest income by $\$ 1,177$, offset by increases due to volume of $\$ 1,408$.

The Federal Reserve increased rates by 25 basis points in December 2016 and three times in 2017. The rate increases had a direct and immediate effect on the Company's interest-bearing deposits. Interest income on interest-bearing deposits increased $\$ 460$ due to rates, but declined by $\$ 201$ due to reduced volume, for a net increase of $\$ 259$ when 2017 is compared with 2016. The Company's securities and loan portfolios did not experience a similar increase in yields due to the longer-term nature of the portfolios, reinvestment opportunities in the bond market and the competitive lending environment of the Company's market area.

Taxable equivalent interest income on loans increased $\$ 600$ when 2017 and 2016 are compared. The average balance of loans increased from $\$ 622,239$ in 2016 to $\$ 653,756$ in 2017 , increasing interest income by $\$ 1,491$. Lower yields reduced interest income by $\$ 891$.

Interest income on taxable securities decreased $\$ 199$ when 2017 is compared with 2016 , the result of an increase of $\$ 640$ due to volume offset by a decline of $\$ 839$ due to rates. Taxable-equivalent interest on non-taxable securities declined $\$ 36$ due to rates and $\$ 434$ due to volume. The low interest rate environment in 2016 resulted in a large number of called securities at a time when re-investment opportunities were less attractive than the yields on the original called securities. The lower yields available upon reinvestment of the call securities negatively impacted income from securities during 2017. Because of low yields in the securities markets and a highly competitive loan environment, the Company priced deposits accordingly.

Interest on time deposits declined $\$ 170$ from 2016 to 2017, with a decline of $\$ 74$ due to rates and $\$ 96$ due to decreased volume.

## Interest Rate Sensitivity

The Company considers interest rate risk to be a significant risk and has systems in place to measure the exposure of net interest income and fair market values to movement in interest rates. Among the tools available to management is interest rate sensitivity analysis, which provides information related to repricing opportunities. Interest rate shock simulations indicate potential economic loss due to future interest rate changes. Shock analysis is a test that measures the effect of a hypothetical, immediate and parallel shift in interest rates. The following table shows the results of a rate shock and the effects on the return on average assets and the return on average equity projected at December 31, 2018 and 2017. For purposes of this analysis, noninterest income and expenses are assumed to be flat.

| Rate Shift (bp) | Return on Average Assets |  | Return on Average Equity |  |
| :---: | :--- | :--- | :--- | :--- |
|  | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 7}$ |
| 300 | $\mathbf{1 . 3 8 \%}$ | $1.37 \%$ | $\mathbf{8 . 8 4 \%}$ | $9.13 \%$ |
| 200 | $\mathbf{1 . 3 9 \%}$ | $1.40 \%$ | $\mathbf{8 . 9 2 \%}$ | $9.28 \%$ |
| 100 | $\mathbf{1 . 4 0 \%}$ | $1.42 \%$ | $\mathbf{8 . 9 5 \%}$ | $9.42 \%$ |
| $(-) 100$ | $\mathbf{1 . 3 2 \%}$ | $1.37 \%$ | $\mathbf{8 . 4 6 \%}$ | $9.06 \%$ |
| $(-) 200$ | $\mathbf{1 . 1 6 \%}$ | $1.23 \%$ | $\mathbf{7 . 4 7 \%}$ | $8.17 \%$ |
| $(-) 300$ | $\mathbf{1 . 1 2 \%}$ | $1.25 \%$ | $\mathbf{7 . 3 2 \%}$ | $8.33 \%$ |

Simulation analysis is another tool available to the Company to test asset and liability management strategies under rising and falling rate conditions. As a part of the simulation process, certain estimates and assumptions must be made. These include, but are not limited to, asset growth, the mix of assets and liabilities, rate environment and local and national economic conditions. Asset growth and the mix of assets can, to a degree, be influenced by management. Other areas, such as the rate environment and economic factors, cannot be controlled. In addition, competitive pressures can make it difficult to price deposits and loans in a manner that optimally minimizes interest rate risk. Therefore, actual results may vary materially from any particular forecast or shock analysis. This shortcoming is offset somewhat by the periodic reforecasting of the balance sheet to reflect current trends and economic conditions. Shock analysis must also be updated periodically as a part of the asset and liability management process.

## Noninterest Income

| \$ in thousands | Year Ended |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
|  | December 31, 2018 | December 31, 2017 | December 31, 2016 |  |  |
| Service charges on deposits | $\mathbf{\$}$ | $\mathbf{2 , 6 7 8}$ | $\$$ | 2,776 | $\$$ |
| Other service charges and fees | $\mathbf{1 3 2}$ | 205 | 2,458 |  |  |
| Credit card fees | $\mathbf{1 , 4 3 1}$ | 1,205 | 212 |  |  |
| Trust fees | $\mathbf{1 , 5 6 5}$ | 1,530 | 981 |  |  |
| Bank-owned life insurance income | $\mathbf{9 0 1}$ | 758 | 1,346 |  |  |
| Other income | $\mathbf{1 , 0 0 5}$ | 1,148 | 597 |  |  |
| Realized securities gains | $\mathbf{1 7}$ | 14 | 1,289 |  |  |
| Total noninterest income | $\mathbf{7 , 7 2 9}$ | $\$$ | 7,636 | $\$$ | 232 |

Service charges on deposit accounts totaled $\$ 2,678$ for the year ended December 31, 2018. This is a decrease of $\$ 98$, or $3.53 \%$, from $\$ 2,776$ for the year ended December 31, 2017. Service charges on deposit accounts increased \$318, or 12.94\%, from 2016 to 2017. This income category is affected by the number of deposit accounts, the level of service charges and the number of checking account overdrafts. The 2018 decrease was driven by a decrease in fees from a lower volume of customer non-sufficient funds and overdraft activity. The 2017 increase resulted primarily from an increase of $\$ 325$ in non-sufficient funds and overdraft fees due to implementation of a new overdraft privilege program during the second half of 2016.

Other service charges and fees include charges for official checks, income from the sale of checks to customers, safe deposit box rent, fees from letters of credit and income from commissions on the sale of credit life, accident and health insurance. These fees were $\$ 132$ for the year ended December 31, 2018, a decrease of $\$ 73$, or $35.61 \%$, from the $\$ 205$ for 2017 . The decline resulted from service charges on letters of credit and check charges. The total for the year ended December 31, 2017 was $\$ 7$ below the $\$ 212$ posted for the year ended December 31, 2016.

Credit card fees for the year ended December 31, 2018, were $\$ 226$ above the $\$ 1,205$ reported for the year ended December 31, 2017. From 2016 to 2017 , credit card fees increased $\$ 224$, or $22.83 \%$. Credit card fees are presented net of certain processing expenses and are dependent on the volume of transactions.

Trust fees at $\$ 1,565$ increased by $\$ 35$ or $2.29 \%$ when the years ended December 31, 2018 and 2017 are compared. For the year ended December 31, 2017 trust fees were $\$ 1,530$, an increase of $\$ 184$, or $13.67 \%$, from 2016 . Trust fees are generated from a number of different types of accounts, including estates, personal trusts, employee benefit trusts, investment management accounts, attorney-infact accounts and guardianships. Trust income varies depending on the number and type of accounts under management and financial market conditions. The mix of account types affected the level of trust fees in 2017 and 2018.

Noninterest income from bank-owned life insurance (BOLI) increased, from $\$ 758$ for the year ended December 31, 2017 to $\$ 901$ for 2018. The Company purchased an additional $\$ 10$ million in BOLI in June 2017. BOLI income for the year ended December 31, 2016 was $\$ 597$. Income from bank-owned life insurance was affected by the performance of the variable rate policies, which has not varied significantly.

Other income is income from smaller balance accounts that cannot be classified in another category. Some examples include gains on mortgage loans sold, net gains from the sale of fixed assets and revenue from investment and insurance sales. Other income for 2018 was $\$ 1,005$, a decrease of $\$ 143$, or $12.46 \%$, when compared with $\$ 1,148$ for the year ended December 31, 2017. In December 2017, the Company realized a gain on the sale of its Marion branch office of $\$ 134$. When 2017 is compared with 2016, the gain on the sale of fixed assets was offset by a decline of $\$ 69$ from the sale of mortgage loans due to lower volume, and a decline of $\$ 230$ due to a onetime vendor signing incentive received in 2016, resulting in a net decrease of \$141 from 2016.

During 2018, the $\$ 17$ realized securities gain stemmed from the call of one security with a gain of $\$ 1$ and the sale of another security for a gain of $\$ 16$. During 2017, the Company sold a small investment in community bank stock that resulted in a gain of $\$ 4$ while all other net realized gains resulted from calls of securities. During 2016, all realized securities gains resulted from calls of securities.

## Noninterest Expense

| \$ in thousands | Year Ended |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
|  | December 31, 2018 | December 31, 2017 | December 31, 2016 |  |  |
| Salaries and employee benefits | $\mathbf{\$}$ | $\mathbf{1 4 , 5 0 6}$ | $\$$ | 13,670 | $\$$ |
| Occupancy, furniture and fixtures | $\mathbf{1 , 8 4 5}$ | 1,820 | 12,684 |  |  |
| Data processing and ATM | $\mathbf{2 , 7 8 4}$ | 2,280 | 1,849 |  |  |
| FDIC assessment | $\mathbf{3 5 9}$ | 364 | 2,151 |  |  |
| Intangibles amortization | $\mathbf{5 0}$ | 68 | 476 |  |  |
| Net costs of other real estate owned | $\mathbf{5 5 3}$ | 205 | 257 |  |  |
| Franchise taxes | $\mathbf{1 , 2 7 8}$ | 1,315 | 472 |  |  |
| Write-down of insurance receivable | $\mathbf{2 , 0 1 0}$ | --- | 1,296 |  |  |
| Other operating expenses | $\mathbf{3 , 8 9 1}$ | 4,507 | 347 |  |  |
| Total noninterest expense | $\mathbf{2 7 , 2 7 6}$ | $\$$ | 24,229 | $\$$ | 3,803 |

Salary and benefits expense increased $\$ 836$, or $6.12 \%$, from $\$ 13,670$ for the year ended December 31, 2017 to $\$ 14,506$ for 2018. Employee salaries decreased $\$ 135$ or $1.35 \%$, from $\$ 9,968$ for 2017 to $\$ 9,833$ for 2018 due to normal staffing and compensation decisions. Fringe benefits increased $\$ 467$, or $24.89 \%$, from $\$ 1,874$ for the year ended December 31, 2017 to $\$ 2,341$ for 2018. In 2017, fringe benefits expense was reduced by a one-time $\$ 175,000$ refund, while in 2018 the expense increased $\$ 240$ for reserve requirements based on claims history. Other salary expenses include expenses for contributions to the employee stock ownership program, pension, salary continuation and incentives. Other salary expense increased $\$ 231$, or $15.66 \%$, from $\$ 1,476$ for the year ended December 31, 2017 to $\$ 1,707$ for 2018 as the result of increased contributions and expenses related to the employee stock ownership plan and the pension plan. Also impacting salary expense was an increase of $\$ 170$ for deferred costs associated with loan production.

When 2017 is compared with 2016, salary and benefits expense increased $\$ 986$, or $7.77 \%$, from $\$ 12,684$ for the year ended December 31,2016 to $\$ 13,670$ for 2017. Employee salaries increased $\$ 256$ or $2.63 \%$ which was the result of normal staffing and compensation decisions. Expense associated with the health insurance reserve increased $\$ 419$. The Company participates in a "self-funded" insurance plan and reserves amounts based on employee health insurance usage and calculated projections. In 2016, the Company benefitted from refunds due to a change in the calculation of the required minimum reserve and from positive claims history. The Company began in 2017, a new incentive compensation program for senior employees, which contributed $\$ 280$ to the increase. The increases were offset by a $\$ 101$ decrease in salary expense related to deferred costs associated with loan production.

Occupancy, furniture and fixtures expense was $\$ 1,845$ for the year ended December 31,2018 , an increase of $\$ 25$, or $1.37 \%$, from the prior year. When 2017 is compared with 2016, the expense decreased $\$ 29$ or $1.57 \%$ due to higher expenditures on security equipment and building maintenance in 2016.

Data processing and ATM expense was $\$ 2,784$ in 2018, $\$ 2,280$ in 2017 and $\$ 2,151$ in 2016. The increase of $\$ 504$ or $22.11 \%$ from 2017 to 2018 and $\$ 129$ or $6.00 \%$ from 2016 to 2017 was due to increased maintenance expense associated with infrastructure upgrades. The Company is committed to maintaining up-to-date technology in a cost-effective manner.

When the years ended December 31, 2018 and December 31, 2017 are compared, the Federal Deposit Insurance Corporation assessment expense decreased $\$ 5$ or $1.37 \%$. The total expense for 2018 was $\$ 359$, which compares with $\$ 364$ for 2017. The FDIC assessment is accrued based on a method provided by the FDIC. The FDIC's Deposit Insurance Fund reserve ratio reached a target threshold during the second quarter of 2016, resulting in lower FDIC insurance expense for many federally insured institutions. The FDIC assessment expense for the year ended December 31, 2017 decreased $\$ 112$ from $\$ 476$ for 2016.

The expense for intangibles amortization is related to acquisitions. There were no acquisitions in the last year, and the expense for 2018 decreased from 2017 by $\$ 18$ or $26.47 \%$. The expense for intangibles amortization decreased $\$ 189$ from 2016 to 2017. The decrease in core deposit intangibles amortization from 2016 to 2017 and from 2017 to 2018 is due to certain core deposit intangibles becoming fully amortized. As of December 31, 2018, all core deposits are fully amortized.

Net costs of other real estate owned increased from $\$ 205$ for the period ended December 31, 2017 to $\$ 553$ for the year ended December 31, 2018. From 2016 to 2017, net costs of other real estate owned decreased $\$ 267$ from $\$ 472$. This expense category varies with the number of foreclosed properties owned by NBB and with the expense associated with each. It includes write-downs on other real estate owned plus other costs associated with carrying these properties, as well as net gains or losses on the sale of other real estate. In 2018, write-downs on other real estate were $\$ 476$. This compares with $\$ 113$ in 2017 and $\$ 268$ in 2016. Other real estate is initially accounted for at fair value less estimated costs to sell using current valuations, which include appraisals, real estate evaluations and realtor market opinions. If new valuation information indicates a decline from the initial basis, the Company records a write-down. Other costs for these properties in 2018 were $\$ 64$, compared with $\$ 80$ in 2017 and $\$ 118$ in 2016. The Company recorded a loss of $\$ 13$ on the sale of OREO in 2018, a loss of $\$ 12$ for 2017 and a loss of $\$ 86$ for 2016. The Company's market area is showing positive economic signs, and the national economy appears to show mixed economic signals. We anticipate that there may be additional foreclosures in the future. The Company currently has loans of $\$ 140$ in process of foreclosure.

Franchise taxes are based upon NBB's total equity at the prior year-end, adjusted for real estate taxes and certain other items. Franchise taxes were $\$ 1,278$ for the period ended December 31, 2018 and $\$ 1,315$ for 2017, a decrease of $\$ 37$ or $2.81 \%$ due to a refinement in the accrual. Franchise tax expense increased \$19 in 2017 from \$1,296 in 2016.

The write-down of insurance receivables totaled $\$ 2,010$ for the year ended December 31, 2018. The Company recognized a previous write-down in 2016 for $\$ 347$. The write-downs are associated with the two cybersecurity breaches. Please see additional information under the heading Cybersecurity Risks and Incidents.

The category of other operating expenses includes noninterest expense items such as professional services, stationery and supplies, telephone costs and charitable donations. For the year ended December 31, 2018, other operating expenses were $\$ 3,891$. This compares with $\$ 4,507$ for 2017 and $\$ 3,803$ for 2016 . The $\$ 616$ decrease from 2017 to 2018 was due to a loss of $\$ 189$ resulting from a wire fraud in 2017 and a decrease in expenses associated with consulting services related to the cybersecurity breaches and the non-servicing component of pension expense. The $\$ 704$ increase from 2016 to 2017 was due to the loss of $\$ 189$ resulting from a wire fraud and an increase in expenses associated with the overdraft program, legal fees, and audit and consulting services.

## Cybersecurity Risks and Incidents

The Company treats cybersecurity risk seriously. The Company has a program to identify, mitigate and manage its cybersecurity risks. The program includes penetration testing and vulnerability assessment, technological defenses such as antivirus software, patch management, firewall management, email and web protections, an intrusion prevention system, a cybersecurity insurance policy which covers some but not all losses arising from cybersecurity breaches, as well as ongoing employee training. The costs of these measures were $\$ 224$ for the twelve months ended December 31, 2018 and $\$ 153$ for the twelve months ended December 31, 2017. These costs are included in various categories of noninterest expense.

The Company experienced two intrusions to its digital systems, one in May 2016 and one in January 2017. Hackers and related organized criminal groups obtained unauthorized access to certain customer accounts. The attacks disabled certain systems protections, including limits on the number, amount, and frequency of ATM withdrawals. The attacks resulted in the theft of funds disbursed through ATMs. In the May 2016 attack, hackers accessed customer funds and in the January 2017 intrusion, the hackers artificially inflated account balances and did not access customer funds. The Company notified all affected customers, and restored all funds so that no customer experienced a loss.

The Company retained a nationally recognized firm to investigate and remediate the May 2016 intrusion and a separate nationally recognized firm to investigate and remediate the January 2017 intrusion. The Company adopted and implemented all of the recommendations provided through the investigations.

The financial impact of the attacks include the amount of the theft, as well as costs of investigation and remediation. The theft of funds totaled $\$ 570$ in the May 2016 attack and $\$ 1,838$ in the January 2017 attack. The Company recognized an estimated loss of $\$ 347$ in 2016, and $\$ 2,010$ in 2018 currently recognizes an insurance receivable in other assets of $\$ 50$. The insurance carrier offered a settlement of $\$ 50$ in 2018 and the Company filed suit to recover additional amounts. Litigation procedures were in process as of December 31, 2108. Costs for investigation, remediation, and legal consultation totaled \$224 in 2018, \$407 in 2017 and \$46 in 2016. The Company's litigation against the insurance carrier was settled during the first quarter of 2019, subject to a non-disclosure agreement. As of December 31, 2018, the Company has appropriately accounted for the breaches. There has been no litigation against the Company to date associated with the breaches.

We have deployed a multi-faceted approach to limit the risk and impact of unauthorized access to customer accounts and to information relevant to customer accounts. We use digital technology safeguards, internal policies and procedures, and employee training to reduce the exposure of our systems to cyber-intrusions. However, it is not possible to fully eliminate exposure. The potential for financial and reputational losses due to cyber-breaches is increased by the possibility of human error, unknown system susceptibilities, and the rising sophistication of cyber-criminals to attack systems, disable safeguards and gain access to accounts and related information. The Company maintains insurance which provides a degree of coverage depending on the nature and circumstances of any cyber penetration but cannot be relied upon to reimburse fully the Company for all losses that may arise. The Company has adopted new protections and invested additional resources to increase its security.

## Income Taxes

Income tax expense for 2018 was $\$ 2,560$ compared to $\$ 6,293$ in 2017 and $\$ 3,952$ in 2016. During 2018, the Company's statutory tax rate was $21 \%$; during 2017 and 2016, the Company's marginal tax rate was $35 \%$. The decrease in the tax rate was due to the enactment on December 22, 2017 of the Tax Cuts and Jobs Act, which became effective January 1, 2018.

The Company's effective tax rates for 2018,2017 and 2016 were $13.68 \%, 30.87 \%$ and $20.92 \%$, respectively. The expected income tax expense based on the Company's statutory tax rate differs from the actual income tax expense due to tax exempt income on municipal securities and loans, and in 2017, the re-valuation of deferred tax assets from $35 \%$ to $21 \%$. Generally accepted accounting principles in the United States ("GAAP") require deferred tax assets to be valued at the tax rate at which the Company expects to realize them. As a result of the change in the Company's tax rate, the Company recognized a revaluation adjustment of $\$ 1.56$ million in 2017, with a corresponding charge to income tax expense. See Note 9 of the Notes to Consolidated Financial Statements for information relating to income taxes.

## Effects of Inflation

The Company's consolidated statements of income generally reflect the effects of inflation. Since interest rates, loan demand and deposit levels are related to inflation, the resulting changes are included in net income. The most significant item which does not reflect the effects of inflation is depreciation expense. Historical dollar values used to determine depreciation expense do not reflect the effects of inflation on the market value of depreciable assets after their acquisition.

## Provision and Allowance for Loan Losses

The Company's risk analysis at December 31, 2018 determined an allowance for loan losses of $\$ 7,390$ or $1.04 \%$ of loans net of unearned income and deferred fees and costs, a decrease from $\$ 7,925$ or $1.19 \%$ at December 31, 2017. The determination of the appropriate level for the allowance for loan losses resulted in a recovery of $\$ 81$ for the twelve months ended December 30, 2018, compared with a provision for the twelve month period ended December 31, 2017 of $\$ 157$. The recovery for the three-month periods ended December 31, 2018 and December 31, 2017 totaled $\$ 174$ and $\$ 567$, respectively. To determine the appropriate level of the allowance for loan losses, the Company considers credit risk for certain loans designated as impaired and for non-impaired ("collectively evaluated") loans.

Individually evaluated impaired loans totaled $\$ 6,820$ on a gross basis and as well as net of unearned income and deferred fees and costs, with specific allocations to the allowance for loan losses totaling $\$ 139$ at December 31, 2018. Individually evaluated impaired loans at December 31, 2017 were $\$ 11,924$ on a gross basis and $\$ 11,919$ net of unearned income and deferred fees and costs, with specific allocations to the allowance for loan losses of $\$ 177$. The specific allocation is determined based on criteria particular to each impaired loan.

Collectively evaluated loans totaled $\$ 703,577$ on a gross basis and $\$ 702,979$ net of unearned income and deferred fees and costs, with an allowance of $\$ 7,251$ or $1.03 \%$ at December 31, 2018. At December 31, 2017, collectively evaluated loans totaled $\$ 656,758$ on a gross basis and $\$ 656,150$ net of unearned income and deferred fees and costs, with an allowance of $\$ 7,748$ or $1.18 \%$.

For collectively evaluated loans, the Company applies to each loan class a historical net charge-off rate, adjusted for qualitative factors that influence credit risk. Qualitative factors evaluated for impact to credit risk include economic measures, asset quality indicators, loan characteristics, and internal Bank policies and management.

Net charge-off rates for each class are averaged over 8 quarters ( 2 years) to determine the historical net charge off rate applied to each class of collectively evaluated loans. Net charge-offs for the twelve months ended December 31, 2018 were $\$ 454$ or $0.07 \%$ of average loans, an improvement from $\$ 532$ or $0.08 \%$ for the twelve months ended December 30, 2017. The 8 -quarter average historical loss rate applied to the calculation was $0.07 \%$ for December 30, 2018 and $0.17 \%$ for December 31, 2017. Increases in the net chargeoff rate increase the required allowance for collectively-evaluated loans, while decreases in the net charge-off rate decrease the required allowance for collectively-evaluated loans.

Economic factors influence credit risk and impact the allowance for loan loss. The Company considers economic indicators within its market area, including: unemployment, personal bankruptcy filings, business bankruptcy filings, the interest rate environment, residential vacancy rates, housing inventory for sale, and the competitive environment. Lower unemployment lowers credit risk and the allowance for loan losses, while higher unemployment increases credit risk. Higher bankruptcy filings indicate heightened credit risk and increase the allowance for loan losses, while lower bankruptcy filings have a beneficial impact on credit risk. The interest rate environment impacts variable rate loans. As interest rates increase, the payment on variable rate loans increases, which may increase credit risk. However the effect of gradual, measured interest rate changes does not affect credit risk as much as a volatile interest rate environment. Residential vacancy rates and housing inventory for sale impact the Company's residential construction customers and the consumer real estate market. Higher levels increase credit risk. Higher competition for loans increases credit risk, while lower competition decreases credit risk.

Within the Company's market area, the unemployment, business bankruptcies, the inventory of homes, and the residential vacancy rate improved from December 31, 2017. Personal bankruptcies and the competitive, legal and regulatory environments remained at similar levels to December 31, 2017. Interest rates increased from December 31, 2017. The Federal Reserve's rate increases have been gradual and measured and have not resulted in volatility. The Bank's adjustable rate loans appear to have absorbed the increases without negative impact, as evidenced by improving trends in charge-offs and asset quality since 2016. Because the gradual increases have not resulted in negative impact, no additional allocation was made for the rate increases during the second half of 2018.

The Company considers other factors that impact credit risk, including the risk from changes in the legal and regulatory environments, changes to lending policies and loan review, and changes in management's experience. Each of the factors remained at similar levels to December 31, 2017. Management examined the allocation to the allowance for the risk from changes in the loan review system. The allocation was a legacy from changes made in years prior to 2015. Management deemed that the risk from changes prior to 2015 would now be reflected in the historical loss rates and removed the allocation.

Asset quality indicators affect the level of the allowance for loan losses. Accruing loans past due 30-89 days were $0.23 \%$ of total loans, net of unearned income and deferred fees and costs at December 30, 2018, a decrease from $0.34 \%$ at December 31, 2017. Accruing loans past due 90 days or more were $0.00 \%$ of total loans, net of unearned income and deferred fees and costs at December 30, 2018, a decrease from $0.01 \%$ at December 31, 2017. Nonaccrual loans at December 31, 2018 were $0.48 \%$ of total loans, net of unearned income
and deferred fees and costs, an increase from $0.41 \%$ at December 31, 2017. Decreases in past due and nonaccrual loans reduce the required level of the allowance for loan losses, while increases in past due and nonaccrual loans increase the required level of the allowance for loan losses.

Levels of high risk loans are considered in the determination of the level of the allowance for loan loss. High risk loans are defined by the Company as loans secured by junior liens, interest-only loans and loans with a high loan-to-value ratio. A decrease in the level of high risk loans within a class decreases the required allocation for the loan class, and an increase in the level of high risk loans within a class increases the required allocation for the loan class. Total high risk loans rose $\$ 1,337$ or $0.86 \%$ from the level at December 31, 2017, resulting in an increased allocation.

Loans rated "special mention" and "classified" (together, "criticized assets") indicate heightened credit risk. Higher levels of criticized assets increase the required level of the allowance for collectively-evaluated loans, while lower levels of criticized assets reduce the required level of the allowance for collectively-evaluated loans. Loans rated special mention receive a $50 \%$ greater allocation for qualitative risk factors, and loans rated classified receive a $100 \%$ greater allocation for qualitative risk factors. A classified loss rate is also applied to classified loans, calculated as net charge offs divided by classified loans.

Collectively evaluated loans rated "special mention" were $\$ 1,455$ at December 31, 2018 and $\$ 3,361$ at December 31, 2017. Collectively evaluated loans rated classified were $\$ 735$ at December 31, 2018 and $\$ 1,691$ at December 31, 2017. The improvements in levels of criticized assets resulted in lower allocations.

The calculation of the appropriate level for the allowance for loan losses incorporates analysis of multiple factors and requires management's prudent and informed judgment. The ratio of the allowance for loan losses to total loans, net of unearned income and deferred fees and costs at December 31, 2018 is $1.04 \%$, a decrease from $1.19 \%$ at December 31, 2017. The ratio of the allowance for collectively-evaluated loan losses to collectively-evaluated loans, net of unearned income and deferred fees and costs was $1.03 \%$, compared with $1.18 \%$ at December 31, 2017. Improvements from December 31, 2017 in the charge-off rate, unemployment, business bankruptcy rate, the inventory of homes, residential vacancy, and criticized loans decreased the required level of the allowance for loan losses, slightly offset by worsening in the level of nonaccrual loans and the impact of the interest rate environment. Based on analysis of historical indicators, asset quality and economic factors, management believes the level of allowance for loan losses is reasonable for the credit risk in the loan portfolio.

## Quarterly Results of Operations

The following is a summary of the unaudited quarterly results of operations for the years ended December 31, 2018, 2017 and 2016: \$ in thousands

2018

| S in thousands | 2018 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { First } \\ \text { Quarter } \end{gathered}$ |  | Second Quarter |  | Third Quarter |  | Fourth Quarter |  |
| Income Statement Data: |  |  |  |  |  |  |  |  |
| Interest income | \$ | 10,484 | \$ | 10,726 | \$ | 10,945 | \$ | 11,069 |
| Interest expense |  | 1,081 |  | 1,145 |  | 1,245 |  | 1,576 |
| Net interest income |  | 9,403 |  | 9,581 |  | 9,700 |  | 9,493 |
| Provision for (recovery of) loan losses |  | (472) |  | 342 |  | 223 |  | (174) |
| Noninterest income |  | 2,023 |  | 1,868 |  | 1,914 |  | 1,924 |
| Noninterest expense |  | 8,164 |  | 6,424 |  | 6,463 |  | 6,225 |
| Income taxes |  | 438 |  | 642 |  | 677 |  | 803 |
| Net income | \$ | 3,296 | \$ | 4,041 | \$ | 4,251 | \$ | 4,563 |
| Per Share Data: |  |  |  |  |  |  |  |  |
| Basic net income per common share | \$ | 0.47 | \$ | 0.58 | \$ | 0.61 | \$ | 0.66 |
| Fully diluted net income per common share |  | 0.47 |  | 0.58 |  | 0.61 |  | 0.66 |
| Cash dividends per common share |  | --- |  | 0.58 |  | --- |  | 0.63 |
| Book value per common share |  | 26.67 |  | 26.71 |  | 27.04 |  | 27.34 |


| \$ in thousands | 2017 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | First Quarter |  | Second Quarter |  | Third Quarter |  | Fourth Quarter |  |
| Income Statement Data: |  |  |  |  |  |  |  |  |
| Interest income | \$ | 10,238 | \$ | 10,295 | \$ | 10,301 | \$ | 10,426 |
| Interest expense |  | 1,028 |  | 1,048 |  | 1,021 |  | 1,028 |
| Net interest income |  | 9,210 |  | 9,247 |  | 9,280 |  | 9,398 |
| Provision for (recovery of) loan losses |  | 59 |  | 464 |  | 201 |  | (567) |
| Noninterest income |  | 1,850 |  | 1,731 |  | 1,884 |  | 2,171 |
| Noninterest expense |  | 6,283 |  | 5,974 |  | 6,031 |  | 5,941 |
| Income taxes |  | 1,069 |  | 970 |  | 1,147 |  | 3,107 |
| Net income | \$ | 3,649 | \$ | 3,570 | \$ | 3,785 | \$ | 3,088 |
| Per Share Data: |  |  |  |  |  |  |  |  |
| Basic net income per common share | \$ | 0.52 | \$ | 0.51 | \$ | 0.54 | \$ | 0.46 |
| Fully diluted net income per common share |  | 0.52 |  | 0.51 |  | 0.54 |  | 0.46 |
| Cash dividends per common share |  | --- |  | 0.56 |  | --- |  | 0.61 |
| Book value per common share |  | 26.30 |  | 26.49 |  | 26.97 |  | 26.57 |


| \$ in thousands | 2016 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | First Quarter |  | Second Quarter |  | Third Quarter |  | Fourth Quarter |  |
| Income Statement Data: |  |  |  |  |  |  |  |  |
| Interest income | \$ | 10,484 | \$ | 10,292 | \$ | 10,157 | \$ | 9,997 |
| Interest expense |  | 1,068 |  | 1,063 |  | 1,019 |  | 1,016 |
| Net interest income |  | 9,416 |  | 9,229 |  | 9,138 |  | 8,981 |
| Provision for loan losses |  | 203 |  | 654 |  | 291 |  | 502 |
| Noninterest income |  | 1,678 |  | 1,908 |  | 1,769 |  | 1,760 |
| Noninterest expense |  | 6,021 |  | 5,528 |  | 5,908 |  | 5,878 |
| Income taxes |  | 1,091 |  | 1,090 |  | 880 |  | 891 |
| Net income | \$ | 3,779 | \$ | 3,865 | \$ | 3,828 | \$ | 3,470 |
| Per Share Data: |  |  |  |  |  |  |  |  |
| Basic net income per common share | \$ | 0.54 | \$ | 0.56 | \$ | 0.55 | \$ | 0.51 |
| Fully diluted net income per common share |  | 0.54 |  | 0.56 |  | 0.55 |  | 0.51 |
| Cash dividends per common share |  | --- |  | 0.55 |  | --- |  | 0.61 |
| Book value per common share |  | 25.76 |  | 25.86 |  | 26.47 |  | 25.62 |

## Balance Sheet

On December 31, 2018, the Company had total assets of $\$ 1,256,032$, a decrease of $\$ 725$ or $0.06 \%$, over total assets of $\$ 1,256,757$ on December 31, 2017. Total assets at December 31, 2017 were up by $\$ 22,815$, or $1.85 \%$, over the total at December 31, 2016.

## Loans

The Company's loan categorization reflects its approach to loan portfolio management and includes six groups. Real estate construction loans include construction loans for residential and commercial properties, as well as land. Consumer real estate loans include conventional and junior lien mortgages, equity lines and investor-owned residential real estate. Commercial real estate loans are comprised of owner-occupied and leased nonfarm, nonresidential properties, multi-family residence loans and farmland. Commercial non real estate loans include agricultural loans, operating capital lines and loans secured by capital assets. Public sector and IDA loans are extended to municipalities. Consumer non real estate loans include automobile loans, personal loans, credit cards and consumer overdrafts.

## A. Types of Loans

| \$ in thousands | December 31, |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  | 2015 |  | 2014 |  |
| Real estate construction | \$ | 37,845 | \$ | 34,694 | \$ | 36,345 | \$ | 48,251 | \$ | 45,562 |
| Consumer real estate |  | 175,456 |  | 166,965 |  | 157,718 |  | 143,504 |  | 147,039 |
| Commercial real estate |  | 353,546 |  | 340,414 |  | 336,457 |  | 309,378 |  | 310,762 |
| Commercial non real estate |  | 46,535 |  | 40,518 |  | 39,204 |  | 37,571 |  | 33,413 |
| Public sector and IDA |  | 60,777 |  | 51,443 |  | 45,474 |  | 51,335 |  | 41,361 |
| Consumer non real estate |  | 36,238 |  | 34,648 |  | 33,528 |  | 29,845 |  | 28,182 |
| Total loans | \$ | 710,397 | \$ | 668,682 | \$ | 648,546 | \$ | 619,884 | \$ | 606,319 |
| Less unearned income and deferred fees |  | (598) |  | (613) |  | (794) |  | (876) |  | (853) |
| Total loans, net of unearned income and deferred fees and costs | \$ | 709,799 | \$ | 668,069 | \$ | 647,752 | \$ | 619,008 | \$ | 605,466 |
| Less allowance for loans losses |  | $(7,390)$ |  | $(7,925)$ |  | $(8,300)$ |  | $(8,297)$ |  | $(8,263)$ |
| Total loans, net | \$ | 702,409 | \$ | 660,144 | \$ | 639,452 | \$ | 610,711 | \$ | 597,203 |

## B. Maturities and Interest Rate Sensitivities

The following table presents maturities and interest rate sensitivities for commercial non real estate, commercial real estate and real estate construction loans.

| \$ in thousands | December 31, 2018 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | < 1 Year |  | 1-5 Years |  | After 5 Years |  | Total |  |
| Commercial non real estate | \$ | 33,948 | \$ | 11,964 | \$ | 623 | \$ | 46,535 |
| Commercial real estate |  | 74,858 |  | 225,268 |  | 53,420 |  | 353,546 |
| Real estate construction |  | 19,111 |  | 17,612 |  | 1,122 |  | 37,845 |
| Total |  | 127,917 |  | 254,844 |  | 55,165 |  | 437,926 |
| Less loans with predetermined interest rates |  | $(24,993)$ |  | $(25,881)$ |  | $(11,528)$ |  | $(62,402)$ |
| Loans with adjustable rates | \$ | 102,924 | \$ | 228,963 | \$ | 43,637 | \$ | 375,524 |

## Risk Elements

The following table presents aggregate amounts for nonaccrual loans, restructured loans in nonaccrual, other real estate owned net, and accruing loans which are contractually past due ninety days or more as to interest or principal payments, and accruing restructured loans.

| \$ in thousands | December 31, |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  | 2015 |  | 2014 |  |
| Nonaccrual loans |  |  |  |  |  |  |  |  |  |  |
| Real estate construction | \$ | --- | \$ | --- | \$ | --- | \$ | --- | \$ | --- |
| Consumer real estate |  | 119 |  | 6 |  | 256 |  | 14 |  | 164 |
| Commercial real estate |  | 192 |  | --- |  | 698 |  | 1,146 |  | 3,087 |
| Commercial non real estate |  | --- |  | --- |  | 217 |  | 883 |  | 748 |
| Public sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | --- |  | --- |  | --- |  | --- |  | --- |
| Total nonaccrual loans | \$ | 311 | \$ | 6 | \$ | 1,168 | \$ | 2,043 | \$ | 3,999 |
| Restructured loans (TDR Loans) in nonaccrual |  |  |  |  |  |  |  |  |  |  |
| Real estate construction | \$ | --- | \$ | --- | \$ | 270 | \$ | 718 | \$ | --- |
| Consumer real estate |  | 610 |  | 145 |  | --- |  | --- |  | --- |
| Commercial real estate |  | 2,494 |  | 2,602 |  | 4,390 |  | 3,921 |  | 5,288 |
| Commercial non real estate |  | 5 |  | 15 |  | 24 |  | --- |  | --- |
| Public sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | --- |  | 1 |  | 3 |  | --- |  | --- |
| Total restructured loans in nonaccrual | \$ | 3,109 | \$ | 2,763 | \$ | 4,687 | \$ | 4,639 | \$ | 5,288 |
| Total nonperforming loans | \$ | 3,420 | \$ | 2,769 | \$ | 5,855 | \$ | 6,682 | \$ | 9,287 |
| Other real estate owned, net |  | 2,052 |  | 2,817 |  | 3,156 |  | 4,165 |  | 4,744 |
| Total nonperforming assets | \$ | 5,472 | \$ | 5,586 | \$ | 9,011 | \$ | 10,847 | \$ | 14,031 |
| Accruing loans past due 90 days or more |  |  |  |  |  |  |  |  |  |  |
| Real estate construction | \$ | --- | \$ | --- | \$ | --- | \$ | --- | \$ | --- |
| Consumer real estate |  | --- |  | 11 |  | 42 |  | 145 |  | 82 |
| Commercial real estate |  | --- |  | --- |  | --- |  | --- |  | 102 |
| Commercial non real estate |  | 2 |  | --- |  | --- |  | --- |  | - |
| Public sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | 33 |  | 40 |  | 21 |  | 11 |  | 23 |
| Total accruing loans past due 90 days or more | \$ | 35 | \$ | 51 | \$ | 63 | \$ | 156 | \$ | 207 |


| Accruing restructured loans |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Real estate construction | \$ | --- | \$ | --- | \$ | --- | \$ | --- | \$ | --- |
| Consumer real estate |  | 417 |  | 947 |  | 877 |  | 962 |  | 819 |
| Commercial real estate |  | 1,112 |  | 2,948 |  | 2,892 |  | 7,645 |  | 5,192 |
| Commercial non real estate |  | 1,010 |  | 1,214 |  | --- |  | 207 |  | 29 |
| Public sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | 13 |  | 25 |  | --- |  | --- |  | --- |
| Total accruing restructured loans | \$ | 2,552 | \$ | 5,134 | \$ | 3,769 | \$ | 8,814 | \$ | 6,040 |

Loan loss and other indicators related to asset quality are presented in the Loan Loss Data table.

## Loan Loss Data Table

| \$ in thousands | 2018 |  | 2017 |  | 2016 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Provision for (recovery of) loan losses | \$ | (81) | \$ | 157 | \$ | 1,650 |
| Net charge-offs to average net loans |  | 0.07\% |  | 0.08\% |  | 0.26\% |
| Allowance for loan losses to loans, net of unearned income and deferred fees |  | 1.04\% |  | 1.19\% |  | 1.28\% |
| Allowance for loan losses to nonperforming loans |  | 216.08\% |  | 286.20\% |  | 141.76\% |
| Allowance for loan losses to nonperforming assets |  | 135.05\% |  | 141.87\% |  | 92.11\% |
| Nonperforming assets to loans, net of unearned income and deferred fees and costs, plus other real estate owned |  | 0.77\% |  | 0.83\% |  | 1.38\% |
| Nonaccrual loans | \$ | 311 | \$ | 6 | \$ | 1,168 |
| Restructured loans in nonaccrual status |  | 3,109 |  | 2,763 |  | 4,687 |
| Other real estate owned, net |  | 2,052 |  | 2,817 |  | 3,156 |
| Total nonperforming assets | \$ | 5,472 | \$ | 5,586 | \$ | 9,011 |
| Accruing loans past due 90 days or more | \$ | 35 | \$ | 51 | \$ | 63 |

Nonperforming loans include nonaccrual loans and restructured loans ("troubled debt restructurings" or "TDR loans") in nonaccrual status, but do not include accruing loans 90 days or more past due or accruing restructured loans. Troubled debt restructurings are discussed in detail under the section titled "D. Modifications and Troubled Debt Restructurings (TDR Loans)" below. Impaired loans, or loans for which management does not expect to collect at the original loan terms, but which may or may not be nonperforming, are presented in Note 5 of Notes to Consolidated Financial Statements.

Total impaired loans at December 31, 2018 were $\$ 6,820$, of which $\$ 3,420$ were in nonaccrual status. Impaired loans at December 31 , 2017 and 2016 were $\$ 11,924$ and $\$ 9,173$, of which $\$ 2,763$ and $\$ 5,404$ were in nonaccrual status, respectively.

The ratio of the allowance for loan losses to total nonperforming loans decreased from $286.20 \%$ in 2017 to $216.08 \%$ in 2018 . The Company believes the allowance for loan losses is adequate for the credit risk inherent in the loan portfolio.

## D. Modifications and Troubled Debt Restructurings ("TDRs")

In the ordinary course of business the Company modifies loan terms on a case-by-case basis, including both consumer and commercial loans, for a variety of reasons. Modifications to consumer loans generally involve short-term deferrals to accommodate specific, temporary circumstances. The Company may grant extensions to borrowers who have demonstrated a willingness and ability to repay their loan but who are experiencing consequences of a specific unforeseen temporary hardship.

An extension defers monthly payments and requires a balloon payment at the original contractual maturity. If the temporary event is not expected to impact a borrower's ability to repay the debt, and if the Company expects to collect all amounts due including interest accrued at the contractual interest rate for the period of delay at contractual maturity, the modification is not designated a TDR.

Modifications to commercial loans may include, but are not limited to, changes in interest rate, maturity, amortization and financial covenants. In the original underwriting, loan terms are established that represent the then-current and projected financial condition of the borrower. If the modified terms are consistent with competitive market conditions and representative of terms the borrower could otherwise obtain in the open market, the modified loan is not categorized as a TDR.

The Company codes modifications to assist in identifying troubled debt restructurings. The majority of modifications were granted for competitive reasons and did not constitute troubled debt restructurings. A description of modifications that did not result in troubled debt restructurings follows:

Modifications Made During the 12 Months Ended December 31, 2018 to Borrowers Not Experiencing Financial Difficulty

| Modification | Number of Loans Modified |  | Total Amount Modified |
| :---: | :---: | :---: | :---: |
| Rate reductions for competitive purposes | 18 | \$ | 8,384 |
| Payment extensions for less than 3 months | 61 |  | 646 |
| Maturity date extensions of more than 3 months and up to 6 months | 134 |  | 22,663 |
| Maturity date extensions of more than 6 months and up to 12 months | 308 |  | 11,777 |
| Maturity date extensions of more than 12 months | 17 |  | 2,304 |
| Advances on non-revolving loans or recapitalization | 8 |  | 2,076 |
| Change in amortization term or method | 11 |  | 1,542 |
| Change or release of collateral | 43 |  | 783 |
| Renewal of expired Home Equity Line of Credit loans to additional 10 years | 20 |  | 300 |
| Renewal of single-payment notes | 138 |  | 2,862 |
| Total modifications that do not constitute TDRs | 758 | \$ | 53,337 |

Modifications Made During the 12 Months Ended December 31, 2017
to Borrowers Not Experiencing Financial Difficulty

| Modification | Number of Loans Modified |  | Total Amount Modified |
| :---: | :---: | :---: | :---: |
| Rate reductions for competitive purposes | 29 | \$ | 11,783 |
| Payment extensions for less than 3 months | 126 |  | 2,693 |
| Maturity date extensions of more than 3 months and up to 6 months | 182 |  | 29,253 |
| Maturity date extensions of more than 6 months and up to 12 months | 316 |  | 14,675 |
| Maturity date extensions of more than 12 months | 7 |  | 3,474 |
| Advances on non-revolving loans or recapitalization | 12 |  | 4,603 |
| Change in amortization term or method | 42 |  | 4,884 |
| Renewal of expired Home Equity Line of Credit loans to additional 10 years | 19 |  | 448 |
| Renewal of single-payment notes | 240 |  | 5,044 |
| Total modifications that do not constitute TDRs | 973 | \$ | 76,857 |

## Modifications Made During the 12 Months Ended December 31, 2016

to Borrowers Not Experiencing Financial Difficulty

| Modification | Number of Loans Modified |  | Total Amount Modified |
| :---: | :---: | :---: | :---: |
| Rate reductions for competitive purposes | 73 | \$ | 34,080 |
| Payment extensions for less than 3 months | 142 |  | 2,475 |
| Maturity date extensions of more than 3 months and up to 6 months | 219 |  | 20,781 |
| Maturity date extensions of more than 6 months and up to 12 months | 274 |  | 13,277 |
| Maturity date extensions of more than 12 months | 17 |  | 3,073 |
| Advances on non-revolving loans or recapitalization | 2 |  | 177 |
| Change in amortization term or method | 26 |  | 2,292 |
| Renewal of expired Home Equity Line of Credit loans to additional 10 years | 19 |  | 678 |
| Renewal of single-payment notes | 244 |  | 4,722 |
| Total modifications that do not constitute TDRs | 1,016 | \$ | 81,555 |

Modifications in which the borrower is experiencing financial difficulty and for which the Company makes a concession to the original contractual loan terms are designated troubled debt restructurings. Modifications of loan terms to borrowers experiencing financial difficulty are made in an attempt to protect as much of the Company's investment in the loan as possible. The determination of whether a modification should be accounted for as a TDR requires significant judgment after consideration of all facts and circumstances surrounding the transaction.

Assuming all other TDR criteria are met, the Company considers one or a combination of the following concessions to the loan terms to indicate TDR status: a reduction of the stated interest rate, an extension of the maturity date at an interest rate lower than the current market rate for a new loan with a similar term and similar risk, or forgiveness of principal or accrued interest.

The Company has restructured loan terms for certain qualified financially distressed borrowers who have agreed to work in good faith and have demonstrated the ability to make the restructured payments in order to avoid a foreclosure. TDR loans are individually evaluated for impairment for purposes of determining the allowance for loan losses. TDR loans with at least six months of timely repayment history may accrue interest. TDR loans that do not have six months of timely repayment performance are maintained on nonaccrual until the borrower demonstrates sustained repayment history under the restructured terms and continued repayment is not in doubt. TDR loans may be removed from TDR status, and placed in the appropriate collectively-evaluated pool, if the restructuring agreement specified a market interest rate at the time of restructuring and the loan is in compliance with modified terms for a period of at least one year after the restructuring was executed.

The Company's TDRs amounted to $\$ 5,661$ as of December 31, 2018 and $\$ 7,897$ as of December 31, 2017. Accruing TDR loans amounted to $\$ 2,552$ at December 31, 2018 compared to $\$ 5,134$ at December 31, 2017.

Restructuring generally results in loans with lower payments or an extended maturity beyond that originally required, and are expected to have a lower risk of loss due to nonperformance than loans classified as nonperforming. In 2018, the Company modified loans in troubled debt restructurings that, directly prior to restructuring, totaled $\$ 4,212$ and that have total principal balances of $\$ 3,800$ as of December 31, 2018. None of the Company's restructured loans defaulted during the twelve months ended December 31, 2018. The Company defines default as a delay in one payment of more than 90 days or foreclosure after the date of restructuring. All of the restructured loans that defaulted had been modified more than twelve months prior to default.

In 2017, the Company modified loans in troubled debt restructurings that, directly prior to restructuring, totaled $\$ 1,387$ and that had total principal balances of $\$ 1,369$ as of December 31, 2017. All of the restructured loans that defaulted in 2017 had been modified more than twelve months prior to default. Please refer to Note 5 for information on the effect of default on the allowance for loan losses.

The following tables present the delinquency status of TDR loans.

| \$ in thousands | TDR Delinquency Status as of December 31, 2018 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total TDR Loans |  | Current |  | $\begin{gathered} \text { Accruing } \\ \text { 30-89 Days } \\ \text { Past Due } \\ \hline \end{gathered}$ |  | $\begin{aligned} & 90+\text { Days } \\ & \text { Past Due } \end{aligned}$ |  | Nonaccrual |  |
| Real estate construction | \$ | --- | \$ | --- | \$ | --- | \$ | --- | \$ | --- |
| Consumer real estate |  | 1,027 |  | 417 |  | --- |  | --- |  | 610 |
| Commercial real estate |  | 3,606 |  | 1,112 |  | --- |  | --- |  | 2,494 |
| Commercial non real estate |  | 1,015 |  | 1,010 |  | --- |  | --- |  | 5 |
| Public sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | 13 |  | 9 |  | 4 |  | --- |  | --- |
| Total TDR Loans | \$ | 5,661 |  | \$ 2,548 | \$ | 4 | \$ | --- | \$ | 3,109 |

\$ in thousands TDR Delinquency Status as of December 31, 2017

|  | Total TDR <br> Loans |  |  |  |  |  | Current |  |  |  |  |  | 30-89 Days <br> Past Due | 90+ Days <br> Past Due | Nonaccrual |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Real estate construction | $\$$ | --- | $\$$ | --- | $\$$ | $---\$$ | --- |  |  |  |  |  |  |  |  |
| Consumer real estate | 1,092 | 773 | 174 | --- | --- |  |  |  |  |  |  |  |  |  |  |
| Commercial real estate | 5,550 | 2,948 | --- | --- | 2,602 |  |  |  |  |  |  |  |  |  |  |
| Commercial non real estate | 1,229 | 1,214 | --- | --- | 15 |  |  |  |  |  |  |  |  |  |  |
| Public sector and IDA | --- | -- | --- | --- | --- |  |  |  |  |  |  |  |  |  |  |
| Consumer non real estate | 26 | 25 | --- | --- | 1 |  |  |  |  |  |  |  |  |  |  |
| Total TDR Loans | $\$$ | 7,897 | $\$ 4,960$ | $\$$ | 174 | $\$$ | --- |  |  |  |  |  |  |  |  |


| \$ in thousands | TDR Delinquency Status as of December 31, 2016 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total TDR Loans |  | Current |  | Accruing <br> 30-89 Days <br> Past Due |  | 90+ DaysPast Due |  | Nonaccrual |  |
| Real estate construction | \$ | 270 | \$ | --- | \$ | --- | \$ | --- | \$ | 270 |
| Consumer real estate |  | 877 |  | 717 |  | 160 |  | --- |  | --- |
| Commercial real estate |  | 7,282 |  | 2,892 |  | --- |  | --- |  | 4,390 |
| Commercial non real estate |  | 24 |  | --- |  | --- |  | --- |  | 24 |
| Public sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | 3 |  | --- |  | --- |  | --- |  | 3 |
| Total TDR Loans | \$ | 8,456 |  | \$ 3,609 | \$ | 160 | \$ | --- | \$ | 4,687 |

## Summary of Loan Loss Experience

## A. Analysis of the Allowance for Loan Losses

The following tabulation shows average loan balances at the end of each period; changes in the allowance for loan losses arising from loans charged off and recoveries on loans previously charged off by loan category; and additions to the allowance which have been charged to operating expense:
\$ in thousands

| Average loans, net of unearned income and deferred fees and costs | 2018 |  | 2017 |  | 2016 |  | 2015 |  | 2014 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | \$ | 683,310 | \$ | 653,364 | \$ | 621,654 | \$ | 619,745 | \$ | 592,944 |
| Allowance for loan losses at beginning of year |  | 7,925 |  | 8,300 |  | 8,297 |  | 8,263 |  | 8,227 |
| Charge-offs: |  |  |  |  |  |  |  |  |  |  |
| Real estate construction |  | --- |  | --- |  | 29 |  | --- |  | 2 |
| Consumer real estate |  | 38 |  | 146 |  | 133 |  | 205 |  | 222 |
| Commercial real estate |  | --- |  | 139 |  | 488 |  | 1,114 |  | 1,201 |
| Commercial non real estate |  | 107 |  | 82 |  | 883 |  | 490 |  | 89 |
| Public Sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | 544 |  | 452 |  | 273 |  | 311 |  | 346 |
| Total loans charged off |  | 689 |  | 819 |  | 1,806 |  | 2,120 |  | 1,860 |
| Recoveries: |  |  |  |  |  |  |  |  |  |  |
| Real estate construction |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer real estate |  | 3 |  | 1 |  | 2 |  | 2 |  | --- |
| Commercial real estate |  | 49 |  | 131 |  | 83 |  | 49 |  | 50 |
| Commercial non real estate |  | 22 |  | 23 |  | 10 |  | 1 |  | 132 |
| Public Sector and IDA |  | --- |  | --- |  | --- |  | --- |  | --- |
| Consumer non real estate |  | 161 |  | 132 |  | 64 |  | 93 |  | 73 |
| Total recoveries |  | 235 |  | 287 |  | 159 |  | 145 |  | 255 |
| Net loans charged off |  | 454 |  | 532 |  | 1,647 |  | 1,975 |  | 1,605 |
| Provision for (recovery of) loan losses |  | (81) |  | 157 |  | 1,650 |  | 2,009 |  | 1,641 |
| Allowance for loan losses at end of year | \$ | 7,390 | \$ | 7,925 | \$ | 8,300 | \$ | 8,297 | \$ | 8,263 |
| Net charge-offs to average loans net of unearned income and deferred fees and costs |  | 0.07\% |  | 0.08\% |  | 0.26\% |  | 0.32\% |  | 0.27\% |

The Company charges off commercial real estate loans at the time that a loss is confirmed. When delinquency status or other information indicates that the borrower will not repay the loan, the Company considers collateral value based upon a current appraisal or internal evaluation. Any loan amount in excess of collateral value is charged off and the collateral is taken into other real estate owned.

Management analyzes many factors to determine the appropriate level for the allowance for loan losses and resultant provision expense, including the historical loss rate, the quality of the loan portfolio as determined by management, diversification as to type of loans in the portfolio, internal policies and economic factors. Management considers net charge-offs over the most recent eight quarters to determine the historical loss rate to be applied to the calculation. The historical loss rate contributes significantly to the required level for the allowance for loan losses.

## B. Allocation of the Allowance for Loan Losses

The allowance for loan losses has been allocated according to the amount deemed necessary to provide for anticipated losses within the categories of loans for the years indicated as follows:

| \$ in thousands | December 31, |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |  | 2015 |  | 2014 |  |  |
|  | Allowance Amount | $\begin{gathered} \hline \text { Percent of } \\ \text { Loans in } \\ \text { Each } \\ \text { Category to } \\ \text { Total } \\ \text { Loans }{ }^{(1)} \\ \hline \end{gathered}$ | Allowance Amount | $\begin{gathered} \text { Percent of } \\ \text { Loans in } \\ \text { Each } \\ \text { Category to } \\ \text { Total } \\ \text { Loans }{ }^{(1)} \\ \hline \end{gathered}$ | Allowance Amount |  | Percent of Loans in Each Category to Total Loans ${ }^{(1)}$ | Allowance Amount | Percent of Loans in Each Category to Total Loans ${ }^{(1)}$ | Allowance Amount |  | Percent of Loans in Each Category to Total Loans ${ }^{(1)}$ |
| Real estate construction | \$ 398 | 5.33\% | \$ 337 | 5.19\% | \$ | 438 | 5.60\% | \$ 576 | 7.78\% | \$ | 612 | 7.52\% |
| Consumer real estate | 2,049 | 24.70\% | 2,027 | 24.97\% |  | 1,830 | 24.32\% | 1,866 | 23.15\% |  | 1,662 | 24.25\% |
| Commercial real estate | 2,798 | 49.77\% | 3,044 | 50.91\% |  | 3,738 | 51.88\% | 4,109 | 49.92\% |  | 3,537 | 51.25\% |
| Commercial non real estate | 602 | 6.55\% | 1,072 | 6.06\% |  | 1,063 | 6.02\% | 655 | 6.06\% |  | 1,475 | 5.51\% |
| Public sector and IDA | 583 | 8.55\% | 419 | 7.69\% |  | 330 | 7.01\% | 436 | 8.28\% |  | 327 | 6.82\% |
| Consumer non real estate | 750 | 5.10\% | 707 | 5.18\% |  | 644 | 5.17\% | 627 | 4.81\% |  | 602 | 4.65\% |
| Unallocated | 210 |  | 319 |  |  | 257 |  | 28 |  |  | 48 |  |
|  | \$ 7,390 | 100.00\% | \$ 7,925 | 100.00\% | \$ | 8,300 | 100.00\% | \$8,297 | 100.00\% | \$ | 8,263 | 100.00\% |

(1) Loans are presented on a gross basis.

An analysis of the allowance for loan losses by impairment basis follows:

| \$ in thousands | December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Impaired loans ${ }^{(1)}$ | \$ | 6,820 | \$ | 11,924 | \$ | 9,173 |
| Allowance related to impaired loans ${ }^{(1)}$ |  | 139 |  | 177 |  | 26 |
| Allowance to impaired loans ${ }^{(1)}$ |  | 2.04\% |  | 1.48\% |  | 0.27\% |
|  |  |  |  |  |  |  |
| Non-impaired loans ${ }^{(1)}$ |  | 703,577 |  | 656,758 |  | 639,373 |
| Allowance related to non-impaired loans ${ }^{(1)}$ |  | 7,251 |  | 7,748 |  | 8,274 |
| Allowance to non-impaired loans ${ }^{(1)}$ |  | 1.03\% |  | 1.18\% |  | 1.30\% |
|  |  |  |  |  |  |  |
| Total gross loans |  | 710,397 |  | 668,682 |  | 648,546 |
| Less: unearned income and deferred fees and costs |  | (598) |  | (613) |  | (794) |
| Loans, net of unearned income and deferred fees and costs |  | 709,799 |  | 668,069 |  | 647,752 |
| Allowance for loan losses, total |  | 7,390 |  | 7,925 |  | 8,300 |
| Allowance as a percentage of loans, net of unearned income and deferred fees and costs |  | 1.04\% |  | 1.19\% |  | 1.28\% |

[^1]Individually-evaluated impaired loans are valued using the appraised value of the underlying collateral or the present value of cash flows for each loan. Valuation procedures for impaired loans resulted in a required reserve for impaired loans of $\$ 139$ at December 31, 2018, $\$ 177$ at December 31, 2017 and $\$ 26$ at December 31, 2016. The amount of the individual impaired loan balance that exceeds the fair value is accrued in the allowance for loan losses.

Management's analysis of the loan portfolio and pertinent economic conditions resulted in a determination of the allowance for loan losses for collectively-evaluated loans of $\$ 7,251$ or $1.03 \%$ of such loans at December 31, 2018, $\$ 7,748$ or $1.18 \%$ at December 31, 2017 , and $\$ 8,274$ or $1.30 \%$ at December 31, 2016. The allowance for collectively-evaluated loans is determined by applying historical charge-off percentages, as well as additional accruals for internal and external credit risk factors to groups of collectively-evaluated loans. The ratio decreased from 2017 to 2018 due to a decreased charge-off ratio, down from $0.08 \%$ for the twelve months ended December 31,2017 to $0.07 \%$ for the year ended December 31, 2018. The ratio was $0.26 \%$ for 2016 . The Company applies the average of the most recent eight quarters of net charge-offs to calculate historical net charge-offs for the allowance. Also contributing to the reduced allowance requirement were improved asset quality indicators, and favorable economic indicators. The ratio decreased from 2016 to 2017 due to the decrease in the charge-off ratio, from $0.26 \%$ for the twelve months ended December 31, 2016 to $0.08 \%$ for the year ended December 31, 2017. Also contributing to the reduced allowance requirement were improved asset quality indicators, lower levels of high risk loans and favorable economic indicators.

The unallocated portion of the reserve was $\$ 210$ at December 31, 2018, $\$ 319$ at December 31, 2017 and $\$ 257$ at December 31, 2016. The unallocated portion of the reserve is the amount that exceeds the calculated requirement for the allowance for loan losses. The Company's policy permits an unallocated reserve of up to $5 \%$ in excess of the required level for the allowance for loan losses.

The total calculated allowance for loan losses of $\$ 7,390$ at December 31, 2018, $\$ 7,925$ as of December 31, 2017 and \$8,300 as of December 31, 2016 indicated a recovery of loan losses of $\$ 81$ for the twelve months ended December 31, 2018 and indicated provision charges of $\$ 157$ for the twelve months ended December 31, 2017 and $\$ 1,650$ for the twelve months ended December 31, 2016. Please refer to the discussion under "Provision and Allowance for Loan Losses" for additional information on the determination of the allowance for loan loss.

## Securities

The fair value of securities available for sale was $\$ 425,010$, an increase of $\$ 93,623$ or $28.25 \%$ from December 31,2017 . The amortized cost of securities held to maturity was $\$ 0$ at December 31,2018 and $\$ 127,164$ at December 31, 2017. During the second quarter of 2018, the Company reclassified all held to maturity securities as available for sale. At the time of transfer, the securities were recorded at fair value of $\$ 119,790$ and an unrealized gain of $\$ 891$, net of tax, was recorded in accumulated other comprehensive income.

Additional information about securities available for sale and securities held to maturity can be found in Note 3 of the Notes to Consolidated Financial Statements.

The securities portfolio is subject to the volatility and risk in the financial markets. The risk in financial markets affects the Company in the same way that it affects other institutional and individual investors. The Company's investment portfolio includes corporate bonds. If, because of economic hardship, the corporate issuers were to default, there could be a delay in the payment of interest, or there could be a loss of principal and accrued interest. To date, there have been no defaults in any of the corporate bonds held in the portfolio. The Company's investment portfolio also contains a large percentage of municipal bonds. If economic forces reduce the ability of states and municipalities to make scheduled principal and interest payments on their outstanding indebtedness, or if their income from taxes and other sources declines significantly, states and municipalities could default on their bond obligations. There have been no defaults among the municipal bonds in the Company's investment portfolio. The fair value of our bond portfolio is affected by interest rates. The fair value of available for sale securities is reflected on the Company's balance sheet, while held to maturity securities are reported at amortized cost.

In making investment decisions, management follows internal policy guidelines that help to limit risk by specifying parameters for both security quality and industry and geographic concentrations. Management regularly monitors the quality of the investment portfolio and tracks changes in financial markets. The value of individual securities will be written down if a decline in fair value is considered to be other than temporary, given the totality of the circumstances.

## Maturities and Associated Yields

The following table presents the maturities for securities available for sale and held to maturity at their carrying values as of December 31, 2018 and weighted average yield for each range of maturities.
\$ in thousands, except percent data Maturities and Yields

|  | December 31, 2018 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | < 1 Year | 1-5 Years | 5-10 Years |  | > 10 Years |  | None |  | Total |  |
| Available for Sale: |  |  |  |  |  |  |  |  |  |  |
| U.S. Government agencies | \$ 54,567 | \$164,119 | \$ | 55,929 | \$ | 25,432 | \$ | --- | \$ | 300,047 |
|  | 1.24\% | 1.74\% |  | 3.03\% |  | 3.38\% |  | --- |  | 2.03\% |
| Mortgage-backed securities | \$ 11 | \$ 47 | \$ | 315 | \$ | 255 | \$ | --- | \$ | 628 |
|  | 5.00\% | 5.70\% |  | 5.55\% |  | 5.68\% |  | --- |  | 5.60\% |
| States and political subdivision - nontaxable ${ }^{(1)}$ | \$ 16,435 | \$ 11,006 | \$ | 28,340 | \$ | 62,835 | \$ | --- | \$ | 118,616 |
|  | $5.41 \%$ | 4.94\% |  | 4.25\% |  | 4.00\% |  | --- |  | 4.34\% |
| Corporate | \$ -- | \$ 1,969 | \$ | --- | \$ | 3,750 | \$ | --- | \$ | 5,719 |
|  | --- | 2.44\% |  | --- |  | 4.08\% |  | --- |  | 3.54\% |
| Total | \$ 71,013 | \$177,141 | \$ | 84,584 | \$ | 92,272 | \$ | --- |  | 425,010 |
|  | 2.21\% | 1.95\% |  | 3.45\% |  | 3.84\% |  | --- |  | 2.70\% |

## Restricted stock:


(1) Rates shown represent weighted average yield on a fully taxable basis.

The majority of mortgage-backed securities and collateralized mortgage obligations held at December 31, 2018 were backed by U.S. agencies. Certain holdings are required to be periodically subjected to the Federal Financial Institution Examination Council's (FFIEC) high risk mortgage security test. These tests address possible fluctuations in the average life and variances caused by the change in rate times the change in volume that have been allocated to rate and volume changes proportional to the relationship of the absolute dollar amounts of the change in each. Except for U.S. Government securities, the Company has no securities with any issuer that exceeds $10 \%$ of stockholders' equity.

## Deposits

Total deposits decreased by $\$ 7,792$ or $0.74 \%$, from $\$ 1,059,734$ at December 31,2017 to $\$ 1,051,942$ at December 31, 2018. The decrease is primarily due to a decline in time deposits. Total deposits grew $\$ 16,292$, or $1.56 \%$, from $\$ 1,043,442$ at December 31,2016 to December 31, 2017. A portion of the increase in 2017 is attributable to a higher level of municipal deposits.

## A. Average Amounts of Deposits and Average Rates Paid

Average amounts and average rates paid on deposit categories are presented below:

| \$ in thousands | Year Ended December 31, |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  |  | 2017 |  |  | 2016 |  |  |
|  | Average Amounts |  | Average Rates Paid | Average <br> Amounts |  | $\begin{gathered} \text { Average } \\ \text { Rates } \\ \text { Paid } \end{gathered}$ | Average <br> Amounts |  | Average Rates Paid |
| Noninterest-bearing demand deposits | \$ | 192,440 | --- | \$ | 178,708 | --- | \$ | 170,344 | --- |
| Interest-bearing demand deposits |  | 606,766 | 0.68\% |  | 598,661 | 0.56\% |  | 567,971 | 0.55\% |
| Savings deposits |  | 140,918 | 0.17\% |  | 140,997 | 0.17\% |  | 134,982 | 0.23\% |
| Time deposits |  | 105,674 | 0.50\% |  | 120,220 | 0.45\% |  | 140,490 | 0.50\% |
| Average total deposits | \$ | 1,045,798 | 0.47\% |  | ,038,586 | 0.40\% | \$ | 1,013,787 | $\underline{0.41 \%}$ |

## B. Time Deposits of $\mathbf{\$ 2 5 0}$ or More

The following table sets forth time certificates of deposit and other time deposits of \$250 or more:

| \$ in thousands |  |  |  |  | cember 31, 2018 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 3 Months or Less |  | Over 3 Months Through 6 Months |  | Over 6 Months <br> Through 12 Months |  | Over 12 Months |  | Total |
| Total time deposits of $\$ 250$ or more | \$ 1,328 | \$ | 4,711 | \$ | 5,042 | \$ | 3,196 | \$ | 14,277 |

## Derivatives and Market Risk Exposures

The Company is not a party to derivative financial instruments with off-balance sheet risks such as futures, forwards, swaps, and options. The Company is a party to financial instruments with off-balance sheet risks such as commitments to extend credit, standby letters of credit, and recourse obligations in the normal course of business to meet the financing needs of its customers. See Note 13, of Notes to Consolidated Financial Statements for additional information relating to financial instruments with off-balance sheet risk. Management does not plan any future involvement in high risk derivative products. The Company has investments in mortgage-backed securities, principally GNMA's and FNMA's, with a fair value of approximately $\$ 628$. See Note 3 of Notes to Consolidated Financial Statements for additional information relating to securities.

The Company's securities and loans are subject to credit and interest rate risk, and its deposits are subject to interest rate risk. Management considers credit risk when a loan is granted and monitors credit risk after the loan is granted. The Company maintains an allowance for loan losses to absorb losses in the collection of its loans. See Note 5 of Notes to Consolidated Financial Statements for information relating to the allowance for loan losses. See Note 14 of Notes to Consolidated Financial Statements for information relating to concentrations of credit risk. The Company has an asset/liability program to manage its interest rate risk. This program provides management with information related to the rate sensitivity of certain assets and liabilities and the effect of changing rates on profitability and capital accounts.

The effects of changing interest rates are primarily managed through adjustments to the loan portfolio and deposit base, to the extent competitive factors allow. The investment portfolio is generally longer term. Adjustments for asset and liability management are made when securities are called or mature and funds are subsequently reinvested. Securities may be sold for reasons related to credit quality or regulatory limitations, and in limited circumstances, securities available for sale have been disposed of for interest rate risk management. No trading activity for this purpose is planned in the foreseeable future, though it does remain an option.

While the asset/liability planning program is designed to protect the Company over the long term, it does not provide near-term protection from interest rate shocks, as interest rate sensitive assets and liabilities do not by their nature move up or down in tandem in response to changes in the overall rate environment. The Company's profitability in the near term may be temporarily negatively affected in a period of rapidly rising or rapidly falling rates, because it takes some time for the Company to change its rates to adjust to a new interest rate environment. See Note 15 of Notes to Consolidated Financial Statements for information relating to fair value of financial instruments and comments concerning interest rate sensitivity.

## Liquidity

Liquidity measures the Company's ability to meet its financial commitments at a reasonable cost. Demands on the Company's liquidity include funding additional loan demand and accepting withdrawals of existing deposits. The Company has diverse liquidity sources, including customer and purchased deposits, customer repayments of loan principal and interest, sales, calls and maturities of securities, Federal Reserve discount window borrowing, short-term borrowing, and Federal Home Loan Bank advances. At December 31, 2018, the bank did not have discount window borrowings, short-term borrowings, or FHLB advances. To assure that short-term borrowing is readily available, the Company tests accessibility annually.

The Company considers its security portfolio for typical liquidity needs, within accounting, legal and strategic parameters. Prior to the second quarter of 2018, the securities portfolio was segregated into available-for-sale and held-to-maturity. During the second quarter of 2018, the Company re-classified all its held-to-maturity securities to available-for-sale. Portions of the securities portfolio are pledged to meet state requirements for public funds deposits. Discount window borrowings also require pledged securities. Increased/decreased liquidity from public funds deposits or discount window borrowings results in increased/decreased liquidity from pledging requirements. The Company monitors public funds pledging requirements and unpledged available-for-sale securities accessible for liquidity needs.

Regulatory capital levels determine the Company's ability to use purchased deposits and the Federal Reserve discount window. At December 31, 2018, the Company is considered well capitalized and does not have any restrictions on purchased deposits or borrowing ability at the Federal Reserve discount window.

The Company monitors factors that may increase its liquidity needs. Some of these factors include deposit trends, large depositor activity, maturing deposit promotions, interest rate sensitivity, maturity and repricing timing gaps between assets and liabilities, the level of unfunded loan commitments and loan growth. At December 31, 2018, the Company's liquidity is sufficient to meet projected trends
in these areas.
To monitor and estimate liquidity levels, the Company performs stress testing under varying assumptions on credit sensitive liabilities and the sources and amounts of balance sheet and external liquidity available to replace outflows. The Company's Contingency Funding Plan sets forth avenues for rectifying liquidity shortfalls. At December 31, 2018, the analysis indicated adequate liquidity under the tested scenarios.

The Company utilizes several other strategies to maintain sufficient liquidity. Loan and deposit growth are managed to keep the loan to deposit ratio within the Company's own policy range of $65 \%$ to $75 \%$. At December 31, 2018, the loan to deposit ratio was $67.48 \%$. The investment strategy takes into consideration the term of the investment, and securities in the available for sale portfolio are laddered based upon projected funding needs.

In the normal course of business, we enter into certain contractual obligations, including obligations to make future payments on lease arrangements, contractual commitments with depositors, and service contracts. The table below presents our significant contractual obligations as of December 31, 2018, except for pension and other postretirement benefit plans, which are included in Note 8, "Employee Benefit Plans," to the Consolidated Financial Statements in this Form 10-K.

| \$ in thousands | Payments Due by Period |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  Less Than <br> Total 1 Year |  |  |  | 1-3 Years |  | 4-5 Years |  | More Than 5 Years |  |
| Time deposits | \$ | 101,799 | \$ | 53,337 | \$ | 43,274 | \$ | 5,125 | \$ | 63 |
| Purchase obligations ${ }^{(1)}$ |  | 6,328 |  | 3,956 |  | 1,832 |  | 540 |  | --- |
| Operating leases |  | 1,935 |  | 346 |  | 365 |  | 352 |  | 872 |
| Total | \$ | 110,062 | \$ | 57,639 | \$ | 45,471 | \$ | 6,017 | \$ | 935 |

(1) Includes contracts with a minimum annual payment of $\$ 100$

As of December 31, 2018, the Company was not aware of any other known trends, events or uncertainties that have or are reasonably likely to have a material impact on our liquidity. As of December 31, 2018, the Company has no material commitments for long-term debt or for capital expenditures.

## Recent Accounting Pronouncements

See Note 1 of Notes to Consolidated Financial Statements for information relating to recent accounting pronouncements.

## Capital Resources

Total stockholders' equity at December 31, 2018 was $\$ 190,238$, an increase of $\$ 5,342$, or $2.89 \%$, from the $\$ 184,896$ at December 31, 2017. The largest component of 2018 stockholders' equity was retained earnings of $\$ 193,625$, which included net income of $\$ 16,151$, offset by dividends of $\$ 8,419$. Total stockholders' equity increased by $\$ 6,633$ or $3.72 \%$, from $\$ 178,263$ on December 31, 2016 to \$184,896 on December 31, 2017.

In August, 2018, the Federal Reserve updated the Small Bank Holding Company Policy Statement ("the Statement"), in compliance with The Economic Growth, Regulatory Relief and Consumer Protection Act of 2018 ("EGRRCPA"). The Statement, among other things, exempts bank holding companies that fall below a certain asset threshold from reporting consolidated regulatory capital ratios and from minimum regulatory capital requirements. The interim final rule expands the exemption to bank holding companies with consolidated total assets of less than $\$ 3$ billion. Prior to August 2018, the statement exempted bank holding companies with consolidated total assets of less than $\$ 1$ billion. As a result of the interim final rule, the Company qualifies as of August, 2018 as a small bank holding company and is no longer subject to regulatory capital requirements on a consolidated basis.

The Bank continues to be subject to various capital requirements administered by banking agencies. Risk based capital ratios for the Bank are shown in the following tables.

|  | Ratios at <br> December 31, 2018 | Regulatory Capital Minimum Ratios | Regulatory Capital Minimum Ratios with Capital Conservation Buffer |
| :---: | :---: | :---: | :---: |
| Common Equity Tier I Capital Ratio | 23.856 \% | 4.500 \% | 6.375 \% |
| Tier I Capital Ratio | 23.856 \% | $\mathbf{6 . 0 0 0}$ \% | 7.875 \% |
| Total Capital Ratio | 24.764 \% | 8.000 \% | 9.875 \% |
| Leverage Ratio | 15.788 \% | 4.000 \% | 4.000 \% |


|  | Ratios at <br> December 31, 2017 | Regulatory Capital <br> Minimum Ratios | Regulatory Capital Minimum <br> Ratios with Capital Conservation <br> Buffer |
| :--- | :---: | ---: | ---: |
| Common Equity Tier I Capital Ratio | $23.332 \%$ | $4.500 \%$ | $5.750 \%$ |
| Tier I Capital Ratio | $23.332 \%$ | $6.000 \%$ | $7.250 \%$ |
| Total Capital Ratio | $24.316 \%$ | $8.000 \%$ | $9.250 \%$ |
| Leverage Ratio | $15.254 \%$ | $4.000 \%$ | $4.000 \%$ |

Risk-based capital ratios are calculated in compliance with FDIC rules based on Basel III capital requirements. The Bank's ratios are well above the required minimums at December 31, 2018 and December 31, 2017.

Banks are subject to an additional capital conservation buffer in order to make capital distributions or discretionary bonus payments. The implementation period for the capital conservation buffer began in 2016 and was fully phased in January 1, 2019, with $.625 \%$ added each year and a final buffer of $2.5 \%$ in excess of regulatory capital minimum ratios.

## Off-Balance Sheet Arrangements

The Company's off-balance sheet arrangements at December 31, 2018 are detailed in the table below.

| \$ in thousands | Payments Due by Period |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total |  | Less Than 1 Year |  | 1-3 Years |  | 4-5 Years |  | More Than 5 Years |  |
| Commitments to extend credit | \$ | 145,635 | \$ | 145,635 | \$ | --- | \$ | --- | \$ | --- |
| Standby letters of credit |  | 16,092 |  | 16,092 |  | --- |  | --- |  | --- |
| Mortgage loans with potential recourse |  | 13,013 |  | 13,013 |  | --- |  | --- |  | --- |
| Operating leases |  | 1,935 |  | 346 |  | 365 |  | 352 |  | 872 |
| Total | \$ | 176,675 | \$ | 175,086 | \$ | 365 | \$ | 352 | \$ | 872 |

In the normal course of business the Company's banking affiliate extends lines of credit to its customers. Amounts drawn upon these lines vary at any given time depending on the business needs of the customers.

Standby letters of credit are also issued to the bank's customers. There are two types of standby letters of credit. The first is a guarantee of payment to facilitate customer purchases. The second type is a performance letter of credit that guarantees a payment if the customer fails to perform a specific obligation. Revenue from these letters was approximately $\$ 40$ in 2018.

While it would be possible for customers to fully draw on approved lines of credit and for beneficiaries to call all letters of credit, historically this has not occurred. In the event of a sudden and substantial draw on these lines, the Company has its own lines of credit from which it can draw funds. A sale of loans or investments would also be an option to meet liquidity demands.

The Company sells mortgages on the secondary market subject to recourse agreements. The mortgages originated must meet strict underwriting and documentation requirements for the sale to be completed. The Company estimates a potential loss reserve for recourse provisions. The amount is not material as of December 31, 2018. To date, no recourse provisions have been invoked.

Operating leases are for buildings used in the Company's day-to-day operations.

## Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Information about market risk is set forth above in the "Interest Rate Sensitivity" and "Derivatives and Market Risk Exposure" sections of the Management's Discussion and Analysis.

## Item 8. Financial Statements and Supplementary Data

| Consolidated Balance Sheets <br> \$ in thousands, except share and per share data | December 31, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  |
| Assets |  |  |  |  |
| Cash and due from banks | \$ | 12,882 | \$ | 12,926 |
| Interest-bearing deposits |  | 43,491 |  | 51,233 |
| Securities available for sale, at fair value |  | 425,010 |  | 331,387 |
| Securities held to maturity (fair value of \$130,113 at December 31, 2017) |  | --- |  | 127,164 |
| Restricted stock |  | 1,220 |  | 1,200 |
| Mortgage loans held for sale |  | 72 |  | 260 |
| Loans: |  |  |  |  |
| Real estate construction loans |  | 37,845 |  | 34,694 |
| Consumer real estate loans |  | 175,456 |  | 166,965 |
| Commercial real estate loans |  | 353,546 |  | 340,414 |
| Commercial non real estate loans |  | 46,535 |  | 40,518 |
| Public sector and IDA loans |  | 60,777 |  | 51,443 |
| Consumer non real estate loans |  | 36,238 |  | 34,648 |
| Total loans |  | 710,397 |  | 668,682 |
| Less unearned income and deferred fees and costs |  | (598) |  | (613) |
| Loans, net of unearned income and deferred fees and costs |  | 709,799 |  | 668,069 |
| Less allowance for loan losses |  | $(7,390)$ |  | $(7,925)$ |
| Loans, net |  | 702,409 |  | 660,144 |
| Premises and equipment, net |  | 8,646 |  | 8,221 |
| Accrued interest receivable |  | 5,160 |  | 5,297 |
| Other real estate owned, net |  | 2,052 |  | 2,817 |
| Intangible assets and goodwill |  | 5,848 |  | 5,898 |
| Bank-owned life insurance (BOLI) |  | 34,657 |  | 33,756 |
| Other assets |  | 14,585 |  | 16,454 |
| Total assets | \$ | 1,256,032 | \$ | 1,256,757 |
| Liabilities and Stockholders' Equity |  |  |  |  |
| Noninterest-bearing demand deposits | \$ | 195,441 | \$ | 182,511 |
| Interest-bearing demand deposits |  | 616,527 |  | 622,189 |
| Savings deposits |  | 138,175 |  | 140,150 |
| Time deposits |  | 101,799 |  | 114,884 |
| Total deposits |  | 1,051,942 |  | 1,059,734 |
| Accrued interest payable |  | 89 |  | 62 |
| Other liabilities |  | 13,763 |  | 12,065 |
| Total liabilities |  | 1,065,794 |  | 1,071,861 |
| Commitments and contingencies |  |  |  |  |
| Stockholders' equity: |  |  |  |  |
| Preferred stock, no par value, 5,000,000 shares authorized; none issued and outstanding |  | --- |  | --- |
| Common stock of $\$ 1.25$ par value. Authorized $10,000,000$ shares; issued and outstanding, 6,957,974 shares in 2018 and 2017 |  | 8,698 |  | 8,698 |
| Retained earnings |  | 193,625 |  | 185,893 |
| Accumulated other comprehensive loss, net |  | $(12,085)$ |  | $(9,695)$ |
| Total stockholders' equity |  | 190,238 |  | 184,896 |
| Total liabilities and stockholders' equity | \$ | 1,256,032 | \$ | 1,256,757 |

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

## Consolidated Statements of Income

| \$ in thousands, except per share data | Years ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Interest Income |  |  |  |  |  |  |
| Interest and fees on loans | \$ | 31,333 | \$ | 29,932 | \$ | 29,365 |
| Interest on interest-bearing deposits |  | 672 |  | 791 |  | 532 |
| Interest and dividends on securities - taxable |  | 6,856 |  | 5,711 |  | 5,910 |
| Interest on securities - nontaxable |  | 4,363 |  | 4,826 |  | 5,123 |
| Total interest income |  | 43,224 |  | 41,260 |  | 40,930 |
|  |  |  |  |  |  |  |
| Interest Expense |  |  |  |  |  |  |
| Interest on deposits |  | 4,883 |  | 4,125 |  | 4,166 |
| Interest on borrowings |  | 164 |  | --- |  | --- |
| Total interest expense |  | 5,047 |  | 4,125 |  | 4,166 |
| Net interest income |  | 38,177 |  | 37,135 |  | 36,764 |
| Provision for (recovery of) loan losses |  | (81) |  | 157 |  | 1,650 |
| Net interest income after provision for (recovery of) loan losses |  | 38,258 |  | 36,978 |  | 35,114 |
|  |  |  |  |  |  |  |
| Noninterest Income |  |  |  |  |  |  |
| Service charges on deposit accounts |  | 2,678 |  | 2,776 |  | 2,458 |
| Other service charges and fees |  | 132 |  | 205 |  | 212 |
| Credit and debit card fees |  | 1,431 |  | 1,205 |  | 981 |
| Trust income |  | 1,565 |  | 1,530 |  | 1,346 |
| BOLI income |  | 901 |  | 758 |  | 597 |
| Other income |  | 1,005 |  | 1,148 |  | 1,289 |
| Realized securities gains, net |  | 17 |  | 14 |  | 232 |
| Total noninterest income |  | 7,729 |  | 7,636 |  | 7,115 |
|  |  |  |  |  |  |  |
| Noninterest Expense |  |  |  |  |  |  |
| Salaries and employee benefits |  | 14,506 |  | 13,670 |  | 12,684 |
| Occupancy, furniture and fixtures |  | 1,845 |  | 1,820 |  | 1,849 |
| Data processing and ATM |  | 2,784 |  | 2,280 |  | 2,151 |
| FDIC assessment |  | 359 |  | 364 |  | 476 |
| Intangible assets amortization |  | 50 |  | 68 |  | 257 |
| Net costs of other real estate owned |  | 553 |  | 205 |  | 472 |
| Franchise taxes |  | 1,278 |  | 1,315 |  | 1,296 |
| Write-down of insurance receivable |  | 2,010 |  | --- |  | 347 |
| Other operating expenses |  | 3,891 |  | 4,507 |  | 3,803 |
| Total noninterest expense |  | 27,276 |  | 24,229 |  | 23,335 |
| Income before income taxes |  | 18,711 |  | 20,385 |  | 18,894 |
| Income tax expense |  | 2,560 |  | 6,293 |  | 3,952 |
| Net income | \$ | 16,151 | \$ | 14,092 | \$ | 14,942 |
| Basic net income per common share | \$ | 2.32 | \$ | 2.03 | \$ | 2.15 |
| Fully diluted net income per common share | \$ | 2.32 | \$ | 2.03 | \$ | 2.15 |

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

## Consolidated Statements of Comprehensive Income

| \$ in thousands, except per share data | Years ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Net Income | \$ | 16,151 | \$ | 14,092 | \$ | 14,942 |
| Other Comprehensive Income (Loss), Net of Tax |  |  |  |  |  |  |
| Unrealized holding gain (loss) on available for sale securities net of tax of (\$595) in 2018, \$296 in 2017 and (\$431) in 2016 |  | $(2,246)$ |  | 546 |  | (800) |
| Reclassification adjustment for gain included in net income, net of tax of (\$4) in 2018, (\$4) in 2017 and (\$65) in 2016 |  | (13) |  | (6) |  | (121) |
| Transfer from held to maturity to available for sale securities, net of tax of \$237 in 2018 |  | 891 |  | --- |  | --- |
| Net pension gain (loss) arising during the period, net of tax of (\$249) in 2018, \$115 in 2017 and \$132 in 2016 |  | (936) |  | 213 |  | 271 |
| Less amortization of prior service cost included in net periodic pension cost, net of tax of (\$24) in 2018, (\$38) in 2017 and (\$38) in 2016 |  | (86) |  | (71) |  | (72) |
| Other comprehensive income (loss), net of tax of (\$635) in 2018, \$369 in 2017 and (\$402) in 2016 |  | $(2,390)$ |  | 682 |  | (722) |
| Total Comprehensive Income | \$ | 13,761 | \$ | 14,774 | \$ | 14,220 |

See accompanying notes to consolidated financial statements.

## Consolidated Statements of Changes in Stockholders' Equity

| \$ in thousands, except per share data | Common Stock |  | Retained Earnings |  | Accumulated Other Comprehensive (Loss) |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Balance at December 31, 2015 | \$ | 8,698 | \$ | 171,353 | \$ | $(7,937)$ | \$ | 172,114 |
| Net income |  | --- |  | 14,942 |  | --- |  | 14,942 |
| Other comprehensive loss, net of tax of (\$402) |  | --- |  | --- |  | (722) |  | (722) |
| Cash dividend (\$1.16 per share) |  | --- |  | $(8,071)$ |  | --- |  | $(8,071)$ |
| Balance at December 31, 2016 | \$ | 8,698 | \$ | 178,224 | \$ | $(8,659)$ | \$ | 178,263 |
| Net income |  | --- |  | 14,092 |  | --- |  | 14,092 |
| Other comprehensive income, net of tax of \$369 |  | --- |  | --- |  | 682 |  | 682 |
| Cash dividend (\$1.17 per share) |  | --- |  | $(8,141)$ |  | --- |  | $(8,141)$ |
| Reclassification of stranded tax effects from change in tax rate |  | --- |  | 1,718 |  | $(1,718)$ |  | --- |
| Balance at December 31, 2017 | \$ | 8,698 | \$ | 185,893 | \$ | $(9,695)$ | \$ | 184,896 |
| Net income |  | --- |  | 16,151 |  | --- |  | 16,151 |
| Other comprehensive loss, net of tax of (\$635) |  | --- |  | --- |  | $(2,390)$ |  | $(2,390)$ |
| Cash dividend (\$1.21 per share) |  | --- |  | $(8,419)$ |  | --- |  | $(8,419)$ |
| Balance at December 31, 2018 | \$ | 8,698 | \$ | 193,625 | \$ | $(12,085)$ | \$ | 190,238 |

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

## Consolidated Statements of Cash Flows

| \$ in thousands | Years Ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Cash Flows from Operating Activities |  |  |  |  |  |  |
| Net income | \$ | 16,151 | \$ | 14,092 | \$ | 14,942 |
| Adjustment to reconcile net income to net cash provided by operating activities: |  |  |  |  |  |  |
| Provision for (recovery of) loan losses |  | (81) |  | 157 |  | 1,650 |
| Deferred income tax expense (benefit) |  | (382) |  | 1,790 |  | 18 |
| Re-valuation of deferred tax assets |  | --- |  | 1,560 |  | --- |
| Depreciation of premises and equipment |  | 766 |  | 805 |  | 801 |
| Amortization of intangibles |  | 50 |  | 68 |  | 257 |
| Amortization of premiums and accretion of discounts, net |  | 58 |  | 58 |  | 89 |
| Gain on disposal of fixed assets |  | --- |  | (134) |  | --- |
| Gain on calls and sales of securities available for sale, net |  | (17) |  | (10) |  | (186) |
| Gain on calls of securities held to maturity, net |  | --- |  | (4) |  | (46) |
| Loss and write-down on other real estate owned |  | 489 |  | 125 |  | 355 |
| Income on investment in BOLI |  | (901) |  | (758) |  | (597) |
| Gain on sale of mortgage loans held for sale |  | (199) |  | (211) |  | (280) |
| Origination of mortgage loans held for sale |  | $(12,626)$ |  | $(13,912)$ |  | $(17,090)$ |
| Sale of mortgage loans held for sale |  | 13,013 |  | 14,341 |  | 17,526 |
| Contribution to defined benefit plan |  | --- |  | $(4,507)$ |  | (811) |
| Net change in: |  |  |  |  |  |  |
| Accrued interest receivable |  | 137 |  | (37) |  | 509 |
| Other assets |  | 2,886 |  | $(2,537)$ |  | 438 |
| Accrued interest payable |  | 27 |  | 7 |  | (1) |
| Other liabilities |  | 404 |  | 101 |  | (41) |
| Net cash provided by operating activities |  | 19,775 |  | 10,994 |  | 17,533 |
|  |  |  |  |  |  |  |
| Cash Flows from Investing Activities |  |  |  |  |  |  |
| Net change in interest-bearing deposits |  | 7,742 |  | 29,035 |  | 50,543 |
| Proceeds from repayments of mortgage-backed securities |  | 224 |  | 298 |  | 415 |
| Proceeds from calls, sales and maturities of securities available for sale |  | 50,438 |  | 13,812 |  | 220,581 |
| Proceeds from calls and maturities of securities held to maturity |  | 6,430 |  | 8,975 |  | 16,945 |
| Purchases of securities available for sale |  | $(25,323)$ |  | $(40,290)$ |  | $(290,296)$ |
| Purchases of securities held to maturity |  | --- |  | $(1,319)$ |  | --- |
| Net change in restricted stock |  | (20) |  | (30) |  | (41) |
| Purchase of BOLI |  | --- |  | $(10,000)$ |  | --- |
| Purchases of loan participations |  | $(7,853)$ |  | $(7,395)$ |  | $(3,800)$ |
| Collections of loan participations |  | 970 |  | 2,113 |  | 820 |
| Loan originations and principal collections, net |  | $(35,536)$ |  | $(15,951)$ |  | $(27,792)$ |
| Proceeds from disposal of other real estate owned |  | 276 |  | 311 |  | 877 |
| Recoveries on loans charged off |  | 235 |  | 287 |  | 159 |
| Additions to premises and equipment |  | $(1,191)$ |  | (261) |  | (634) |
| Proceeds from sale of premises and equipment |  | --- |  | 222 |  | --- |
| Net cash used in investing activities |  | $(3,608)$ |  | $(20,193)$ |  | $(32,223)$ |
|  |  |  |  |  |  | (continued) |


| Cash Flows from Financing Activities |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Net change in time deposits | $\mathbf{( 1 3 , 0 8 5 )}$ | $(15,730)$ | $(21,147)$ |  |
| Net change in other deposits | $\mathbf{5 , 2 9 3}$ | 32,022 | 45,730 |  |
| Cash dividends paid | $\mathbf{( 8 , 4 1 9 )}$ | $(8,141)$ | $(8,071)$ |  |
| Net cash provided by (used in) financing activities | $\mathbf{1 6 , 2 1 1 )}$ | 8,151 | 16,512 |  |
|  |  |  |  |  |
| Net change in cash and due from banks | $\mathbf{( 4 4 )}$ | $(1,048)$ | 1,822 |  |
| Cash and due from banks at beginning of year | $\mathbf{1 2 , 9 2 6}$ | 13,974 | 12,152 |  |
| Cash and due from banks at end of year | $\mathbf{1 2 , 8 8 2}$ | $\$$ | 12,926 | $\$$ |


| Supplemental Disclosures of Cash Flow Information |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Interest paid on deposits and borrowed funds | $\mathbf{\$}$ | $\mathbf{5 , 0 2 0}$ | $\$$ | 4,118 | $\$$ | 4,167 |
| Income taxes paid |  | $\mathbf{1 , 7 7 8}$ | 4,092 | 3,940 |  |  |


| Supplemental Disclosures of Noncash Activities |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Loans charged against the allowance for loan losses | \$ | 689 | \$ | 819 | \$ | 1,806 |
| Loans transferred to other real estate owned |  | --- |  | 97 |  | 222 |
| Unrealized gain (loss) on securities available for sale |  | $(2,858)$ |  | 832 |  | $(1,417)$ |
| Unrealized net gain on securities transferred from HTM to AFS |  | 1,128 |  | --- |  | --- |
| Fair value of securities transferred from held-to-maturity to available-forsale |  | 119,790 |  | --- |  | --- |
| Minimum pension liability adjustment |  | $(1,295)$ |  | 219 |  | 293 |

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

## Notes to Consolidated Financial Statements

$\$$ in thousands, except per share data

## Note 1: Summary of Significant Accounting Policies

The consolidated financial statements include the accounts of National Bankshares, Inc. (Bankshares) and its wholly-owned subsidiaries, the National Bank of Blacksburg (NBB), and National Bankshares Financial Services, Inc. (NBFS), (the Company). All intercompany balances and transactions have been eliminated in consolidation.

The accounting and reporting policies of the Company conform to accounting principles generally accepted in the United States of America and to general practices within the banking industry. The following is a summary of the more significant accounting policies. Subsequent events have been considered through the date when the Form $10-\mathrm{K}$ was issued.

## Cash and Cash Equivalents

For purposes of the consolidated statements of cash flows, cash and cash equivalents include cash and amounts due from banks.

## Interest-Bearing Deposits

The Company invests over-night funds in interest-bearing deposits at other banks, including the Federal Home Loan Bank, the Federal Reserve, and other entities. Interest-bearing deposits are carried at cost.

## Securities

Certain debt securities that management has the positive intent and ability to hold to maturity may be classified as "held to maturity" and recorded at amortized cost. Trading securities are recorded at fair value with changes in fair value included in earnings. Securities not classified as held to maturity or trading, are classified as "available for sale" and recorded at fair value, with unrealized gains and losses excluded from earnings and reported in other comprehensive income. The Company uses the interest method to recognize purchase premiums and discounts in interest income over the term of the securities. Gains and losses on the sale of securities are recorded on the trade date and are determined using the specific identification method.

During 2018, the Company's held to maturity securities were re-designated as available for sale. At the time of the transfer, the redesignated securities had a fair value of $\$ 119,790$ and an unrealized net gain of $\$ 1,128$. The unrealized gain/loss on the re-designated securities is included in accumulated other comprehensive income, net of deferred tax.

The Company follows the accounting guidance related to recognition and presentation of other-than-temporary impairment. The guidance specifies that if (a) an entity does not have the intent to sell a debt security prior to recovery and (b) it is more likely than not that the entity will not have to sell the debt security prior to recovery, the security would not be considered other-than-temporarily impaired, unless there is a credit loss. When criteria (a) and (b) are met, the entity will recognize the credit component of an other-thantemporary impairment of a debt security in earnings and the remaining portion in other comprehensive income. For held-to-maturity debt securities, the amount of an other-than-temporary impairment recorded in other comprehensive income for the noncredit portion of a previous other-than-temporary impairment is amortized prospectively over the remaining life of the security on the basis of the timing of future estimated cash flows of the security.

Equity securities with readily-determinable fair values are measured at fair value using the "exit price notion". Changes in fair value are recognized in net income. Equity securities without readily-determinable fair values are recorded as other assets at cost less impairment, if any, and adjusted for changes resulting from observable price changes in orderly transactions for identical or similar investment of the same issuer.

## Loans Held for Sale

Loans originated and intended for sale in the secondary market are carried at the lower of cost or estimated fair value on an individual loan basis. Net unrealized losses, if any, are recognized through a valuation allowance by charges to income. The Company releases mortgage servicing rights when loans are sold on the secondary market.

## Loans

The Company, through its banking subsidiary, provides mortgage, commercial, and consumer loans to customers. A substantial portion of the loan portfolio is represented by mortgage loans, particularly commercial mortgages. The ability of the Company's debtors to honor their contracts is dependent upon the real estate and general economic conditions in the Company's market area.

The Company's loans are grouped into six segments: real estate construction, consumer real estate, commercial real estate, commercial non real estate, public sector and IDA, and consumer non real estate. Each segment is subject to certain risks that influence the establishment of pricing, loan structures, approval requirements, reserves, and ongoing credit management.

Real estate construction loans are subject to general risks from changing commercial building and housing market trends and economic conditions that may impact demand for completed properties and the costs of completion. Completed properties that do not sell or become leased within originally expected timeframes may impact the borrower's ability to service the debt. These risks are measured by market-area unemployment rates, bankruptcy rates, housing and commercial building market trends, and interest rates. Risks specific to the borrower are also evaluated, including previous repayment history, debt service ability, and current and projected loan-to value ratios for the collateral.

The credit quality of consumer real estate is subject to risks associated with the borrower's repayment ability and collateral value, measured generally by analyzing local unemployment and bankruptcy trends, and local housing market trends and interest rates. Risks specific to a borrower are determined by previous repayment history, loan-to-value ratios and debt-to-income ratios.

The commercial real estate segment includes loans secured by multifamily residential real estate, commercial real estate occupied by the owner/borrower, and commercial real estate leased to non-owners. Loans in the commercial real estate segment are impacted by economic risks from changing commercial real estate markets, rental markets for multi-family housing and commercial buildings, business bankruptcy rates, local unemployment rates and interest rate trends that would impact the businesses housed by the commercial real estate.

Commercial non real estate loans are secured by collateral other than real estate, or are unsecured. Credit risk for commercial non real estate loans is subject to economic conditions, generally monitored by local business bankruptcy trends, interest rates, borrower repayment ability and collateral value (if secured).

Public sector and IDA loans are extended to municipalities and related entities. Credit risk is based upon the entity's ability to repay through either a direct obligation or assignment of specific revenues from an enterprise or other economic activity, and interest rate trends.

Consumer non real estate includes credit cards, automobile and other consumer loans. Credit cards and certain other consumer loans are unsecured, while collateral is obtained for automobile loans and other consumer loans. Credit risk stems primarily from the borrower's ability to repay. If the loan is secured, the company analyzes loan-to-value ratios. All consumer non real estate loans are analyzed for debt-to-income ratios and previous credit history, as well as for general risks for the portfolio, including local unemployment rates, personal bankruptcy rates and interest rates.

Risks from delinquency trends and characteristics such as second-lien position and interest-only status, as well as historical chargeoff rates, are analyzed for all segments.

Loans that management has the intent and ability to hold for the foreseeable future, or until maturity or payoff, generally are reported at their outstanding unpaid principal balances adjusted for the allowance for loan losses, any purchase premium or discount, unearned income and deferred fees or costs. Interest income is accrued on the unpaid principal balance. Unearned income on dealer-originated loans and loan origination fees, net of certain direct origination costs, are deferred and recognized as an adjustment of the related loan yield using the interest method. Purchase premium or discount is recognized as an adjustment of the related loan yield using the interest method.

The Company considers multiple factors when determining whether to discontinue accrual of interest on individual loans. Generally loans are placed in nonaccrual status when collection of interest and/or full principal is considered doubtful. Interest accrual is discontinued at the time a commercial real estate loan or commercial non-real estate loan is 90 days delinquent unless the credit is well secured and in the process of collection. Loans within all loan classes that are not restructured but that are impaired and have an associated impairment loss are placed on nonaccrual. Restructured loans within all classes that allow the borrower to discontinue payments of principal or interest for more than 90 days are placed on nonaccrual unless the modification provides reasonable assurance of repayment performance and collateral value supports regular underwriting requirements. Restructured loans within all classes that maintain current status for at least a six-month period, including history prior to restructuring, may be returned to accrual status.

All interest accrued but not collected for loans of all classes that are placed on nonaccrual or for loans charged off is reversed against interest income. Any interest payments received on nonaccrual loans of all classes are credited to the principal balance of the loan. Loans of all classes that have not been restructured and that have been designated nonaccrual are returned to accrual status when all the principal and interest amounts contractually due are current; future payments are reasonably assured; and for loans that financed the sale of OREO property, loan-to-value thresholds are met. Loans that have been restructured that have been designated nonaccrual may return to accrual status after six months of timely repayment performance. The Company reviews nonaccrual loans on an individual loan basis to determine whether future payments are reasonably assured. In order for this criteria to be satisfied, the Company's evaluation must determine that the underlying cause of the original delinquency or weakness that indicated nonaccrual status has been resolved, such as receipt of new guarantees, increased cash flows that cover the debt service or other resolution.

A loan is considered past due when a payment of principal and/or interest is due but not paid. Credit card payments not received within 30 days after the statement date, real estate loan payments not received within the payment cycle and all other non-real estate secured loans for which payment is not made within the required payment cycle are considered 30 days past due. Management closely monitors past due loans in timeframes of 30-89 days past due and 90 or more days past due.

## Allowance for Loan Losses

The allowance for loan losses represents management's estimate of probable losses inherent in the Company's loan portfolio. A provision for estimated losses is charged to earnings to establish and maintain the allowance for loan losses at a level reflective of the estimated credit risk. When management determines that a loan balance or portion of a loan balance is not collectible, the loss is charged against the allowance. Subsequent recoveries, if any, are credited to the allowance.

Management evaluates the allowance each quarter through a methodology that estimates losses on individual impaired loans and evaluates the effect of numerous factors on the credit risk of groups of homogeneous loans.

Specific allowances are established for individually-evaluated impaired loans based on the excess of the loan balance relative to the fair value of the loan. Impaired loans are designated as such when current information indicates that it is probable that the Company will be unable to collect principal or interest when due according to the contractual terms of the loan agreement. Loan relationships
exceeding $\$ 250,000$ in nonaccrual status or that are significantly past due, or for which a credit review identified weaknesses that indicate principal and interest will not be collected according to the loan terms, as well as troubled debt restructurings, are designated impaired. This policy is applicable to all loan classes.

Fair value of impaired loans is estimated in one of three ways: (1) the estimated fair value (less selling costs) of the underlying collateral, (2) the present value of the loan's expected future cash flows, or (3) the loan's observable market value. The amount of recorded investment (unpaid principal net of any interest payments made by the borrower during the nonaccrual period and net of any partial charge-offs, accrued interest and deferred fees and costs) in an impaired loan that exceeds the fair value is accrued as estimated loss in the allowance. Impaired loans for which collection of interest or principal is in doubt are placed in nonaccrual status.

General allowances are established for collectively-evaluated loans. Collectively-evaluated loans are grouped into classes based on similar characteristics. Factors considered in determining general allowances include net charge-off trends, internal risk ratings, delinquency and nonperforming rates, product mix, underwriting practices, industry trends and economic trends.

The Company's charge-off policy meets or is more stringent than the minimum standards required by regulators. When available information confirms that a specific loan or a portion thereof, within any loan class, is uncollectible the amount is charged off against the allowance for loan losses. Additionally, losses on consumer real estate and consumer non-real estate loans are typically charged off no later than when the loans are 120-180 days past due, and losses on loans secured by residential real estate or by commercial real estate are charged off by the time the loans reach 180 days past due, in compliance with regulatory guidelines. Accordingly, secured loans may be charged down to the estimated value of the collateral, with previously accrued unpaid interest reversed. Subsequent chargeoffs may be required as a result of changes in the market value of collateral or other repayment prospects.

## Troubled Debt Restructurings ("TDRs")

In situations where, for economic or legal reasons related to a borrower's financial condition, management grants a concession to the borrower that it would not otherwise consider, the related loan is classified as a troubled debt restructuring (TDR). These modified terms may include reduction of the interest rate, extension of the maturity date at an interest rate lower than the current market rate for a new loan with similar risk, forgiveness of principal or accrued interest or other actions intended to minimize the economic loss. TDR loans are individually measured for impairment. Troubled debt restructurings may be removed from TDR status, and therefore from individual evaluation, if the restructuring agreement specifies a contractual interest rate that is a market interest rate at the time of restructuring and the loan is in compliance with its modified terms one year after the restructure was completed.

## Rate Lock Commitments

The Company enters into commitments to originate mortgage loans in which the interest rate on the loan is determined prior to funding (rate lock commitments). Rate lock commitments on mortgage loans that are intended to be sold are considered to be derivatives. The period of time between issuance of a loan commitment and closing and sale of the loan generally ranges from 30 to 60 days. The Company protects itself from changes in interest rates through the use of best efforts forward delivery commitments, by committing to sell a loan at the time the borrower commits to an interest rate with the intent that the buyer has assumed interest rate risk on the loan. As a result, the Company is not exposed to losses nor will it realize significant gains related to its rate lock commitments due to changes in interest rates. The correlation between the rate lock commitments and the best efforts contracts is very high due to their similarity.

The market value of rate lock commitments and best efforts contracts is not readily ascertainable with precision because rate lock commitments and best effort contracts are not actively traded in stand-alone markets. The Company determines the fair value of rate lock commitments and best efforts contracts by measuring the changes in the value of the underlying assets while taking into consideration the probability that the rate lock commitments will close. Because of the high correlation between rate lock commitments and best efforts contracts, no gain or loss occurs on the rate lock commitments.

## Premises and Equipment

Land is carried at cost. Premises and equipment are stated at cost, net of accumulated depreciation. Depreciation is charged to expense over the estimated useful lives of the assets on the straight-line basis. Depreciable lives include 40 years for premises, 3-10 years for furniture and equipment, and 3 years for computer software. Costs of maintenance and repairs are charged to expense as incurred and improvements are capitalized.

## Other Real Estate Owned

Real estate acquired through or in lieu of foreclosure is held for sale and is initially recorded at fair value less estimated costs to sell at the date of foreclosure, establishing the cost basis of the asset. Subsequent to foreclosure, valuations are periodically performed by management and the assets are carried at the lower of carrying amount or fair value less estimated costs to sell. Revenue and expenses from operations and changes in the valuation allowance are included in other operating expenses.

## Goodwill

The Company records as goodwill the excess of purchase price over the fair value of the identifiable net assets acquired. Goodwill is subject to at least an annual assessment for impairment by applying a fair value based test. The Company performs its annual analysis as of September 30 of each fiscal year. Accounting guidance permits preliminary assessment of qualitative factors to determine whether more substantial impairment testing is required. The Company chose to bypass the preliminary assessment and utilized a two-step
process for impairment testing of goodwill. The first step tests for impairment, while the second step, if necessary, measures the impairment.

The Company's goodwill impairment analysis considered three valuation techniques appropriate to the measurement. The first technique uses the Company's market capitalization as an estimate of fair value, the second technique estimates fair value using current market pricing multiples for companies comparable to NBI, while the third technique uses current market pricing multiples for change-of-control transactions involving companies comparable to NBI. Certain key judgments were used in the valuation measurement. Goodwill is held by the Company's bank subsidiary. The bank subsidiary is $100 \%$ owned by the Company, and no market capitalization is available. Because most of the Company's assets are comprised of the subsidiary bank's equity, the Company's market capitalization was used to estimate the Bank's market capitalization. Other judgments include the assumption that the companies and transactions used as comparables for the second and third technique were appropriate to the estimate of the Company's fair value, and that the comparable multiples are appropriate indicators of fair value, and compliant with accounting guidance.

Each measure indicated that the Company's fair value exceeded its book value. No indicators of impairment for goodwill were identified during the years ended December 31, 2018, 2017 and 2016.

Acquired intangible assets (such as core deposit intangibles) are recognized separately from goodwill if the benefit of the asset can be sold, transferred, licensed, rented, or exchanged, and amortized over its useful life. The Company amortizes on a straight-line basis intangible assets arising from branch purchase transactions over their useful lives, determined by the Company to be ten to twelve years. Core deposit intangibles are subject to a recoverability test based on undiscounted cash flows, and to the impairment recognition and measurement provisions required for other long-lived assets held and used. The impairment testing showed that the expected cash flows of the intangible assets exceeded the carrying value.

## Pension Plan

The Company recognizes the overfunded or underfunded status of a defined benefit postretirement plan as an asset or liability in its statement of financial position and recognizes changes in that funded status in the year in which the changes occur through comprehensive income. The funded status of a benefit plan is measured as the difference between plan assets at fair value and the projected benefit obligation.

## Income Taxes

Income tax accounting guidance results in two components of income tax expense: current and deferred. Current income tax expense reflects taxes to be paid or refunded for the current period by applying the provisions of the enacted tax law to the taxable income or excess of deductions over revenues. The Company determines deferred income taxes using the asset and liability (or balance sheet) method. Under this method, the net deferred tax asset or liability is based on the tax effects of the differences between the book and tax bases of assets and liabilities, and enacted changes in tax rates and laws are recognized in the period in which they occur.

Deferred income tax expense results from changes in deferred tax assets and liabilities between periods. Deferred tax assets are recognized if it is more likely than not, based on the technical merits, that the tax position will be realized or sustained upon examination. The term more likely than not means a likelihood of more than 50 percent; the terms examined and upon examination also include resolution of the related appeals or litigation processes, if any. A tax position that meets the more-likely-than-not recognition threshold is initially and subsequently measured as the largest amount of tax benefit that has a greater than 50 percent likelihood of being realized upon settlement with a taxing authority that has full knowledge of all relevant information. The determination of whether or not a tax position has met the more-likely-than-not recognition threshold considers the facts, circumstances, and information available at the reporting date and is subject to management's judgment. Deferred tax assets are reduced by a valuation allowance if, based on the weight of evidence available, it is more likely than not that some portion or all of a deferred tax asset will not be realized.

The Tax Cuts and Jobs Act ("the Act") was enacted in December, 2017 with an effective date of January 1, 2018. Among other things, the Act lowered the federal corporate income tax rate to $21 \%$ from the maximum rate prior to the passage of the Act of $35 \%$. The change to the tax rate necessitated a re-measurement of deferred tax assets and deferred tax liabilities, including those accounted for in accumulated other comprehensive income, as of the date of enactment. The re-measurement in 2017 resulted in a $\$ 1,560$ reduction in the value of the Company's net deferred tax asset and a corresponding incremental income tax expense of $\$ 1,560$.

In February 2018, the FASB issued ASU 2018-02, Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income ("AOCI"). The Company early adopted this new standard for 2017. In compliance with ASU 2018-01, the Company reclassified from AOCI to retained earnings stranded tax effects of $\$ 1,718$. The stranded tax effects were a result of recognizing in tax expense the re-measurement impact of items that are included in AOCI.

The Company recognizes interest and penalties on income taxes as a component of income tax expense.

## Trust Assets and Income

Assets (other than cash deposits) held by the Trust Department in a fiduciary or agency capacity for customers are not included in the consolidated financial statements since such items are not assets of the Company. Trust income is recognized on the accrual basis.

## Earnings Per Common Share

Basic earnings per common share represents income available to common stockholders divided by the weighted-average number of common shares outstanding during the period.

The following shows the weighted average number of shares used in computing earnings per common.

Average number of common shares outstanding $\quad$| $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 6}$ |
| :---: | :---: | :---: |
| $\mathbf{6 , 9 5 7 , 9 7 4}$ | $6,957,974$ | $6,957,974$ |

As of December 31, 2018 and December 31, 2017, there were no potential common shares outstanding.

## Loss Contingencies

Loss contingencies, including claims and legal actions arising in the ordinary course of business are recorded as liabilities when the likelihood of loss is probable and reasonably estimated. Management does not believe there are such matters that will have a material effect on the financial statements.

## Advertising

The Company charges advertising costs to expenses as incurred. In 2018, the Company expensed $\$ 106$, and expensed $\$ 148$ and $\$ 122$ in 2017 and 2016, respectively.

## Use of Estimates

In preparing consolidated financial statements in conformity with accounting principles generally accepted in the United States of America, management is required to make estimates and assumptions that affect the reported amounts of assets and liabilities as of the date of the consolidated balance sheet and reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Material estimates that are particularly susceptible to significant change in the near term relate to the determination of the allowance for loan losses, the valuation of other real estate owned, other-than-temporary impairments of securities, evaluation of impairment of goodwill, and pension obligations.

Changing economic conditions, adverse economic prospects for borrowers, as well as regulatory agency action as a result of examination, could cause NBB to recognize additions to the allowance for loan losses and may also affect the valuation of real estate acquired in connection with foreclosures or in satisfaction of loans.

## Accounting Standards Adopted in 2018

## ASU No. 2014-09, "Revenue from Contracts with Customers"

In May 2014, the FASB issued ASU No. 2014-09, "Revenue from Contracts with Customers." The standard's core principle is that a company will recognize revenue when it transfers promised goods or services to customers in an amount that reflects the consideration to which the company expects to be entitled in exchange for those goods or services. In doing so, companies generally will be required to use more judgment and make more estimates than under current guidance. These may include identifying performance obligations in the contract, estimating the amount of variable consideration to include in the transaction price and allocating the transaction price to each separate performance obligation. Subsequent to the issuance of ASU 2014-09, the FASB issued targeted updates to clarify specific implementation issues including ASU No. 2016-08, "Principal versus Agent Considerations (Reporting Revenue Gross versus Net)," ASU No. 2016-10, "Identifying Performance Obligations and Licensing," ASU No. 2016-12, "Narrow-Scope Improvements and Practical Expedients," and ASU No. 2016-20 "Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers."

For financial reporting purposes, the standard allows for either full retrospective adoption, meaning the standard is applied to all of the periods presented, or modified retrospective adoption, meaning the standard is applied only to the most current period presented in the financial statements with the cumulative effect of initially applying the standard recognized at the date of initial application. The Company adopted ASU 2014-09 and its related amendments on its required effective date of January 1,2018 utilizing the full retrospective approach. There was no impact to net income. Consistent with the full retrospective approach, the Company adjusted certain prior period amounts, discussed below.

Since the guidance does not apply to revenue associated with financial instruments, including loans and securities that are accounted for under other GAAP, the new guidance did not have a material impact on revenue most closely associated with financial instruments, including interest income and expense. The Company completed its overall assessment of revenue streams and review of related contracts potentially affected by the ASU, including trust and asset management fees, deposit related fees, interchange fees, merchant income, bank-financed sales of other real estate owned and annuity and insurance commissions. Based on this assessment, the Company concluded that ASU 2014-09 did not materially change the method in which the Company currently recognizes revenue for these revenue streams.

The Company also completed its evaluation of certain costs related to these revenue streams to determine whether such costs should be presented as expenses or contra-revenue (i.e., gross vs. net). Based on its evaluation, the Company determined that the classification of certain debit and credit card related costs should change (i.e., cost previously recorded as expense is now recorded as contra-revenue).

The Company identified $\$ 2,743$ previously presented as credit card processing expense for the year ended December 31, 2017 and $\$ 2,817$ for the year ended December 31, 2016, and reclassified it to net against credit card fee income.

## ASU No. 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities"

In January 2016, the FASB issued ASU No. 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities." This ASU addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments by making targeted improvements to GAAP. The provisions of the ASU that apply to the Company are as follows: (1) require equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income. However, an entity may choose to measure equity investments that do not have readily determinable fair values at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions for the identical or a similar investment of the same issuer; (2) simplify the impairment assessment of equity investments without readily determinable fair values by requiring a qualitative assessment to identify impairment. When a qualitative assessment indicates that impairment exists, an entity is required to measure the investment at fair value; (3) eliminate the requirement to disclose the method(s) and significant assumptions used to estimate the fair value that is required to be disclosed for financial instruments measured at amortized cost on the balance sheet; (4) require use of the exit price notion when measuring the fair value of financial instruments for disclosure purposes; (5) require separate presentation of financial assets and financial liabilities by measurement category and form of financial asset (that is, securities or loans and receivables) on the balance sheet or the accompanying notes to the financial statements; and (6) clarify that an entity should evaluate the need for a valuation allowance on a deferred tax asset related to available-for-sale securities in combination with the entity's other deferred tax assets.

The adoption of ASU No. 2016-01 on January 1, 2018 did not have a material impact on the Company's Consolidated Financial Statements. In accordance with (4) above, the Company measured the fair value of its loan portfolio and time deposit portfolio as of December 31, 2018 using an exit price notion (see Note 15: Fair Value Measurements).

## ASU No. 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost"

In March 2017, the FASB issued ASU No. 2017-07, "Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost." The ASU requires employers to present the service cost component of the net periodic benefit cost in the same income statement line item (e.g., Salaries and Employee Benefits) as other employee compensation costs arising from services rendered during the period. In addition, only the service cost component will be eligible for capitalization in assets. Employers will present the other components of net periodic benefit cost separately (e.g., Other Noninterest Expense) from the line item that includes the service cost. The guidance requires retrospective adoption on the presentation of the components of net periodic benefit cost in the income statement. The guidance provides for prospective adoption on limiting the capitalization of net periodic benefit cost in assets to the service cost component.

The Company adopted ASU No. 2017-07 on January 1, 2018 and utilized the ASU's practical expedient allowing entities to estimate amounts for comparative periods using the information previously disclosed in their pension and other postretirement benefit plan footnote. The Company re-classified non-servicing components of net periodic pension cost from compensation expense to other noninterest expense. ASU No. 2017-07 did not have a material impact on the Company's Consolidated Financial Statements.

## Recent Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02, "Leases (Topic 842)." Among other things, in the amendments in ASU 2016-02, lessees will be required to recognize the following for all leases (with the exception of short-term leases) at the commencement date: (1) A lease liability, which is a lessee's obligation to make lease payments arising from a lease, measured on a discounted basis; and (2) A right-of-use asset, which is an asset that represents the lessee's right to use, or control the use of, a specified asset for the lease term. Under the new guidance, lessor accounting is largely unchanged. Certain targeted improvements were made to align, where necessary, lessor accounting with the lessee accounting model and Topic 606, Revenue from Contracts with Customers. The amendments in this ASU are effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early application is permitted upon issuance. Lessees (for capital and operating leases) and lessors (for sales-type, direct financing, and operating leases) must apply a modified retrospective transition approach for leases existing at, or entered into after, the beginning of the earliest comparative period presented in the financial statements. The modified retrospective approach would not require any transition accounting for leases that expired before the earliest comparative period presented. Lessees and lessors may not apply a full retrospective transition approach. The FASB made subsequent amendments to Topic 842 in July 2018 through ASU 2018-10 ("Codification Improvements to Topic 842, Leases.") and ASU 2018-11 ("Leases (Topic 842): Targeted Improvements.") Among these amendments is the provision in ASU 2018-11 that provides entities with an additional (and optional) transition method to adopt the new leases standard. Under this new transition method, an entity initially applies the new leases standard at the adoption date and recognizes a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. Consequently, an entity's reporting for the comparative periods presented in the financial statements in which it adopts the new leases standard will continue to be in accordance with current GAAP (Topic 840, Leases). The effect of adopting this standard on January 1, 2019 was an approximate $\$ 684$ increase in assets and liabilities on our consolidated balance sheet. During the first quarter of 2019, the Company entered two additional leases that increased the right of use asset and lease liability by $\$ 1,529$.

In June 2016, the FASB issued ASU No. 2016-13, "Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments." The amendments in this ASU, among other things, require the measurement of all expected credit losses for financial assets held at the reporting date based on historical experience, current conditions, and reasonable and supportable forecasts. Financial institutions and other organizations will now use forward-looking information to better inform their credit loss estimates. Many of the loss estimation techniques applied today will still be permitted, although the inputs to those techniques will change to reflect the full amount of expected credit losses. In addition, the ASU amends the accounting for credit losses on available-for-sale debt securities and purchased financial assets with credit deterioration. The amendments in this ASU are effective for SEC filers for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. The Company is currently assessing the impact that ASU 2016-13 will have on its consolidated financial statements. The Company is currently assessing the impact that ASU 2016-13 will have on its consolidated financial statements. The Company has formed a working group to address information requirements, determine methodology, research forecasts and ensure readiness and compliance with the standard. The Company has begun calculating and refining concurrent models using CECL methodology. The Company will continue to fine tune assumptions prior to the effective date.

In January 2017, the FASB issued ASU No. 2017-04, "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment". The amendments in this ASU simplify how an entity is required to test goodwill for impairment by eliminating Step 2 from the goodwill impairment test. Step 2 measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. Instead, under the amendments in this ASU, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. Public business entities that are U.S. Securities and Exchange Commission (SEC) filers should adopt the amendments in this ASU for annual or interim goodwill impairment tests in fiscal years beginning after December 15, 2019. Early adoption is permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. The Company does not expect the adoption of ASU 201704 to have a material impact on its consolidated financial statements.

In March 2017, the FASB issued ASU 2017-08, "Receivables-Nonrefundable Fees and Other Costs (Subtopic 310-20), Premium Amortization on Purchased Callable Debt Securities." The amendments in this ASU shorten the amortization period for certain callable debt securities purchased at a premium. Upon adoption of the standard, premiums on these qualifying callable debt securities will be amortized to the earliest call date. Discounts on purchased debt securities will continue to be accreted to maturity. The amendments are effective for fiscal years beginning after December 15,2018 , and interim periods within those fiscal years. Early adoption is permitted, including adoption in an interim period. Upon transition, entities should apply the guidance on a modified retrospective basis, with a cumulative-effect adjustment to retained earnings as of the beginning of the period of adoption and provide the disclosures required for a change in accounting principle. The Company does not expect the adoption of ASU 2017-08 to have a material impact on its consolidated financial statements as we currently have no potential common stock outstanding.

In August 2018, the FASB issued ASU 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement." The amendments modify the disclosure requirements in Topic 820 to add disclosures regarding changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty. Certain disclosure requirements in Topic 820 are also removed or modified. The amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Certain of the amendments are to be applied prospectively while others are to be applied retrospectively. Early adoption is permitted. The Company does not expect the adoption of ASU 2018-13 to have a material impact on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-14, "Compensation-Retirement Benefits-Defined Benefit Plans-General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans." These amendments modify the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. Certain disclosure requirements have been deleted while the following disclosure requirements have been added: the weighted-average interest crediting rates for cash balance plans and other plans with promised interest crediting rates and an explanation of the reasons for significant gains and losses related to changes in the benefit obligation for the period. The amendments also clarify the disclosure requirements in paragraph 715-20-50-3, which state that the following information for defined benefit pension plans should be disclosed: The projected benefit obligation (PBO) and fair value of plan assets for plans with PBOs in excess of plan assets and the accumulated benefit obligation (ABO) and fair value of plan assets for plans with ABOs in excess of plan assets. The amendments are effective for fiscal years ending after December 15, 2020. Early adoption is permitted. The Company does not expect the adoption of ASU 2018-14 to have a material impact on its consolidated financial statements.

## Note 2: Restriction on Cash

The Company's subsidiary bank is a member of the Federal Reserve System. The Federal Reserve does not require member banks to hold an average balance in order to purchase services from the Federal Reserve.

## Note 3: Securities

The amortized cost and fair value of securities available for sale, with gross unrealized gains and losses, follows:

| Available for sale: | December 31, 2018 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Amortized Cost |  | $\begin{gathered} \hline \text { Gross } \\ \text { Unrealized } \\ \text { Gains } \\ \hline \end{gathered}$ |  | $\begin{gathered} \hline \text { Gross } \\ \text { Unrealized } \\ \text { Losses } \\ \hline \end{gathered}$ |  | Fair Value |  |
| U.S. Government agencies and corporations | \$ | 306,264 | \$ | 449 | \$ | 6,666 | \$ | 300,047 |
| States and political subdivisions |  | 118,564 |  | 1,218 |  | 1,166 |  | 118,616 |
| Mortgage-backed securities |  | 586 |  | 42 |  | --- |  | 628 |
| Corporate debt securities |  | 6,014 |  | --- |  | 295 |  | 5,719 |
| Total securities available for sale | \$ | 431,428 | \$ | 1,709 | \$ | 8,127 | \$ | 425,010 |
|  | December 31, 2017 |  |  |  |  |  |  |  |
| Available for sale: |  | ortized <br> Cost | $\begin{gathered} \hline \text { Gross } \\ \text { Unrealized } \\ \text { Gains } \\ \hline \end{gathered}$ |  | Gross <br> Unrealized <br> Losses |  | Fair Value |  |
| U.S. Government agencies and corporations | \$ | 312,604 | \$ | 609 | \$ | 5,494 | \$ | 307,719 |
| States and political subdivisions |  | 16,853 |  | 100 |  | 119 |  | 16,834 |
| Mortgage-backed securities |  | 602 |  | 57 |  | --- |  | 659 |
| Corporate debt securities |  | 6,016 |  | 188 |  | 29 |  | 6,175 |
| Total securities available for sale | \$ | 336,075 | \$ | 954 | \$ | 5,642 | \$ | 331,387 |

The amortized cost and fair value of single maturity securities available for sale at December 31, 2018, by contractual maturity, are shown below. Expected maturities may differ from contractual maturities because borrowers may have the right to call or prepay obligations with or without call or prepayment penalties. Mortgage-backed securities included in these totals are categorized by final maturity at December 31, 2018.

|  | December 31, 2018 |  |  |
| :--- | ---: | ---: | ---: |
| Available for sale: | Amortized Cost |  |  |
| Fair Value |  |  |  |
| Due in one year or less | $\$$ | $\mathbf{7 1 , 3 0 3}$ | $\$$ |
| Due after one year through five years |  | $\mathbf{1 8 1 , 1 8 6}$ | $\mathbf{1 7 7 , 1 4 1}$ |
| Due after five years through ten years | $\mathbf{8 5 , 3 7 9}$ | $\mathbf{8 4 , 5 8 4}$ |  |
| Due after ten years | $\mathbf{9 3 , 5 6 0}$ | $\mathbf{9 2 , 2 7 2}$ |  |
| Total securities available for sale | $\mathbf{\$}$ | $\mathbf{4 3 1 , 4 2 8}$ | $\$$ |

Prior to the second quarter of 2018, the Company designated securities in its portfolio as either available for sale or held to maturity. During the second quarter of 2018, the Company re-designated all of its held to maturity securities to available for sale. The securities were re-designated to provide opportunities to maximize asset utilization. At the time of transfer, the securities had a fair value of $\$ 119,790$ and an amortized cost of $\$ 118,662$, resulting in an unrealized gain of $\$ 1,128$ which was added to accumulated other comprehensive income at the date of re-designation.

At December 31, 2017, the amortized cost and fair value of securities held to maturity, with gross unrealized gains and losses, follows:


Information pertaining to securities with gross unrealized losses at December 31, 2018 and 2017 aggregated by investment category and length of time that individual securities have been in a continuous loss position, follows:

|  | December 31, 2018 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Less Than 12 Months |  |  |  | 12 Months or More |  |  |  |
|  | Fair <br> Value |  | $\begin{gathered} \text { Unrealized } \\ \text { Loss } \\ \hline \end{gathered}$ |  | Fair <br> Value |  | $\begin{gathered} \text { Unrealized } \\ \text { Loss } \\ \hline \end{gathered}$ |  |
| U. S. Government agencies and corporations | \$ | 17,730 | \$ | 216 | \$ | 259,992 | \$ | 6,450 |
| State and political subdivisions |  | 16,882 |  | 352 |  | 20,758 |  | 814 |
| Corporate debt securities |  | 4,842 |  | 194 |  | 876 |  | 101 |
| Total temporarily impaired securities | \$ | 39,454 | \$ | 762 | \$ | 281,626 | \$ | 7,365 |


|  | December 31, 2017 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Less Than 12 Months |  |  |  | 12 Months or More |  |  |  |
|  | Fair Value |  | $\begin{gathered} \text { Unrealized } \\ \text { Loss } \\ \hline \end{gathered}$ |  | Fair <br> Value |  | $\begin{gathered} \text { Unrealized } \\ \text { Loss } \\ \hline \end{gathered}$ |  |
| U. S. Government agencies and corporations | \$ | 68,380 | \$ | 871 | \$ | 225,738 | \$ | 4,623 |
| State and political subdivisions |  | 18,688 |  | 194 |  | 2,989 |  | 98 |
| Corporate debt securities |  | --- |  | --- |  | 948 |  | 29 |
| Total temporarily impaired securities | \$ | 87,068 | \$ | 1,065 | \$ | 229,675 | \$ | 4,750 |

The Company had 359 securities with a fair value of $\$ 321,080$ that were temporarily impaired at December 31, 2018. The total unrealized loss on these securities was $\$ 8,127$. Of the temporarily impaired total, 309 securities with a fair value of $\$ 281,626$ and an unrealized loss of $\$ 7,365$ have been in a continuous loss position for twelve months or more. The Company has determined that these securities are temporarily impaired at December 31, 2018 for the reasons set out below.
U.S. Government agencies. The unrealized losses of $\$ 6,450$ on US Government agency securities stemmed from 267 securities with a fair value of $\$ 259,992$. The unrealized losses were caused by interest rate and market fluctuations. The contractual terms of the investment do not permit the issuer to settle the security at a price less than the cost basis of the investment. The Company is monitoring bond market trends to develop strategies to address unrealized losses. Because the Company does not intend to sell the investment and it is not likely that the Company will be required to sell the investment before recovery of its amortized cost basis, which may be at maturity, the Company does not consider this investment to be other-than-temporarily impaired.

States and political subdivisions. This category exhibits unrealized losses of $\$ 814$ on 41 securities with a fair value of $\$ 20,758$. The Company reviewed financial statements and cash flows for the each of the securities in continuous loss position for more than 12 months. The Company's analysis determined that the unrealized losses are primarily the result of interest rate and market fluctuations and not associated with impaired financial status. The contractual terms of the investment do not permit the issuer to settle the securities at a price less than the cost basis of each investment. Because the Company does not intend to sell any of the investments and it is not likely that the Company will be required to sell any of the investments before recovery of its amortized cost basis, which may be at maturity, the Company does not consider these investments to be other-than-temporarily impaired.

Corporate debt securities. The unrealized loss of $\$ 101$ on one corporate debt security with a fair value of $\$ 876$ was caused by market and interest rate fluctuations and is not associated with impaired financial status. The contractual terms of the investment do not permit the issuer to settle the securities at a price less than the cost basis of each investment. Because the Company does not intend to sell the
investment and it is not likely that the Company will be required to sell the investment before recovery of its amortized cost basis, which may be at maturity, the Company does not consider the investment to be other-than-temporarily impaired.

Restricted stock. The Company holds restricted stock of $\$ 1,220$ as of December 31, 2018 and $\$ 1,200$ as of December 31, 2017. Restricted stock is reported separately from available-for-sale securities and held-to-maturity securities. As a member of the Federal Reserve and the Federal Home Loan Bank ("FHLB") of Atlanta, NBB is required to maintain certain minimum investments in the common stock of those entities. Required levels of investment are based upon NBB's capital and a percentage of qualifying assets. The Company purchases stock from or sells stock back to the correspondents based on their calculations. The stock is held by member institutions only and is not actively traded.

Redemption of FHLB stock is subject to certain limitations and conditions. At its discretion, the FHLB may declare dividends on the stock. In addition to dividends, NBB also benefits from its membership with FHLB through eligibility to borrow from the FHLB, using as collateral NBB's capital stock investment in the FHLB and qualifying NBB real estate mortgage loans totaling $\$ 513,578$ at December 31, 2018. Management reviews for impairment based upon the ultimate recoverability of the cost basis of the FHLB stock, and at December 31, 2018, management did not determine any impairment.

Management regularly monitors the credit quality of the investment portfolio. Changes in ratings are noted and follow-up research on the issuer is undertaken when warranted. Management intends to carefully monitor any changes in bond quality.

## Pledged Securities

At December 31, 2018 and 2017, securities with a carrying value of $\$ 196,062$ and $\$ 194,980$, respectively, were pledged to secure municipal deposits and for other purposes as required or permitted by law.

## Realized Securities Gains and Losses

During 2018, the Company sold one security for that resulted in a gain of \$16. During 2017, the Company sold a small investment in community bank stock that resulted in a gain of $\$ 4$. The investment was classified as available for sale and had a book value of $\$ 189$. All other realized gains and losses on securities during 2018, 2017 and 2016 resulted from calls of securities. Information pertaining to realized gains and losses on sold and called securities follows:

|  | For the year ended December 31, 2018 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Proceeds |  | Book Value | Gross Gain | Gross Loss | Net Gain |
| Available for sale | \$ | 17,287 \$ | 17,270 | 17 \$ | --- \$ | 17 |
| Held to maturity |  | 6,430 | 6,430 | --- | --- | --- |


|  | For the year ended December 31, 2017 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Proceeds |  | Book Value |  | Gross Gain |  | Gross Loss | Net Gain |
| Available for sale | \$ | 13,620 | \$ | 13,614 | \$ | 10 \$ | --- \$ | 10 |
| Held to maturity |  | 8,975 |  | 8,971 |  | 4 | --- | 4 |


|  | For the year ended December 31, 2016 |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Proceeds | Book Value | Gross Gain | Gross Loss | Net Gain |
|  | Available for sale | 220,520 | $\$$ | 220,334 | $\$$ |
| Held to maturity | 16,160 | 16,114 | --8 | 186 |  |

## Note 4: Related Party Transactions

In the ordinary course of business, the Company, through its banking subsidiary, has granted loans to related parties, including executive officers and directors of Bankshares and its subsidiaries. Total funded credit extended to related parties amounted to $\$ 18,700$ at December 31, 2018 and $\$ 12,600$ at December 31, 2017. During 2018, there was a change in related party relationships that resulted in a decrease of $\$ 782$. During 2018, total principal additions were $\$ 9,213$ and principal payments were $\$ 2,331$. The Company held $\$ 6,911$ in deposits for related parties as of December 31, 2018 and $\$ 15,612$ as of December 31, 2017. The Company leases to a director a small office space. The lease payments totaled \$5 in 2018 and \$5 in 2017.

## Note 5: Allowance for Loan Losses, Nonperforming Assets and Impaired Loans

The allowance for loan losses methodology incorporates individual evaluation of impaired loans and collective evaluation of groups of non-impaired loans. The Company performs ongoing analysis of the loan portfolio to determine credit quality and to identify impaired loans. Credit quality is rated based on the loan's payment history, the borrower's current financial situation and value of the underlying collateral.

## Impaired Loans

Loans are designated as impaired when, in the judgment of management based on current information and events, it is probable that all amounts will not be collected when due according to the contractual terms of the loan agreement. Impaired loans are those loans that have been modified in a troubled debt restructure ("TDR" or "restructure") and larger, usually non-homogeneous loans that are in nonaccrual or exhibit payment history or financial status that indicate that collection probably will not occur when due according to the loan's terms. Generally, impaired loans are given risk ratings that indicate higher risk, such as "classified" or "special mention." Impaired loans are individually evaluated to determine appropriate reserves and are measured at the lower of the invested amount or the fair value. Impaired loans that are not troubled debt restructures and for which fair value measurement indicates an impairment loss are designated nonaccrual. A restructured loan that maintains current status for at least six months may be in accrual status. Please refer to Note 1: Summary of Significant Accounting Policies for additional information on evaluation of impaired loans and associated specific reserves, and policies regarding nonaccruals, past due status and charge-offs.

Troubled debt restructurings impact the estimation of the appropriate level of the allowance for loan losses. If the restructuring included forgiveness of a portion of principal or accrued interest, the charge-off is included in the historical charge-off rates applied to the collective evaluation methodology. Restructured loans are individually evaluated for impairment, and the amount of a restructured loan's book value in excess of its fair value is accrued as a specific allocation in the allowance for loan losses. If a TDR loan payment exceeds 90 days past due, it is examined to determine whether the late payment indicates collateral dependency or cash flows below those that were used in the fair value measurement. TDRs, as well as all impaired loans, that are determined to be collateral dependent are charged down to fair value. Deficiencies indicated by impairment measurements for TDRs that are not collateral dependent may be accrued in the allowance for loan losses or charged off if deemed uncollectible.

## Collectively-Evaluated Loans

The Company evaluated characteristics in the loan portfolio and determined major segments and smaller classes within each segment. These characteristics include collateral type, repayment sources, and (if applicable) the borrower's business model. The methodology for calculating reserves for collectively-evaluated loans is applied at the class level.

## Portfolio Segments and Classes

The segments and classes used in determining the allowance for loan losses are as follows.

Real Estate Construction

Construction, residential
Construction, other

Consumer Real Estate

Equity lines
Residential closed-end first liens
Residential closed-end junior liens
Investor-owned residential real estate
Commercial Real Estate
Multifamily real estate
Commercial real estate, owner-occupied
Commercial real estate, other

## Commercial Non Real Estate <br> Commercial and Industrial

Public Sector and IDA
Public sector and IDA
Consumer Non Real Estate
Credit cards
Automobile
Other consumer loans

## Historical Loss Rates

The Company's allowance methodology for collectively-evaluated loans applies historical loss rates by class to current class balances as part of the process of determining required reserves. Class loss rates are calculated as the net charge-offs for the class as a percentage of average class balance. The Company averages loss rates for the most recent 8 quarters to determine the historical loss rate for each class.

Two loss rates for each class are calculated: total net charge-offs for the class as a percentage of average class loan balance ("class loss rate"), and total net charge-offs for the class as a percentage of average classified loans in the class ("classified loss rate"). Classified loans are those with risk ratings of "substandard" or lower. Net charge-offs in both calculations include charge-offs and recoveries of classified and non-classified loans as well as those associated with impaired loans. Class historical loss rates are applied to non-classified loan balances at the reporting date, and classified historical loss rates are applied to classified balances at the reporting date.

## Risk Factors

In addition to historical loss rates, risk factors pertinent to credit risk for each class are analyzed to estimate reserves for collectivelyevaluated loans. Factors include changes in national and local economic and business conditions, the nature and volume of classes within the portfolio, loan quality, loan officers' experience, lending policies and the Company's loan review system.

The analysis of certain factors results in standard allocations to all segments and classes. These factors include the risk from changes in lending policies, loan officers' average years of experience, unemployment levels, bankruptcy rates, interest rate environment, and competition/legal/regulatory environments. Factors analyzed for each class, with resultant allocations based upon the level of risk assessed for each class, include the risk from changes in loan review, levels of past due loans, levels of nonaccrual loans, current class balance as a percentage of total loans, and the percentage of high risk loans within the class. Additionally, factors specific to each segment are analyzed and result in allocations to the segment. Please refer to Note 1: Summary of Significant Accounting Policies of Form 10-K for a discussion of risk factors pertinent to each class.

Real estate construction loans are subject to general risks from changing commercial building and housing market trends and economic conditions that may impact demand for completed properties and the costs of completion. These risks are measured by marketarea unemployment rates, bankruptcy rates, building market trends, and interest rates.

The credit quality of consumer real estate is subject to risks associated with the borrower's repayment ability and collateral value, measured generally by analyzing local unemployment and bankruptcy trends, local housing market trends, and interest rates.

The commercial real estate segment includes loans secured by multifamily residential real estate, commercial real estate occupied by the owner/borrower, and commercial real estate leased to non-owners. Loans in the commercial real estate segment are impacted by economic risks from changing commercial real estate markets, rental markets for multi-family housing and commercial buildings, business bankruptcy rates, local unemployment and interest rate trends that would impact the businesses housed by the commercial real estate.

Commercial non real estate loans are secured by collateral other than real estate, or are unsecured. Credit risk for commercial non real estate loans is subject to economic conditions, generally monitored by local business bankruptcy trends, and interest rates.

Public sector and IDA loans are extended to municipalities and related entities. Credit risk is based upon the entity's ability to repay and interest rate trends.

Consumer non real estate includes credit cards, automobile and other consumer loans. Credit cards and certain other consumer loans are unsecured, while collateral is obtained for automobile loans and other consumer loans. Credit risk stems primarily from the borrower's ability to repay, measured by average unemployment, average personal bankruptcy rates and interest rates.

Factor allocations applied to each class are increased for loans rated special mention and increased to a greater extent for loans rated classified. The Company allocates additional reserves for "high risk" loans. High risk loans include junior liens, interest only and high loan to value loans.

A detailed analysis showing the allowance roll-forward by portfolio segment and related loan balance by segment follows:

|  | Activity in the Allowance for Loan Losses by Segment for the year ended December 31, 2018 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Real Estate Construction |  | Consumer Real Estate |  | Commercial Real Estate |  | $\begin{gathered} \hline \text { Commercial } \\ \text { Non Real } \\ \text { Estate } \\ \hline \end{gathered}$ |  | Public Sector and IDA |  | Consumer Non Real Estate |  | Unallocated |  | Total |  |
| Balance, December 31, 2017 | \$ | 337 | \$ | 2,027 | \$ | 3,044 | \$ | 1,072 | \$ | 419 | \$ | 707 | \$ | 319 | S | 7,925 |
| Charge-offs |  | --- |  | (38) |  | --- |  | (107) |  | --- |  | (544) |  | --- |  | (689) |
| Recoveries |  | --- |  | 3 |  | 49 |  | 22 |  | --- |  | 161 |  | --- |  | 235 |
| Provision for (recovery of) loan losses |  | 61 |  | 57 |  | (295) |  | (385) |  | 164 |  | 426 |  | (109) |  | (81) |
| Balance, December 31, 2018 | \$ | 398 | \$ | 2,049 | \$ | 2,798 | \$ | 602 | \$ | 583 | \$ | 750 | \$ | 210 | \$ | 7,390 |

Activity in the Allowance for Loan Losses by Segment for the year ended December 31, 2017

|  | Real Estate Construction |  | Consumer <br> Real Estate |  | Commercial Real Estate |  | $\begin{gathered} \text { Commercial } \\ \text { Non Real } \\ \text { Estate } \\ \hline \end{gathered}$ |  | Public Sector and IDA |  | Consumer Non Real Estate |  | Unallocated |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Balance, December 31, 2016 | \$ | 438 | \$ | 1,830 | \$ | 3,738 | \$ | 1,063 | \$ | 330 | \$ | 644 | \$ | 257 | \$ | 8,300 |
| Charge-offs |  | --- |  | (146) |  | (139) |  | (82) |  | --- |  | (452) |  | --- |  | (819) |
| Recoveries |  | --- |  | 1 |  | 131 |  | 23 |  | --- |  | 132 |  | --- |  | 287 |
| Provision for (recovery of) loan losses |  | (101) |  | 342 |  | (686) |  | 68 |  | 89 |  | 383 |  | 62 |  | 157 |
| Balance, December 31, 2017 | \$ | 337 | \$ | 2,027 | \$ | 3,044 | \$ | 1,072 | \$ | 419 | \$ | 707 | \$ | 319 | \$ | 7,925 |


|  | Activity in the Allowance for Loan Losses by Segment for the year ended December 31, 2016 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Real Estate Construction |  | Consumer <br> Real Estate |  | Commercial Real Estate |  | $\begin{gathered} \text { Commercial } \\ \text { Non Real } \\ \text { Estate } \\ \hline \end{gathered}$ |  | PublicSector andIDA |  | Consumer Non Real Estate |  | Unallocated |  | Total |  |
| Balance, December 31, 2015 | \$ | 576 | \$ | 1,866 | \$ | 4,109 | \$ | 655 | \$ | 436 | \$ | 627 | \$ | 28 |  | 8,297 |
| Charge-offs |  | (29) |  | (133) |  | (488) |  | (883) |  | --- |  | (273) |  | --- |  | $(1,806)$ |
| Recoveries |  | --- |  | 2 |  | 83 |  | 10 |  | --- |  | 64 |  |  |  | 159 |
| Provision for (recovery of) loan losses |  | (109) |  | 95 |  | 34 |  | $(1,281)$ |  | (106) |  | 226 |  | 229 |  | 1,650 |
| Balance, December 31, 2016 | \$ | 438 | \$ | 1,830 | \$ | 3,738 | \$ | 1,063 | \$ | 330 | \$ | 644 | \$ | 257 | \$ | 8,300 |

Allowance for Loan Losses by Segment and Evaluation Method as of
December 31, 2018

|  | December 31, 2018 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Real Estate Construction |  | Consumer <br> Real Estate |  | Commercial Real Estate |  | $\begin{gathered} \text { Commercial } \\ \text { Non Real } \\ \text { Estate } \\ \hline \end{gathered}$ |  | Public Sector and IDA |  | Consumer Non Real Estate |  | Unallocated |  | Total |  |
| Individually evaluated for impairment | \$ | --- | \$ | 4 | \$ | --- | \$ | 135 | \$ | --- | \$ | --- | \$ | --- | \$ | 139 |
| Collectively evaluated for impairment |  | 398 |  | 2,045 |  | 2,798 |  | 467 |  | 583 |  | 750 |  | 210 |  | 7,251 |
| Total | \$ | 398 | \$ | 2,049 | \$ | 2,798 | \$ | 602 | \$ | 583 | \$ | 750 | \$ | 210 | \$ | 7,390 |

## Loans by Segment and Evaluation Method as of

December 31, 2018

|  | Real Estate Construction |  | Consumer <br> Real Estate |  | Commercial Real Estate |  | $\begin{gathered} \text { Commercial } \\ \text { Non Real } \\ \text { Estate } \\ \hline \end{gathered}$ |  | PublicSector andIDA |  | $\begin{gathered} \text { Consumer } \\ \text { Non Real } \\ \text { Estate } \\ \hline \end{gathered}$ |  | Unallocated |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Individually evaluated for impairment | \$ | --- | \$ | 1,452 | \$ | 4,340 | \$ | 1,015 | \$ | --- | \$ | 13 | \$ | --- | \$ | 6,820 |
| Collectively evaluated for impairment |  | 37,845 |  | 174,004 |  | 349,206 |  | 45,520 |  | 60,777 |  | 36,225 |  | --- |  | 703,577 |
| Total | \$ | 37,845 | \$ | 175,456 | \$ | 353,546 | \$ | 46,535 | \$ | 60,777 | \$ | 36,238 | \$ | --- | \$ | 710,397 |

Allowance for Loan Losses by Segment and Evaluation Method as of
December 31, 2017

|  | Real Estate Construction |  | Consumer Real Estate |  | Commercial Real Estate |  | $\begin{gathered} \text { Commercial } \\ \text { Non Real } \\ \text { Estate } \\ \hline \end{gathered}$ |  | PublicSector andIDA |  | Consumer Non Real Estate |  | Unallocated |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Individually evaluated for impairment | \$ | --- | \$ | 16 | \$ | --- | \$ | 160 | \$ | --- | \$ | 1 | \$ | --- | \$ | 177 |
| Collectively evaluated for impairment |  | 337 |  | 2,011 |  | 3,044 |  | 912 |  | 419 |  | 706 |  | 319 |  | 7,748 |
| Total | \$ | 337 | \$ | 2,027 | \$ | 3,044 | \$ | 1,072 | \$ | 419 | \$ | 707 | \$ | 319 | \$ | 7,925 |

Loans by Segment and Evaluation Method as of
December 31, 2017

|  | Real Estate Construction |  | Consumer Real Estate |  | Commercial Real Estate |  | CommercialNon RealEstate |  | Public Sector and IDA |  | $\begin{aligned} & \text { Consumer Non } \\ & \text { Real Estate } \end{aligned}$ |  | Unallocated |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Individually evaluated for impairment | \$ | 2,882 | \$ | 1,267 | \$ | 6,516 | \$ | 1,229 | \$ | --- | \$ | 30 | \$ | --- | \$ | 11,924 |
| Collectively evaluated for impairment |  | 31,812 |  | 165,698 |  | 333,898 |  | 39,289 |  | 51,443 |  | 34,618 |  | --- |  | 656,758 |
| Total | \$ | 34,694 | \$ | 166,965 | \$ | 340,414 | \$ | 40,518 | \$ | 51,443 | \$ | 34,648 | \$ | --- | \$ | 668,682 |

A summary of ratios for the allowance for loan losses follows:

|  | December 31, |  |
| :---: | :---: | :---: |
|  | 2018 | 2017 |
| Ratio of allowance for loan losses to the end of period loans, net of unearned income and deferred fees and costs | 1.04 \% | 1.19\% |
| Ratio of net charge-offs to average loans, net of unearned income and deferred fees and costs | 0.07 \% | 0.08 \% |

A summary of nonperforming assets follows:

|  | December 31, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  |
| Nonperforming assets: |  |  |  |  |
| Nonaccrual loans | \$ | 311 | \$ | 6 |
| Restructured loans in nonaccrual |  | 3,109 |  | 2,763 |
| Total nonperforming loans |  | 3,420 |  | 2,769 |
| Other real estate owned, net |  | 2,052 |  | 2,817 |
| Total nonperforming assets | \$ | 5,472 |  | 5,586 |
| Ratio of nonperforming assets to loans, net of unearned income and deferred fees and costs, plus other real estate owned |  | 0.77 \% |  | 0.83\% |
| Ratio of allowance for loan losses to nonperforming loans ${ }^{(1)}$ |  | 216.08 \% |  | 286.20 \% |

(1) The Company defines nonperforming loans as total nonaccrual and restructured loans that are nonaccrual. Loans 90 days past due and still accruing and accruing restructured loans are excluded.

A summary of loans past due 90 days or more and impaired loans follows:

|  | December 31, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  |
| Loans past due 90 days or more and still accruing | \$ | 35 | \$ | 51 |
| Ratio of loans past due 90 days or more and still accruing to loans, net of unearned income and deferred fees and costs |  | 0.00 \% |  | 0.01 \% |
| Accruing restructured loans | \$ | 2,552 | \$ | 5,134 |
| Impaired loans: |  |  |  |  |
| Impaired loans with no valuation allowance | \$ | 5,667 |  | 10,444 |
| Impaired loans with a valuation allowance |  | 1,153 |  | 1,480 |
| Total impaired loans | \$ | 6,820 |  | 11,924 |
| Valuation allowance | \$ | (139) | \$ | (177) |
| Impaired loans, net of allowance | \$ | 6,681 |  | 11,747 |
| Average recorded investment in impaired loans ${ }^{(1)}$ | \$ | 9,788 |  | 13,344 |
| Income recognized on impaired loans, after designation as impaired | \$ | 250 | \$ | 528 |
| Amount of income recognized on a cash basis | \$ | --- | \$ | -- |

(1) Recorded investment is net of charge-offs and interest paid while a loan is in nonaccrual status.

No interest income was recognized on nonaccrual loans for the years ended December 31, 2018, 2017 or 2016. Nonaccrual loans that meet the Company's balance thresholds are designated as impaired.

A detailed analysis of investment in impaired loans, associated reserves and interest income recognized, by loan class follows:

|  | Impaired Loans as of December 31, 2018 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Principal Balance |  | (A) <br> Total Recorded Investment ${ }^{(1)}$ |  | Recorded Investment ${ }^{(1)}$ in (A) for Which There is No Related Allowance |  | Recorded Investment ${ }^{(1)}$ in (A) for Which There is a Related Allowance |  | Related <br> Allowance |  |
| Consumer Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |  |
| Residential closed-end first liens | \$ | 728 | \$ | 719 | \$ | 719 | \$ | --- | \$ | --- |
| Residential closed-end junior liens |  | 144 |  | 143 |  | --- |  | 143 |  | 4 |
| Investor-owned residential real estate |  | 593 |  | 590 |  | 590 |  | --- |  | --- |
| Commercial Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |  |
| Multifamily real estate |  | 485 |  | 483 |  | 483 |  | --- |  | --- |
| Commercial real estate, owner occupied |  | 1,363 |  | 1,363 |  | 1,363 |  | --- |  | --- |
| Commercial real estate, other |  | 2,867 |  | 2,494 |  | 2,494 |  | --- |  | --- |
| Commercial Non Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |  |
| Commercial and Industrial |  | 1,018 |  | 1,015 |  | 5 |  | 1,010 |  | 135 |
| Consumer Non Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |  |
| Automobile |  | 13 |  | 13 |  | 13 |  | --- |  | - |
| Total | \$ | 7,211 | \$ | 6,820 | \$ | 5,667 | \$ | 1,153 | \$ | 139 |


|  | Impaired Loans as of December 31, 2017 |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Principal Balance | (A) <br> Total Recorded Investment ${ }^{(1)}$ |  | Recorded Investment ${ }^{(1)}$ in (A) for Which There is No Related Allowance |  | Recorded Investment ${ }^{(1)}$ in <br> (A) for Which There is a Related Allowance |  | Related <br> Allowance |  |
| Real Estate Construction ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |
| Construction other | \$ 2,882 | \$ | 2,882 | \$ | 2,882 | \$ | --- | \$ | --- |
| Consumer Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |
| Residential closed-end first liens | 807 |  | 768 |  | 590 |  | 178 |  | 10 |
| Residential closed-end junior liens | 174 |  | 174 |  | --- |  | 174 |  | 6 |
| Investor-owned residential real estate | 347 |  | 325 |  | 325 |  | --- |  | --- |
| Commercial Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |
| Multifamily real estate | 303 |  | 303 |  | 303 |  | --- |  | --- |
| Commercial real estate, owner occupied | 3,619 |  | 3,611 |  | 3,611 |  | --- |  | --- |
| Commercial real estate, other | 2,921 |  | 2,602 |  | 2,602 |  | --- |  | --- |
| Commercial Non Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |
| Commercial and Industrial | 1,236 |  | 1,229 |  | 126 |  | 1,103 |  | 160 |
| Consumer Non Real Estate ${ }^{(2)}$ |  |  |  |  |  |  |  |  |  |
| Automobile | 30 |  | 30 |  | 5 |  | 25 |  | 1 |
| Total | \$ 12,319 | \$ | 11,924 | \$ | 10,444 | \$ | 1,480 | \$ | 177 |

(1) Recorded investment is net of charge-offs and interest paid while a loan is in nonaccrual status.
(2) Only classes with impaired loans are shown.

|  | Average Investment and Interest Income for Impaired Loans <br> For the Year Ended <br> December 31, 2018 |  |  |
| :---: | :---: | :---: | :---: |
|  | Average Recorded Investment ${ }^{(1)}$ | Interest Income Recognized |  |
| Consumer Real Estate ${ }^{(2)}$ |  |  |  |
| Residential closed-end first liens | 1,202 |  | 41 |
| Residential closed-end junior liens | 159 |  | 9 |
| Investor-owned residential real estate | 808 |  | 23 |
| Commercial Real Estate ${ }^{(2)}$ |  |  |  |
| Multifamily real estate | 491 |  | 20 |
| Commercial real estate, owner occupied | 3,038 |  | 75 |
| Commercial real estate, other | 2,744 |  | 54 |
| Commercial Non Real Estate ${ }^{(2)}$ |  |  |  |
| Commercial and Industrial | 1,326 |  | 27 |
| Consumer Non Real Estate ${ }^{(2)}$ |  |  |  |
| Automobile | 20 |  | 1 |
| Total | \$ 9,788 | \$ | 250 |

(1) Recorded investment is net of charge-offs and interest paid while a loan is in nonaccrual status.
(2) Only classes with impaired loans are shown.

|  | Average Investment and Interest Income for Impaired Loans <br> For the Year Ended <br> December 31, 2017 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Average Recorded Investment ${ }^{(1)}$ |  | Interest Income Recognized |  |
| Real Estate Construction ${ }^{(2)}$ |  |  |  |  |
| Construction other | \$ | 3,298 | \$ | 177 |
| Consumer Real Estate ${ }^{(2)}$ |  |  |  |  |
| Residential closed-end first liens |  | 781 |  | 57 |
| Residential closed-end junior liens |  | 185 |  | 11 |
| Investor-owned residential real estate |  | 329 |  | 1 |
| Commercial Real Estate ${ }^{(2)}$ |  |  |  |  |
| Multifamily real estate |  | 748 |  | 16 |
| Commercial real estate, owner occupied |  | 4,047 |  | 200 |
| Commercial real estate, other |  | 2,638 |  | --- |
| Commercial Non Real Estate ${ }^{(2)}$ |  |  |  |  |
| Commercial and Industrial |  | 1,282 |  | 64 |
| Consumer Non Real Estate ${ }^{(2)}$ |  |  |  |  |
| Automobile |  | 36 |  | 2 |
| Total | \$ | 13,344 | \$ | 528 |

(1) Recorded investment is net of charge-offs and interest paid while a loan is in nonaccrual status.
(2) Only classes with impaired loans are shown.

Average Investment and Interest Income for Impaired Loans For the Year Ended
December 31, 2016

|  | December 31, 2016 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Average Recorded Investment ${ }^{(1)}$ |  | Interest Income Recognized |  |
| Real Estate Construction ${ }^{(2)}$ |  |  |  |  |
| Construction 1-4 family residential | \$ | 462 | \$ | 10 |
| Consumer Real Estate ${ }^{(2)}$ |  |  |  |  |
| Residential closed-end first liens |  | 642 |  | 38 |
| Residential closed-end junior liens |  | 207 |  | 13 |
| Investor-owned residential real estate |  | 74 |  | 4 |
| Commercial Real Estate ${ }^{(2)}$ |  |  |  |  |
| Multifamily real estate |  | 1,366 |  | 12 |
| Commercial real estate, owner occupied |  | 4,342 |  | 206 |
| Commercial real estate, other |  | 3,947 |  | 263 |
| Commercial Non Real Estate ${ }^{(2)}$ |  |  |  |  |
| Commercial and Industrial |  | 541 |  | 7 |
| Consumer Non Real Estate ${ }^{(2)}$ |  |  |  |  |
| Automobile |  | 4 |  | --- |
| Total | \$ | 11,585 | \$ | 553 |

(1) Recorded investment is net of charge-offs and interest paid while a loan is in nonaccrual status.
(2) Only classes with impaired loans are shown.

An analysis of past due and nonaccrual loans follows:

December 31, 2018

|  | $\begin{gathered} 30-89 \\ \text { Days Past } \\ \text { Due } \\ \hline \end{gathered}$ |  | 90 or More Days Past Due |  | 90 or More Days Past Due and Still Accruing |  | Nonaccruals (Including Impaired Nonaccruals) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Consumer Real Estate ${ }^{(1)}$ |  |  |  |  |  |  |  |  |
| Residential closed-end first liens |  | 647 |  | 119 |  | --- |  | 278 |
| Residential closed-end junior liens |  | 11 |  | --- |  | --- |  | --- |
| Investor-owned residential real estate |  | --- |  | --- |  | --- |  | 451 |
| Commercial Real Estate ${ }^{(1)}$ |  |  |  |  |  |  |  |  |
| Multifamily real estate |  | 291 |  | 192 |  | --- |  | 192 |
| Commercial real estate, owner occupied |  | 325 |  | --- |  | --- |  | --- |
| Commercial real estate, other |  | --- |  | --- |  | --- |  | 2,494 |
| Commercial Non Real Estate ${ }^{(1)}$ |  |  |  |  |  |  |  |  |
| Commercial and Industrial |  | 10 |  | 2 |  | 2 |  | 5 |
| Consumer Non Real Estate ${ }^{(1)}$ |  |  |  |  |  |  |  |  |
| Credit cards |  | 5 |  | --- |  | --- |  | --- |
| Automobile |  | 296 |  | 29 |  | 29 |  | --- |
| Other consumer loans |  | 50 |  | 4 |  | 4 |  | -- |
| Total | \$ | 1,635 | \$ | 346 | \$ | 35 | \$ | 3,420 |

December 31, 2017

|  | $\begin{gathered} 30-89 \\ \text { Days Past } \\ \text { Due } \\ \hline \end{gathered}$ | 90 or More Days Past Due | 90 or More <br> Days Past Due and Still Accruing | Nonaccruals (Including Impaired Nonaccruals) |
| :---: | :---: | :---: | :---: | :---: |
| Consumer Real Estate ${ }^{(1)}$ |  |  |  |  |
| Residential closed-end first liens | 637 | 16 | 11 | 145 |
| Residential closed-end junior liens | 188 | --- | --- | --- |
| Investor-owned residential real estate | 66 | --- | --- | 6 |
| Commercial Real Estate ${ }^{(1)}$ |  |  |  |  |
| Multifamily real estate | 303 | --- | --- | --- |
| Commercial real estate, owner occupied | 402 | --- | --- | --- |
| Commercial real estate, other | --- | 2,602 | --- | 2,602 |
| Commercial Non Real Estate ${ }^{(1)}$ |  |  |  |  |
| Commercial and Industrial | 131 | --- | --- | 15 |
| Consumer Non Real Estate ${ }^{(1)}$ |  |  |  |  |
| Credit cards | 7 | 12 | 12 | --- |
| Automobile | 375 | 22 | 22 | 1 |
| Other consumer loans | 154 | 6 | 6 | --- |
| Total | \$ 2,263 | \$ 2,658 | \$ 51 | \$ 2,769 |

(1) Only classes with past due or nonaccrual loans are presented

The estimate of credit risk for non-impaired loans is obtained by applying allocations for internal and external factors. The allocations are increased for loans that exhibit greater credit quality risk.

Credit quality indicators, which the Company terms risk grades, are assigned through the Company's credit review function for larger loans and selective review of loans that fall below credit review thresholds. Loans that do not indicate heightened risk are graded as "pass." Loans that appear to have elevated credit risk because of frequent or persistent past due status, which is less than 75 days, or that show weakness in the borrower's financial condition are risk graded "special mention." Loans with frequent or persistent
delinquency exceeding 75 days or that have a higher level of weakness in the borrower's financial condition are graded "classified." Classified loans have regulatory risk ratings of "substandard" and "doubtful." Allocations are increased by $50 \%$ and by $100 \%$ for loans with grades of "special mention" and "classified," respectively.

Determination of risk grades was completed for the portfolio as of December 31, 2018 and 2017.
The following displays non-impaired gross loans by credit quality indicator:
December 31, 2018

|  | Pass |  | Special <br> Mention <br> (Excluding <br> Impaired) |  | Classified (Excluding Impaired) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Real Estate Construction |  |  |  |  |  |  |
| Construction, 1-4 family residential | \$ | 9,264 | \$ | --- | \$ | --- |
| Construction, other |  | 28,560 |  | 21 |  | --- |
| Consumer Real Estate |  |  |  |  |  |  |
| Equity lines |  | 16,026 |  | 38 |  | --- |
| Closed-end first liens |  | 92,253 |  | 994 |  | 582 |
| Closed-end junior liens |  | 3,954 |  | --- |  | --- |
| Investor-owned residential real estate |  | 60,157 |  | --- |  | --- |
| Commercial Real Estate |  |  |  |  |  |  |
| Multifamily residential real estate |  | 98,582 |  | --- |  | --- |
| Commercial real estate owner-occupied |  | 123,225 |  | 211 |  | 32 |
| Commercial real estate, other |  | 127,156 |  | --- |  | --- |
| Commercial Non Real Estate |  |  |  |  |  |  |
| Commercial and Industrial |  | 45,420 |  | 54 |  | 46 |
| Public Sector and IDA |  |  |  |  |  |  |
| States and political subdivisions |  | 60,777 |  | --- |  | --- |
| Consumer Non Real Estate |  |  |  |  |  |  |
| Credit cards |  | 5,724 |  | --- |  | --- |
| Automobile |  | 18,598 |  | 133 |  | 71 |
| Other consumer |  | 11,691 |  | 4 |  | 4 |
| Total | \$ | 701,387 | \$ | 1,455 | \$ | 735 |

December 31, 2017

|  | Pass |  | Special <br> Mention <br> (Excluding <br> Impaired) |  | Classified <br> (Excluding <br> Impaired) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Real Estate Construction |  |  |  |  |  |  |
| Construction, 1-4 family residential | \$ | 10,396 | \$ | --- | \$ | --- |
| Construction, other |  | 21,416 |  | --- |  | --- |
| Consumer Real Estate |  |  |  |  |  |  |
| Equity lines |  | 16,673 |  | 39 |  | --- |
| Closed-end first liens |  | 85,975 |  | 2,400 |  | 355 |
| Closed-end junior liens |  | 4,483 |  | 29 |  | 12 |
| Investor-owned residential real estate |  | 55,410 |  | 66 |  | 256 |
| Commercial Real Estate |  |  |  |  |  |  |
| Multifamily residential real estate |  | 95,894 |  | 127 |  | --- |
| Commercial real estate owner-occupied |  | 130,256 |  | 246 |  | 763 |
| Commercial real estate, other |  | 106,612 |  | --- |  | -- |
| Commercial Non Real Estate |  |  |  |  |  |  |
| Commercial and Industrial |  | 38,904 |  | 220 |  | 165 |
| Public Sector and IDA |  |  |  |  |  |  |
| States and political subdivisions |  | 51,443 |  | --- |  | --- |
| Consumer Non Real Estate |  |  |  |  |  |  |
| Credit cards |  | 5,493 |  | --- |  | --- |
| Automobile |  | 16,059 |  | 218 |  | 116 |
| Other consumer |  | 12,692 |  | 16 |  | 24 |
| Total | \$ | 651,706 | \$ | 3,361 | \$ | 1,691 |

Sales, Purchases and Reclassification of Loans
The Company finances mortgages under "best efforts" contracts with mortgage purchasers. The mortgages are designated as held for sale upon initiation. There have been no major reclassifications from portfolio loans to held for sale. Occasionally, the Company purchases or sells participations in loans. All participation loans purchased met the Company's normal underwriting standards at the time the participation was entered. Participation loans are included in the appropriate portfolio balances to which the allowance methodology is applied.

## Troubled Debt Restructurings

From time to time the Company modifies loans in troubled debt restructurings ("TDRs"). The following tables present restructurings by class that occurred during the years ended December 31, 2018, 2017 and 2016.

Note: Only classes with restructured loans are presented.

|  | Restructurings that occurred during the year ended December 31, 2018 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of Contracts | Pre- <br> Modification Outstanding Recorded Investment |  | Post- <br> Modification Outstanding Recorded Investment ${ }^{(1)}$ |  |
| Construction Real Estate |  |  |  |  |  |
| Construction, other | 2 | \$ | 2,882 | \$ | 2,882 |
| Commercial Real Estate |  |  |  |  |  |
| Commercial real estate, owner occupied | 2 |  | 715 |  | 715 |
| Consumer Real Estate |  |  |  |  |  |
| Closed-end first liens | 1 |  | 22 |  | 22 |
| Investor-owned residential real estate | 8 |  | 594 |  | 594 |
| Total | 13 | \$ | 4,213 | \$ | 4,213 |

(1) Post-modification outstanding recorded investment considers amounts immediately following the modification. Amounts do not reflect balances at the end of the period.

The Company restructured 13 loans during the twelve month period ended December 31, 2018.
Each of the construction loans were restructured to extend the maturity and interest only period for each loan. As of December 31, 2018, the loans have been converted to permanent financing at market terms and are no longer considered TDR or individually evaluated for impairment.

Two commercial real estate loans were restructured to provide a 12 -month interest-only period without reducing the interest rate. When the interest-only period expires, the commercial real estate loans will be re-amortized for a longer term. The impairment measurements were based upon the present value of cash flows and did not result in a specific allocation for either loan.

The investor owned residential real estate loans were restructured to provide payment relief. Seven loans were restructured from amortizing to interest-only for a period of 12 months, when the loans will be reevaluated. The impairment measurements were based on the fair value of collateral and did not result in specific allocations. The other investor owned residential real estate restructure consolidated debt at a longer term, provided a rate reduction and capitalized interest. The impairment measurement was based upon the present value of cash flows and did not result in a specific allocation. The loan is in nonaccrual status and all payments made during the nonaccrual period are credited fully to principal, reducing the book balance below the present value of cash flows.

One residential closed-end first lien loan was restructured to provide payment relief by restructuring from amortizing to interestonly for a period of 12 months, when the loan will be reevaluated. The impairment measurement was based on the fair value of collateral and did not result in a specific allocation.

None of the restructures completed during the twelve months ended December 31, 2018 forgave principal or interest.

|  | Restructurings that occurred during the year ended December 31, 2017 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of Contracts | Pre- <br> Modification Outstanding Recorded Investment |  | Post- <br> Modification Outstanding Recorded Investment ${ }^{(1)}$ |  |
| Consumer Real Estate |  |  |  |  |  |
| Closed-end first lien | 1 | \$ | 8 | \$ | 8 |
| Commercial Real Estate |  |  |  |  |  |
| Commercial real estate, other | 1 |  | 132 |  | 132 |
| Commercial Non Real Estate |  |  |  |  |  |
| Commercial and industrial | 4 |  | 1,221 |  | 1,221 |
| Consumer Non Real Estate |  |  |  |  |  |
| Automobile | 4 |  | 26 |  | 26 |
| Total | 10 | \$ | 1,387 | \$ | 1,387 |

(1) Post-modification outstanding recorded investment considers amounts immediately following the modification. Amounts do not reflect balances at the end of the period.

Each of the restructurings completed during the twelve months ended December 31, 2017 provided payment relief to the borrowers. The consumer real estate loan was modified to provide payment relief by extending the term. Impairment measurement was based on the present value of cash flows and did not result in a specific allocation.

The commercial real estate loan restructuring reduced debt service by lowering the interest rate slightly and changing the interest method from variable to fixed. Interest was capitalized and the loan was re-amortized over a longer term. Impairment measurement, based on the present value of cash flows, did not result in a specific allocation. The loan is in nonaccrual status and all payments made during the nonaccrual period are credited fully to principal, reducing the book balance below the present value of cash flows.

The four commercial non-real estate loans were restructured to reduce monthly debt service by increasing the amortization period. Three of the commercial non-real estate loans received rate reductions, and on one commercial non-real estate loan, the interest method was changed from variable to fixed. Impairment measurement, based on the present value of cash flows, indicated a specific reserve for two of the commercial non-real estate loans.

The four automobile loans were restructured pursuant to Chapter 13 bankruptcy requirements, reducing the interest rate and reamortizing over a longer term to provide monthly debt service relief. One automobile loan restructuring included forgiveness of a small amount of principal to comply with the bankruptcy plan. Impairment measurement for all the restructured automobile loans was based on the present value of cash flows method and resulted in small specific allocations for each loan which totaled $\$ 1$.

|  | Restructurings that occurred during the year ended December 31, 2016 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number of Contracts | Pre- <br> Modification Outstanding Recorded Investment |  | Post- <br> Modification Outstanding Recorded Investment ${ }^{(1)}$ |  |
| Commercial Real Estate |  |  |  |  |  |
| Commercial real estate, other | 2 | \$ | 3,008 | \$ | 3,008 |
| Commercial Non Real Estate |  |  |  |  |  |
| Commercial and industrial | 1 |  | 29 |  | 30 |
| Consumer Non Real Estate |  |  |  |  |  |
| Automobile | 1 |  | 5 |  | 5 |
| Total | 4 | \$ | 3,042 | \$ | 3,043 |

(1) Post-modification outstanding recorded investment considers amounts immediately following the modification. Amounts do not reflect balances at the end of the period.

During the twelve-month period ended December 31, 2016, the Company identified four loans as troubled debt restructurings. Two commercial real estate loans were originally modified in troubled debt restructurings in 2014 to provide payment relief by lowering the interest rate and allowing interest-only payments. The restructurings completed in 2016 lowered the interest rate from the 2014 restructured terms and returned the loans to amortization with payments of principal and interest. The loans were in nonaccrual status prior to the 2016 restructuring and will remain in nonaccrual until they have met the Company's policy to return to accrual status. The Company also identified during the year ended December 31, 2016 one commercial non-real estate loan and one automobile loan modified in troubled debt restructurings. The modifications provided payment relief by extending the maturity date and capitalizing interest. The loans are in nonaccrual status. Each of the four troubled debt restructurings are collateral dependent and the fair value is measured using the collateral method. Impairment measurement did not result in any specific allocations.

Of the Company's TDR's that defaulted in 2018 , 2017 and 2016, none were modified within 12 months prior to default. The company defines default as one or more payments that occur more than 90 days past the due date, charge-off or foreclosure.

## Note 6: Premises and Equipment

A summary of the cost and accumulated depreciation of premises and equipment follows:

|  | December 31, |  |  |  |
| :--- | :--- | ---: | :--- | ---: |
|  | $\mathbf{2 0 1 8}$ |  |  |  |
| Premises | $\mathbf{\$}$ | $\mathbf{1 3 , 2 4 4}$ | $\$$ | $\mathbf{2 0 1 7}$ |
| Furniture and equipment | $\mathbf{5 , 6 0 6}$ | 12,434 |  |  |
| Premises and equipment | $\mathbf{\$ 8 , 8 5 0}$ | $\$$ | 17,238 |  |
| Accumulated depreciation | $\mathbf{( 1 0 , 2 0 4 )}$ | $(9,451)$ |  |  |
| Premises and equipment, net | $\mathbf{\$ 8 , 6 4 6}$ | $\$$ | 8,221 |  |

Depreciation expense for the years ended December 2018, 2017 and 2016 amounted to $\$ 766, \$ 805$ and $\$ 801$, respectively. In December 2017, the Company sold its Marion branch office and realized a gain on the sale of fixed assets of $\$ 134$.

The Company leases certain branch facilities under noncancellable operating leases. The future minimum lease payments under these leases (with initial or remaining lease terms in excess of one year) as of December 31, 2018 are as follows: $\$ 346$ in $2019, \$ 192$ in 2020, $\$ 172$ in 2021, $\$ 175$ in 2022, $\$ 177$ in 2023 and $\$ 872$ thereafter.

## Note 7: Deposits

The aggregate amounts of time deposits in denominations of $\$ 250$ or more at December 31, 2018 and 2017 were $\$ 14,277$ and $\$ 14,283$, respectively. At December 31, 2018 the scheduled maturities of time deposits are as follows:

| 2019 | $\mathbf{5 3 , 4 5 5}$ |
| :---: | ---: |
| 2020 | $\mathbf{4 0 , 6 5 3}$ |
| 2021 | $\mathbf{2 , 5 9 3}$ |
| 2022 | $\mathbf{2 , 3 2 7}$ |
| Thereafter | $\mathbf{2 , 7 7 1}$ |
| Total time deposits | $\mathbf{\$}$ |

At December 31, 2018 and 2017, overdraft demand deposits reclassified to loans totaled $\$ 240$ and $\$ 255$, respectively.

## Note 8: Employee Benefit Plans 401(k) Plan

The Company has a Retirement Accumulation Plan qualifying under IRS Code Section 401(k), in which NBI, NBB and NBFS are participating employers. Eligible participants may contribute up to $100 \%$ of their total annual compensation to the plan, subject to certain limits based on federal tax laws. Employee contributions are matched by the employer based on a percentage of an employee's total annual compensation contributed to the plan. For the years ended December 31, 2018, 2017 and 2016, the Company contributed $\$ 364$, $\$ 340$ and $\$ 315$, respectively, to the plan.

## Employee Stock Ownership Plan

The Company has a non-leveraged Employee Stock Ownership Plan (ESOP) which enables employees of NBI and its subsidiaries who have one year of service and who have attained the age of 21 prior to the plan's January 1 and July 1 enrollment dates to own NBI common stock. Contributions to the ESOP, which are not mandatory, are determined annually by the Board of Directors. Contribution
expense amounted to $\$ 300$, $\$ 200$ and $\$ 150$ in the years ended December 31, 2018, 2017 and 2016, respectively. Dividends on ESOP shares are charged to retained earnings. As of December 31, 2018, the number of shares held by the ESOP was 192,250. All shares held by the ESOP are treated as outstanding in computing the Company's basic net income per share. Upon reaching age 55 with ten years of plan participation, a vested participant has the right to diversify $50 \%$ of his or her allocated ESOP shares and NBI or the ESOP, with the agreement of the Trustee, is obligated to purchase those shares. The ESOP contains a put option which allows a withdrawing participant to require the Company or the ESOP, if the plan administrator agrees, to purchase his or her allocated shares if the shares are not readily tradable on an established market at the time of distribution.

## Salary Continuation Plan

The Company has a non-qualified Salary Continuation Plan for certain key officers. The plan provides the participating officers with supplemental retirement income, payable for the greater of 15 years after retirement or the officer's lifetime. The expense accrued for the plans in 2018, 2017, and 2016, based on the present value of the retirement benefits, amounted to $\$ 255, \$ 272$, and $\$ 242$, respectively. The plan is unfunded. However bank-owned life insurance has been acquired on the life of the key employees in amounts sufficient to discharge the obligations of the agreement.

## Defined Benefit Plan

The Company's defined benefit pension plan covers substantially all employees. The plan benefit formula is based upon the length of service of retired employees and a percentage of qualified W-2 compensation during their final years of employment. Information pertaining to activity in the plan is as follows:

|  | December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Change in benefit obligation |  |  |  |  |  |  |
| Projected benefit obligation at beginning of year | \$ | 23,492 | \$ | 21,059 | \$ | 20,427 |
| Service cost |  | 868 |  | 692 |  | 694 |
| Interest cost |  | 802 |  | 743 |  | 757 |
| Actuarial loss |  | (423) |  | 1,417 |  | 198 |
| Benefits paid |  | $(1,051)$ |  | (419) |  | $(1,017)$ |
| Projected benefit obligation at end of year | \$ | 23,688 |  | \$ 23,492 | \$ | 21,059 |

Change in plan assets

| Fair value of plan assets at beginning of year | $\mathbf{\$ 2 3 , 4 2 8}$ | $\$ 17,038$ | $\$$ |
| :--- | :---: | :---: | :---: |
| Actual return on plan assets | $\mathbf{( 5 9 1 )}$ | 2,302 | 16,131 |
| Employer contribution | --- | 4,507 | 811 |
| Benefits paid | $\mathbf{( 1 , 0 5 1 )}$ | $(419)$ | $(1,017)$ |
| Fair value of plan assets at end of year | $\mathbf{\$ 2 1 , 7 8 6}$ | $\$ 23,428$ | $\$$ |

Funded status at the end of the year $\quad \$(\mathbf{1 , 9 0 2}) \$(64) \$(4,021)$

| Amounts recognized in the Consolidated Balance Sheet |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Deferred tax asset | \$ | 399 | \$ | 13 | \$ | 1,407 |
| Other liabilities | $(1,902)$ |  |  | (64) |  | $(4,021)$ |
| Total amounts recognized in the Consolidated Balance Sheet | \$ | $(1,503)$ | \$ | (51) | \$ | $(2,614)$ |

Amounts recognized in accumulated other comprehensive (loss), net

| Net loss | \$ | $(9,107)$ | \$ | $(7,923)$ | \$ | $(8,250)$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Prior service cost |  | 230 |  | 340 |  | 449 |
| Deferred tax asset |  | 1,864 |  | 1,592 |  | 2,730 |
| Amount recognized | \$ | $(7,013)$ | \$ | $(5,991)$ | \$ | $(5,071)$ |

Accrued/Prepaid benefit cost, net

| Benefit obligation | $\mathbf{\$ ( 2 3 , 6 8 8 )}$ | $\$(23,492)$ | $\mathbf{( 2 1 , 0 5 9 )}$ |  |
| :--- | :---: | :---: | :---: | :---: |
| Fair value of assets | $\mathbf{2 1 , 7 8 6}$ | 23,428 | 17,038 |  |
| Unrecognized net actuarial loss | $\mathbf{9 , 1 0 7}$ | 7,923 | 8,250 |  |
| Unrecognized prior service cost | $\mathbf{( 2 3 0 )}$ | $(340)$ | $(449)$ |  |
| Deferred tax liability | $\mathbf{( 1 , 4 6 5 )}$ | $(1,579)$ | $(1,323)$ |  |
| Prepaid benefit cost included in other assets | $\mathbf{\$}$ | $\mathbf{5 , 5 1 0}$ | $\$$ | 5,940 |

Components of net periodic benefit cost

| Service cost | $\mathbf{\$}$ | $\mathbf{8 6 8}$ | $\$$ | 692 |
| :--- | :---: | :---: | :---: | :---: |
| Interest cost | $\mathbf{8 0 2}$ | 743 | 694 |  |
| Expected return on plan assets | $\mathbf{( 1 , 6 0 1 )}$ | $(1,097)$ | $(1,110)$ |  |
| Amortization of prior service cost | $\mathbf{( 1 1 0 )}$ | $(110)$ | $(110)$ |  |
| Recognized net actuarial loss | $\mathbf{5 8 5}$ | 540 | 57 |  |
| Net periodic benefit cost | $\mathbf{\$}$ | $\mathbf{5 4 4}$ | $\$$ | 768 |

Other changes in plan assets and benefit obligations recognized in other
comprehensive loss

| Net (gain) loss | $\mathbf{\$}$ | $\mathbf{1 , 1 8 4}$ | $\$$ | $(328)$ | $\$$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Amortization of prior service cost |  | $\mathbf{1 1 0}$ | 110 | (377) |  |
| Deferred income tax expense (benefit) |  | $\mathbf{( 2 7 2 )}$ | 46 |  |  |
| Total recognized | $\mathbf{\$}$ | $\mathbf{1 , 0 2 2}$ | $\$$ | $(172)$ | $\$$ |
|  |  |  |  |  | $(174)$ |
| Total recognized in net periodic benefit cost and other comprehensive loss | $\mathbf{\$}$ | $\mathbf{1 , 8 3 8}$ | $\$$ | 550 | $\$$ |


| Weighted average assumptions at end of the year | $\mathbf{3 . 5 0} \%$ | $4.00 \%$ | $4.00 \%$ |
| :--- | :--- | :--- | :--- |
| Discount rate used for net periodic pension cost | $\mathbf{4 . 0 0 \%}$ | $3.50 \%$ | $4.00 \%$ |
| Discount rate used for disclosure | $\mathbf{7 . 5 0} \%$ | $7.50 \%$ | $7.50 \%$ |
| Expected return on plan assets | $\mathbf{3 . 0 0} \%$ | $3.00 \%$ | $3.00 \%$ |
| Rate of compensation increase |  |  |  |

## Long Term Rate of Return

The Company, as plan sponsor, selects the expected long-term rate-of-return-on-assets assumption in consultation with its investment advisors and actuary. This rate is intended to reflect the average rate of earnings expected to be earned on the funds invested or to be invested to provide plan benefits. Historical performance is reviewed, especially with respect to real rates of return (net of inflation), for the major asset classes held or anticipated to be held by the trust, and for the trust itself. Undue weight is not given to recent experience, which may not continue over the measurement period, but higher significance is placed on current forecasts of future long-term economic conditions.

Because assets are held in a qualified trust, anticipated returns are not reduced for taxes. Further, and solely for this purpose, the plan is assumed to continue in force and not terminate during the period during which assets are invested. However, consideration is given to the potential impact of current and future investment policy, cash flow into and out of the trust, and expenses (both investment and non-investment) typically paid from plan assets (to the extent such expenses are not explicitly estimated within periodic cost).

The Company, as plan sponsor, has adopted a Pension Administrative Committee Policy (the Policy) for monitoring the investment management of its qualified plans. The Policy includes a statement of general investment principles and a listing of specific investment guidelines, to which the committee may make documented exceptions. The guidelines state that, unless otherwise indicated, all investments that are permitted under the Prudent Investor Rule shall be permissible investments for the defined benefit pension plan. All plan assets are to be invested in marketable securities. Certain investments are prohibited, including commodities and future contracts, private placements, repurchase agreements, options and derivatives. The Policy establishes quality standards for fixed income investments and mutual funds included in the pension plan trust. The Policy also outlines diversification standards.

The preferred target allocation for the assets of the defined benefit pension plan is $65 \%$ in equity securities and $35 \%$ in fixed income securities. Equity securities include investments in large-cap and mid-cap companies primarily located in the United States, although a small number of international large-cap companies are included. There are also investments in mutual funds holding the equities of large-cap and mid-cap U.S. companies. Fixed income securities include U.S. government agency securities and corporate bonds from companies representing diversified industries. There are no investments in hedge funds, private equity funds or real estate.

Fair value measurements of the pension plan's assets at December 31, 2018 follow:

| Asset Category |  |  |  | Iue Meas | me | r 31, 201 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total |  | Quoted Prices in Active Markets for Identical Assets (Level 1) |  | Significant Observable Inputs (Level 2) |  | Significant <br> Unobservable Inputs (Level 3) |  |
| Cash | \$ | 1,917 | \$ | 1,917 | \$ | --- | \$ | --- |
| Equity securities: |  |  |  |  |  |  |  |  |
| U. S. companies |  | 8,782 |  | 8,782 |  | --- |  | --- |
| International companies |  | 471 |  | 471 |  | --- |  | --- |
| Equities mutual funds ${ }^{(1)}$ |  | 2,174 |  | 2,174 |  | --- |  | --- |
| U. S. government agencies and corporations |  | 50 |  | --- |  | 50 |  | --- |
| State and political subdivisions |  | 202 |  | --- |  | 202 |  | --- |
| Corporate bonds - investment grade ${ }^{(2)}$ |  | 8,190 |  | --- |  | 8,190 |  | --- |
| Total pension plan assets | \$ | 21,786 | \$ | 13,344 | \$ | 8,442 | \$ | --- |

(1) This category comprises actively managed equity funds invested in large-cap and mid-cap U.S. companies.
(2) This category represents investment grade bonds of U.S. issuers from diverse industries.

| Asset Category | Fair Value Measurements at December 31, 2017 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total |  | Quoted Prices in Active Markets for Identical Assets (Level 1) |  | Significant Observable Inputs (Level 2) |  | Significant Unobservable Inputs (Level 3) |  |
| Cash | \$ | 4,454 | \$ | 4,454 | \$ | --- | \$ | --- |
| Equity securities: |  |  |  |  |  |  |  |  |
| U. S. companies |  | 9,892 |  | 9,892 |  | --- |  | --- |
| International companies |  | 106 |  | 106 |  | --- |  | --- |
| Equities mutual funds ${ }^{(1)}$ |  | 1,962 |  | 1,962 |  | --- |  | --- |
| U. S. government agencies and corporations |  | 51 |  | --- |  | 51 |  | --- |
| State and political subdivisions |  | 231 |  | --- |  | 231 |  | --- |
| Corporate bonds - investment grade ${ }^{(2)}$ |  | 6,732 |  | --- |  | 6,732 |  | --- |
| Total pension plan assets | \$ | 23,428 | \$ | 16,414 | \$ | 7,014 | \$ | --- |

(1) This category comprises actively managed equity funds invested in large-cap and mid-cap U.S. companies.
(2) This category represents investment grade bonds of U.S. issuers from diverse industries.

The Company's required minimum pension contribution for 2019 has not yet been determined.
Estimated future benefit payments, which reflect expected future service, as appropriate, are as follows:

| 2019 | $\mathbf{\$}$ | $\mathbf{4 , 3 1 5}$ |
| :---: | ---: | ---: |
| 2020 | $\mathbf{\$}$ | $\mathbf{1 , 6 8 7}$ |
| 2021 | $\mathbf{\$}$ | $\mathbf{7 6 8}$ |
| 2022 | $\mathbf{\$}$ | $\mathbf{1 , 2 8 9}$ |
| 2023 | $\mathbf{\$}$ | $\mathbf{8 4 4}$ |
| $2024-2028$ | $\mathbf{\$}$ | $\mathbf{8 , 3 0 6}$ |

## Note 9: Income Taxes

The Company files United States federal income tax returns, and Virginia, West Virginia and North Carolina state income tax returns. With few exceptions, the Company is no longer subject to U.S. federal, state and local income tax examinations by tax authorities for years prior to 2015.

Allocation of income tax expense between current and deferred portions is as follows:

|  | Years ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Current | \$ | 2,942 | \$ | 2,943 | \$ | 3,934 |
| Deferred expense (benefit) |  | (382) |  | 1,790 |  | 18 |
| Deferred tax adjustment for enacted change in tax rate |  | --- |  | 1,560 |  | --- |
| Total income tax expense | \$ | 2,560 | \$ | 6,293 | \$ | 3,952 |

Income tax expense for 2017 includes a downward adjustment of net deferred tax assets in the amount of $\$ 1,560$, recorded as a result of the enactment of the Tax Cuts and Jobs Act on December 22, 2017. The Company's marginal tax rate prior to the enactment of the Act is $35 \%$. Effective January 1, 2018, the Company's tax rate is $21 \%$.

The following is a reconciliation of the "expected" income tax expense, computed by applying the U.S. Federal income tax rate of $21 \%$ to 2018 income before tax expense and $35 \%$ to 2017 and 2016 income before income tax expense, with the reported income tax expense:

|  | Years ended December 31, |  |  |  |  |
| :--- | :---: | ---: | ---: | ---: | ---: |
|  |  | $\mathbf{2 0 1 8}$ |  | $\mathbf{2 0 1 7}$ | $\mathbf{2 0 1 6}$ |
| Computed "expected" income tax expense | $\mathbf{\$}$ | $\mathbf{3 , 9 2 9}$ | $\$$ | 7,135 | $\$$ |
| Tax impact of enacted change in tax rate | --- | 1,560 | 6,613 |  |  |
| Tax-exempt interest income | $\mathbf{( 1 , 2 5 5 )}$ | $(2,144)$ | --- |  |  |
| Nondeductible interest expense | $\mathbf{6 9}$ | 89 | $(2,234)$ |  |  |
| Other, net | $\mathbf{( 1 8 3 )}$ | $(347)$ | 92 |  |  |
| Reported income tax expense | $\mathbf{\$}$ | $\mathbf{2 , 5 6 0}$ | $\$$ | 6,293 | $\$$ |

The components of net deferred tax assets, included in other assets, are as follows:

|  | December 31, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  |
| Deferred tax assets: |  |  |  |  |
| Allowance for loan losses and unearned fee income | \$ | 1,683 | \$ | 1,773 |
| Valuation allowance on other real estate owned |  | 223 |  | 156 |
| Defined benefit plan |  | 1,864 |  | 1,592 |
| Deferred compensation and other liabilities |  | 1,308 |  | 863 |
| Discount accretion of securities |  | --- |  | --- |
| Net unrealized loss on securities available for sale |  | 1,348 |  | 984 |
| Total deferred tax assets | \$ | 6,426 | \$ | 5,368 |
|  |  |  |  |  |
| Deferred tax liabilities: |  |  |  |  |
| Fixed assets | \$ | (365) | \$ | (388) |
| Deposit intangibles |  | $(1,169)$ |  | $(1,059)$ |
| Defined benefit plan, prepaid portion |  | $(1,465)$ |  | $(1,579)$ |
| Discount accretion of securities |  | (70) |  | (2) |
| Total deferred tax liabilities |  | $(3,069)$ |  | $(3,028)$ |
| Net deferred tax assets | \$ | 3,357 | \$ | 2,340 |

During 2018, the company re-designated its securities held to maturity as available for sale. The unrealized gain or loss on the redesignated securities is now recognized in accumulated other comprehensive income and the tax effects are included in deferred tax assets, net unrealized loss on securities available for sale.

The Company has determined that a valuation allowance for the gross deferred tax assets is not necessary at December 31, 2018 and 2017.

## Note 10: Restrictions on Dividends

The Company's principal source of funds for dividend payments is dividends received from its subsidiary bank. For the years ended December 31, 2018, 2017 and 2016, dividends received from the subsidiary bank were $\$ 9,419, \$ 8,141$ and $\$ 9,071$, respectively. National Bankshares Financial Services provided $\$ 350$ in dividends to Bankshares in 2016.

Substantially all of Bankshares' retained earnings are undistributed earnings of its sole banking subsidiary, which are restricted by various regulations administered by federal bank regulatory agencies. Bank regulatory agencies restrict, unless prior approval is obtained, the total dividend payments of a bank in any calendar year to the bank's retained net income of that year to date, as defined, combined with its retained net income of the preceding two years, less any required transfers to surplus. At December 31, 2018, NBB's retained net income, which was free of such restriction, amounted to approximately $\$ 19,979$.

## Note 11: Minimum Regulatory Capital Requirement

In August, 2018, the Federal Reserve updated the Small Bank Holding Company Policy Statement ("the Statement"), in compliance with The Economic Growth, Regulatory Relief and Consumer Protection Act of 2018 ("EGRRCPA"). The Statement, among other things, exempts bank holding companies that fall below a certain asset threshold from reporting consolidated regulatory capital ratios and from minimum regulatory capital requirements. The interim final rule expands the exemption to bank holding companies with consolidated total assets of less than $\$ 3$ billion. Prior to August 2018, the statement exempted bank holding companies with consolidated total assets of less than $\$ 1$ billion. As a result of the interim final rule, the Company qualifies as of August, 2018 as a small bank holding company and is no longer subject to regulatory capital requirements on a consolidated basis.

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

The Basel III Capital Rules, a comprehensive capital framework for U.S. banking organizations, became effective on January 1, 2015 (subject to a phase-in period continuing through January 1, 2019 for certain provisions). Basel III Capital Rules established quantitative measures to ensure capital adequacy. The rules set forth minimum amounts and ratios for Common Equity Tier 1 capital
("CET1"), Tier 1 capital and Total capital (as defined in the regulations) to risk-weighted assets (as defined), and of Tier 1 capital to adjusted quarterly average assets (as defined).

The Bank's CET1 capital include common stock and related surplus and retained earnings. Basel III Capital Rules provide an option to exclude components of accumulated other comprehensive income (loss) from CET1 capital. Once made, the election is final and cannot be changed. The Bank elected to exclude components of accumulated other comprehensive income from CET1 capital.

Tier 1 Capital includes CET1 capital and additional Tier 1 capital components. At December 31, 2018 and 2017, the Bank did not hold any additional Tier 1 capital beyond CET1 capital.

Total capital includes Tier 1 capital and Tier 2 capital. Tier 2 capital includes the allowance for loan losses.
The Bank's risk-weighted assets were $\$ 816,660$ at December 31, 2018 and $\$ 805,656$ as of December 31, 2017. Management believes, as of December 31, 2018 and 2017, that the Bank met all capital adequacy requirements to which it is subject.

As of December 31, 2018, the most recent notifications from the Office of the Comptroller of the Currency categorized the Bank as well capitalized under the regulatory framework for prompt corrective action. To be categorized as well capitalized, an institution must maintain minimum total risk-based, Tier 1 risk-based, Common Equity Tier 1 risk-based and Tier 1 leverage ratios, as set forth in the following tables. There are no conditions or events since these notifications that management believes have changed the Bank's category.

The Bank's capital amounts and ratios as of December 31, 2018 and 2017 are presented in the following tables.

|  |  |  |  |  | Minimum To Be Well <br> Capitalized Under <br> Prompt Corrective <br> Action Provisions |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Actual |  |  |  |


|  | Actual |  |  | Minimum Capital Requirement ${ }^{(1)}$ |  |  | Minimum To Be Well Capitalized Under Prompt Corrective Action Provisions |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Amount |  | Ratio | Amount |  | Ratio | Amount |  | Ratio |
| December 31, 2017 |  |  |  |  |  |  |  |  |  |
| Total capital (to risk weighted assets) | \$ | 195,903 | 24.316\% | \$ | 74,523 | 9.250\% | \$ | 80,566 | 10.000\% |
| Tier 1 capital (to risk weighted assets) | \$ | 187,978 | 23.332\% | \$ | 58,410 | 7.250\% | \$ | 64,452 | 8.000\% |
| Common Equity Tier 1 capital (to risk weighted assets) | \$ | 187,978 | 23.332\% | \$ | 46,325 | 5.750\% | \$ | 52,368 | 6.500\% |
| Tier 1 capital (to average assets) | \$ | 187,978 | 15.254\% | \$ | 49,293 | 4.000\% | \$ | 61,616 | 5.000\% |

(1) Except with regard to the Bank's Tier 1 capital to average assets ratio, the minimum capital requirement includes the current phased-in portion of the Basel III Capital Rules capital conservation buffer ( $1.25 \%$ ) which is added to the minimum capital requirements for capital adequacy purposes. The capital conservation buffer is being phased in through four equal annual installments of $.0625 \%$ from 2016 to 2019, with full implementation in January 2019 ( $2.5 \%$ ). The Bank's capital conservation buffer must consist of additional CET1 above regulatory minimum requirement. Failure to maintain the prescribed levels would result in limitations on capital distributions and discretionary bonuses to executives.

## Note 12: Condensed Financial Statements of Parent Company

Financial information pertaining only to NBI (Parent) is as follows:

| Condensed Balance Sheets | December 31, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  |
| Assets |  |  |  |  |
| Cash due from subsidiaries | \$ | 44 | \$ | 46 |
| Interest-bearing deposits |  | 357 |  | 503 |
| Investments in subsidiaries |  | 189,692 |  | 184,336 |
| Refundable income taxes |  | 396 |  | 168 |
| Other assets |  | 841 |  | 820 |
| Total assets | \$ | 191,330 | \$ | 185,873 |
|  |  |  |  |  |
| Liabilities and Stockholders' Equity |  |  |  |  |
| Other liabilities | \$ | 1,092 | \$ | 977 |
| Stockholders' equity |  | 190,238 |  | 184,896 |
| Total liabilities and stockholders' equity | \$ | 191,330 | \$ | 185,873 |


| Condensed Statements of Income | Years Ended December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Income |  |  |  |  |  |  |
| Dividends from subsidiaries | \$ | 9,419 | \$ | 8,141 | \$ | 9,421 |
| Interest on securities - taxable |  | --- |  | --- |  | 2 |
| Realized securities gains, net |  | --- |  | 4 |  | --- |
| Other income |  | 10 |  | 1,018 |  | 987 |
| Total income |  | 9,429 |  | 9,163 |  | 10,410 |
| Expenses |  |  |  |  |  |  |
| Other expenses |  | 1,244 |  | 1,986 |  | 1,992 |
| Income before income tax benefit and equity in undistributed net income of subsidiaries |  | 8,185 |  | 7,177 |  | 8,418 |
| Applicable income tax benefit |  | 308 |  | 383 |  | 628 |
| Income before equity in undistributed net income of subsidiaries |  | 8,493 |  | 7,560 |  | 9,046 |
| Equity in undistributed net income of subsidiaries |  | 7,658 |  | 6,532 |  | 5,896 |
| Net income | \$ | 16,151 | \$ | 14,092 | \$ | 14,942 |


| Condensed Statements of Cash Flows |
| :--- |
| Cash Flows from Operating Expenses |
| Net income |
| Adjustments to reconcile net income to net cash provided by operating activities: |
| Equity in undistributed net income of subsidiaries |
| Amortization of premiums and accretion of discounts, net |
| Gain on sale of securities |
| Net change in refundable income taxes due from subsidiaries |
| Net change in other assets |
| Net change in other liabilities |
| Net cash provided by operating activities |

## Note 13: Financial Instruments with Off-Balance Sheet Risk

The Company 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 interest rate locks. These instruments involve, to varying degrees, elements of credit risk in excess of the amount recognized in the consolidated balance sheets.

The Company's exposure to credit loss, in the event of nonperformance by the other party to the financial instrument for commitments to extend credit and standby letters of credit, is represented by the contractual amount of those instruments. The Company uses the same credit policies in making commitments and conditional obligations as it does for on-balance sheet instruments. The Company may require collateral or other security to support the following financial instruments with credit risk.

At December 31, 2018 and 2017, financial instruments outstanding whose contract amounts represent credit risk were:

|  | December 31, |  |  |
| :---: | ---: | ---: | ---: |
| Financial instruments whose contract amounts represent credit risk: | $\mathbf{2 0 1 8}$ | $\mathbf{2 0 1 7}$ |  |
| Commitments to extend credit | $\mathbf{\$}$ | $\mathbf{1 4 5 , 6 3 5}$ | $\$$ |
| Standby letters of credit | $\mathbf{1 6 , 0 9 2}$ | 161,222 |  |
| Mortgage loans sold with potential recourse | $\mathbf{1 3 , 0 1 3}$ | 16,351 |  |
| 14,130 |  |  |  |

Commitments to extend credit are agreements to lend to a customer as long as there is no violation of any condition established in the contract. Commitments generally have fixed expiration dates or other termination clauses and may require payment of a fee. The commitments for lines of credit may expire without being drawn upon. Therefore, the total commitment amounts do not necessarily represent future cash requirements. The amount of collateral obtained, if it is deemed necessary by the Company, is based on management's credit evaluation of the customer.

Unfunded commitments under commercial lines of credit, revolving credit lines, and overdraft protection agreements are commitments for possible future extensions of credit. Some of these commitments are uncollateralized and do not contain a specified maturity date and may not be drawn upon to the total extent to which the Company is committed.

Standby letters of credit are conditional commitments issued by the Company to guarantee the performance of a customer to a third party. The credit risk involved in issuing letters of credit is essentially the same as that involved in extending loans to customers. Collateral held varies but may include accounts receivable, inventory, property, plant and equipment, and income-producing commercial properties.

The Company originates mortgage loans for sale to secondary market investors subject to contractually specified and limited recourse provisions. In 2018, the Company originated $\$ 12,626$ and sold $\$ 13,013$ to investors, compared to $\$ 13,912$ originated and $\$ 14,341$ sold in 2017. Every contract with each investor contains certain recourse language. In general, the Company may be required to repurchase a previously sold mortgage loan if there is major noncompliance with defined loan origination or documentation standards, including fraud, negligence or material misstatement in the loan documents. Repurchase may also be required if necessary governmental loan guarantees are canceled or never issued, or if an investor is forced to buy back a loan after it has been resold as a part of a loan pool. In addition, the Company may have an obligation to repurchase a loan if the mortgagor defaults early in the loan term. This potential default period is approximately twelve months after sale of a loan to the investor.

At December 31, 2018, the Company had locked-rate commitments to originate mortgage loans amounting to approximately $\$ 915$ and loans held for sale of $\$ 72$. Risks arise from the possible inability of counterparties to meet the terms of their contracts. The Company does not expect any counterparty to fail to meet its obligations.

The Company maintains cash accounts in other commercial banks. The Company had $\$ 41$ in deposits with correspondent institutions at December 31, 2018 that was not insured by the Federal Deposit Insurance Corporation.

## Note 14: Concentrations of Credit Risk

The Company does a general banking business, serving the commercial and personal banking needs of its customers. NBB's primary service area is defined as the counties of Montgomery, Giles, Carroll, Grayson, Pulaski, Tazewell, Smyth, Wythe, Roanoke and Washington and the cities of Galax, Radford and Roanoke in southwest Virginia, and Mercer, Monroe and McDowell counties in West Virginia. For loan purposes, our trade area also includes the Virginia cities of Roanoke, Salem and Bristol and counties of Botetourt and Craig, the southernmost tip of West Virginia adjacent to the counties of Giles, Buchanan, Russell and Bland, the North Carolina counties of Surry and Alleghany, and the Tennessee city of Bristol and counties of Washington and Sullivan. Substantially all of NBB's loans are made in its primary service area. Additionally, the Company occasionally participates in loans in nearby higher growth metropolitan areas. Loans outside of the primary service area are a small percentage of the loan portfolio, are appropriately underwritten and are not considered out of trade area exceptions. The ultimate collectability of the bank's loan portfolio and the ability to realize the value of any underlying collateral, if needed, is influenced by the economic conditions of the market area. The Company's operating results are therefore closely correlated with the economic trends within this area.

Commercial real estate as of December 31, 2018 and 2017 represented approximately $50 \%$ and $51 \%$ of the loan portfolio, at $\$ 353,546$ and $\$ 340,414$, respectively. Included in commercial real estate are loans for college housing and professional office buildings that comprised $\$ 184,203$ and $\$ 247,198$ as of December 31, 2018 and 2017 respectively, corresponding to approximately $26 \%$ of the loan portfolio at December 31, 2018 and $37 \%$ of the loan portfolio at December 31, 2017. Loans secured by residential real estate were $\$ 175,456$, or approximately $25 \%$ of the portfolio, and $\$ 166,965$, or $25 \%$ of the portfolio at December 31, 2018 and 2017, respectively.

The Company has established operating policies relating to the credit process and collateral in loan originations. Loans to purchase real and personal property are generally collateralized by the related property and with loan amounts established based on certain percentage limitations of the property's total stated or appraised value. Credit approval is primarily a function of collateral and the evaluation of the creditworthiness of the individual borrower or project based on available financial information. Management considers the concentration of credit risk to be minimal.

## Note 15: Fair Value Measurements

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. U.S. GAAP requires that valuation techniques maximize the use of the observable inputs and minimize the use of the unobservable inputs. U.S. GAAP also establishes a fair value hierarchy which prioritizes the valuation inputs into three broad levels. Based on the underlying inputs, each fair value measurement in its entirety is reported in one of the three levels. These levels are:

Level 1 - Valuation is based on quoted prices in active markets for identical assets and liabilities.
Level 2 - Valuation is based on observable inputs including quoted prices in active markets for similar assets and liabilities, quoted prices for identical or similar assets and liabilities in less active markets, and model-based valuation techniques for which significant assumptions can be derived primarily from or corroborated by observable data in the market.
Level 3 - Valuation is based on model-based techniques that use one or more significant inputs or assumptions that are unobservable in the market.

Fair value is best determined based upon quoted market prices. However, in many instances, there are no quoted market prices for the Company's various financial instruments. In cases where quoted market prices are not available, fair values are based on estimates using present value or other valuation techniques. Those techniques are significantly affected by the assumptions used, including the discount rate and estimates of future cash flows. Accordingly, the fair value estimates may not be realized in an immediate settlement of the instrument. Accounting guidance for fair value excludes certain financial instruments and all nonfinancial instruments from its disclosure requirements. Consequently, the aggregate fair value amounts presented may not necessarily represent the underlying fair value of the Company.

The following describes the valuation techniques used by the Company to measure certain financial assets and liabilities recorded at fair value on a recurring basis in the financial statements:

## Securities Available for Sale

Securities available for sale are recorded at fair value on a recurring basis. Fair value measurement is based upon quoted market prices, when available (Level 1). If quoted market prices are not available, fair values are measured utilizing independent valuation techniques of identical or similar securities for which significant assumptions are derived primarily from or corroborated by observable market data. Third party vendors compile prices from various sources and may determine the fair value of identical or similar securities by using pricing models that consider observable market data (Level 2). The carrying value of restricted Federal Reserve Bank and Federal Home Loan Bank stock approximates fair value based upon the redemption provisions of each entity and is therefore excluded from the following table.

The following tables present the balances of financial assets measured at fair value on a recurring basis as of December 31, 2018 and 2017:

\left.|  |  | Fair Value Measurements at December 31, 2018 Using |  |  |  |
| :--- | ---: | :--- | :--- | :--- | :--- |$\right]$


|  |  | Fair Value Measurements at December 31, 2017 Using |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |

Certain financial assets are measured at fair value on a nonrecurring basis in accordance with GAAP. Adjustments to the fair value of these assets usually result from the application of lower-of-cost-or-market accounting or write-downs of individual assets.

The following describes the valuation techniques used by the Company to measure certain financial assets recorded at fair value on a nonrecurring basis in the financial statements:

## Loans Held for Sale

Loans held for sale are carried at the lower of cost or fair value. These loans currently consist of one-to-four family residential loans originated for sale in the secondary market. Fair value is based on the price secondary markets are currently offering for similar loans using observable market data which is not materially different than cost due to the short duration between origination and sale (Level 2). As such, the Company records any fair value adjustments on a nonrecurring basis. No nonrecurring fair value adjustments were recorded on loans held for sale during the years ended December 31, 2018 and 2017.

## Impaired Loans

Loans are designated as impaired when, in the judgment of management based on current information and events, it is probable that all amounts due will not be collected according to the contractual terms of the loan agreement. Troubled debt restructurings are impaired loans. Impaired loans are measured at fair value on a nonrecurring basis. If an individually-evaluated impaired loan's balance exceeds fair value, the amount is allocated to the allowance for loan losses. Any fair value adjustments are recorded in the period incurred as provision for loan losses on the Consolidated Statements of Income.

The fair value of an impaired loan and measurement of associated loss is based on one of three methods: the observable market price of the loan, the present value of projected cash flows, or the fair value of the collateral. The observable market price of a loan is categorized as a Level 1 input. The present value of projected cash flows method results in a Level 3 categorization because the calculation relies on the Company's judgment to determine projected cash flows, which are then discounted at the current rate of the loan, or the rate prior to modification if the loan is a troubled debt restructure.

Loans measured using the fair value of collateral method may be categorized in Level 2 or Level 3. Collateral may be in the form of real estate or business assets including equipment, inventory, and accounts receivable. Most collateral is real estate. The Company bases collateral method fair valuation upon the "as-is" value of independent appraisals or evaluations. Valuations for impaired loans secured by residential 1-4 family properties with outstanding principal balances greater than $\$ 250$ are based on an appraisal. Appraisals are also used to value impaired loans secured by commercial real estate with outstanding principal balances greater than $\$ 500$. Collateral-method impaired loans secured by residential 1-4 family property with outstanding principal balances of $\$ 250$ or less, or secured by commercial real estate with outstanding principal balances of $\$ 500$ or less, are valued using an internal evaluation.

The value of real estate collateral is determined by a current (less than 24 months of age) appraisal or internal evaluation utilizing an income or market valuation approach. Appraisals conducted by an independent, licensed appraiser outside of the Company using observable market data is categorized as Level 2. If a current appraisal cannot be obtained prior to a reporting date and an existing appraisal is discounted to obtain an estimated value, or if declines in value are identified after the date of the appraisal, or if an appraisal is discounted for estimated selling costs, the valuation of real estate collateral is categorized as Level 3. Valuations derived from internal evaluations are categorized as Level 3. The value of business equipment is based upon an outside appraisal (Level 2) if deemed significant, or the net book value on the applicable business' financial statements (Level 3) if not considered significant. Likewise, values for inventory and accounts receivables collateral are based on financial statement balances or aging reports (Level 3).

As of December 31, 2018 and December 31, 2017, the fair value measurements for impaired loans with specific allocations were primarily based upon the present value of expected future cash flows.

The following table summarizes the Company's financial assets that were measured at fair value on a nonrecurring basis during the period.

| Date | Description | Balance |  | Carrying value |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Quoted Prices in Active Markets for Identical Assets (Level 1) |  | $\begin{gathered} \hline \text { Significant } \\ \text { Other } \\ \text { Observable } \\ \text { Inputs } \\ \text { (Level 2) } \\ \hline \end{gathered}$ |  | Significant Unobservable Inputs (Level 3) |  |
|  | Assets: |  |  |  |  |  |  |  |  |
| December 31, 2018 | Impaired loans net of valuation allowance | \$ | 1,014 | \$ | --- | \$ | --- | \$ | 1,014 |
| December 31, 2017 | Impaired loans net of valuation allowance |  | 1,303 |  | --- |  | --- |  | 1,303 |

The following table presents information about Level 3 Fair Value Measurements for impaired loans.

| Impaired Loans | Valuation Technique | Unobservable Input | Range <br> (Weighted Average) |
| :--- | :--- | :--- | :---: |
| December 31, 2018 | Present value of cash flows | Discount rate | $5.50 \%-7.25 \%(6.05 \%)$ |
| December 31, 2017 | Present value of cash flows | Discount rate | $5.50 \%-13.25 \%(5.92 \%)$ |

## Other Real Estate Owned

Certain assets such as other real estate owned (OREO) are measured at fair value less cost to sell. Valuation of other real estate owned is determined using current appraisals from independent parties, a Level 2 input. If current appraisals cannot be obtained prior to reporting dates, or if declines in value are identified after a recent appraisal is received, appraisal values are discounted, resulting in Level 3 estimates. If the Company markets the property with a realtor, estimated selling costs reduce the fair value, resulting in a valuation based on Level 3 inputs.

The following table summarizes the Company's other real estate owned that were measured at fair value on a nonrecurring basis during the period.

| Date | Description | Balance |  | Carrying Value |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Quoted Prices in Active Markets for Identical Assets (Level 1) |  | Significant Other Observable Inputs (Level 2) |  | Significant Unobservable Inputs (Level 3) |  |
|  | Assets: |  |  |  |  |  |  |  |  |
| December 31, 2018 | Other real estate owned net of valuation allowance | \$ | 2,052 | \$ | --- | \$ | --- | \$ | 2,052 |
| December 31, 2017 | Other real estate owned net of valuation allowance |  | 2,817 |  | --- |  | --- |  | 2,817 |

The following table presents information about Level 3 Fair Value Measurements for December 31, 2018.

|  | Valuation Technique | Unobservable Input | Range <br> (Weighted Average) |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| Other real estate owned | Discounted appraised value | Selling cost | $0.00 \% 0^{(1)}-6.00 \%(0.12 \%)$ |
| Other real estate owned | Discounted appraised value | Discount for lack of marketability <br> and age of appraisal | $0.00 \%-50.05 \%(1.45 \%)$ |

The following table presents information about Level 3 Fair Value Measurements for December 31, 2017.

|  | Valuation Technique | Unobservable Input | Range <br> (Weighted Average) |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
| Other real estate owned | Discounted appraised value | Selling cost | $2.00 \% 0^{(1)}-6.01 \%(4.72 \%)$ |
| Other real estate owned | Discounted appraised value | Discount for lack of marketability <br> and age of appraisal | $1.68 \%-68.33 \%(11.07 \%)$ |

(1) The Company markets other real estate owned both independently and with local realtors. Properties marketed by realtors are discounted by selling costs. Properties that the Company markets independently are not discounted by selling costs.

The following presents the carrying amount, fair value, and placement in the fair value hierarchy of the Company's financial instruments as of December 31, 2018 and December 31, 2017. For short-term financial assets such as cash and cash equivalents, the carrying amount is a reasonable estimate of fair value due to the relatively short time between the origination of the instrument and its expected realization. For non-marketable equity securities such as Federal Home Loan Bank and Federal Reserve Bank stock, the carrying amount is a reasonable estimate of fair value as these securities can only be redeemed or sold at their par value and only to the respective issuing government-supported institution or to another member institution. For financial liabilities such as noninterest-bearing demand, interest-bearing demand, and savings deposits, the carrying amount is a reasonable estimate of fair value due to these products having no stated maturity. Fair values for December 31, 2018 are estimated under the exit price notion in accordance with the prospective adoption of ASU 2016-01, "Recognition and Measurement of Financial Assets and Financial Liabilities." Fair values for December 31, 2017 are estimated under the guidance in effect for that period, which did not require use of the exit price notion.

|  | December 31, 2018 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Carrying |  | Estimated Fair Value |  |  |  |  |  |
|  |  |  | Level 1 |  | Level 2 |  | Level 3 |  |
| Financial assets: |  |  |  |  |  |  |  |  |
| Cash and due from banks | \$ | 12,882 | \$ | 12,882 | \$ | --- | \$ | --- |
| Interest-bearing deposits |  | 43,491 |  | 43,491 |  | --- |  | --- |
| Securities |  | 425,010 |  | --- |  | 425,010 |  | --- |
| Restricted securities |  | 1,220 |  | --- |  | 1,220 |  | --- |
| Mortgage loans held for sale |  | 72 |  | --- |  | 72 |  | --- |
| Loans, net |  | 702,409 |  | --- |  | --- |  | 684,565 |
| Accrued interest receivable |  | 5,160 |  | --- |  | 5,160 |  | --- |
| Bank-owned life insurance |  | 34,657 |  | --- |  | 34,657 |  | --- |
| Financial liabilities: |  |  |  |  |  |  |  |  |
| Deposits | \$ | 1,051,942 | \$ | --- | \$ | 950,143 | \$ | 101,749 |
| Accrued interest payable |  | 89 |  | --- |  | 89 |  | --- |


|  | December 31, 2017 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Carrying Amount |  | Estimated Fair Value |  |  |  |  |  |
|  |  |  | Level 1 |  | Level 2 |  | Level 3 |  |
| Financial assets: |  |  |  |  |  |  |  |  |
| Cash and due from banks | \$ | 12,926 | \$ | 12,926 | \$ | --- | \$ | --- |
| Interest-bearing deposits |  | 51,233 |  | 51,233 |  | --- |  | --- |
| Securities |  | 458,551 |  | --- |  | 461,500 |  | --- |
| Restricted securities |  | 1,200 |  | --- |  | 1,200 |  | --- |
| Mortgage loans held for sale |  | 260 |  | --- |  | 260 |  | --- |
| Loans, net |  | 660,144 |  | --- |  | --- |  | 656,399 |
| Accrued interest receivable |  | 5,297 |  | --- |  | 5,297 |  | --- |
| Bank-owned life insurance |  | 33,756 |  | --- |  | 33,756 |  | --- |
| Financial liabilities: |  |  |  |  |  |  |  |  |
| Deposits | \$ | 1,059,734 | \$ | --- | \$ | 944,850 | \$ | 113,053 |
| Accrued interest payable |  | 62 |  | --- |  | 62 |  | --- |

## Note 16: Components of Accumulated Other Comprehensive Income (Loss)

The following table summarizes the activity related to each component of accumulated other comprehensive income (loss):

|  | Net Unrealized Gain (Loss) on Securities |  | Adjustments Related to Pension Benefits |  | Accumulated Other Comprehensive Income (Loss) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Balance at December 31, 2015 | \$ | $(2,667)$ | \$ | $(5,270)$ | \$ | $(7,937)$ |
| Unrealized holding loss on available for sale securities net of tax of (\$431) |  | (800) |  | --- |  | (800) |
| Reclassification adjustment, net of tax of (\$65) |  | (121) |  | --- |  | (121) |
| Net pension gain, net of tax of \$132 |  | --- |  | 271 |  | 271 |
| Less amortization of prior service cost included in net periodic pension cost, net of tax of (\$38) |  | --- |  | (72) |  | (72) |
| Balance at December 31, 2016 | \$ | $(3,588)$ | \$ | $(5,071)$ | \$ | $(8,659)$ |
| Unrealized holding gain on available for sale securities net of tax of \$296 |  | 546 |  | --- |  | 546 |
| Reclassification adjustment, net of tax of (\$4) |  | (6) |  | --- |  | (6) |
| Net pension gain, net of tax of \$115 |  | --- |  | 213 |  | 213 |
| Less amortization of prior service cost included in net periodic pension cost, net of tax of (\$38) |  | --- |  | (71) |  | (71) |
| Reclassification of stranded tax effects from change in tax rate |  | (656) |  | $(1,062)$ |  | $(1,718)$ |
| Balance at December 31, 2017 | \$ | $(3,704)$ | \$ | $(5,991)$ | \$ | $(9,695)$ |
| Unrealized holding loss on available for sale securities net of tax of (\$595) |  | $(2,246)$ |  | --- |  | $(2,246)$ |
| Transfer from held-to-maturity to available-for-sale securities, net of tax of \$237 |  | 891 |  | --- |  | 891 |
| Reclassification adjustment, net of tax of (\$4) |  | (13) |  | --- |  | (13) |
| Net pension loss, net of tax of (\$249) |  | --- |  | (936) |  | (936) |
| Less amortization of prior service cost included in net periodic pension cost, net of tax of (\$24) |  | --- |  | (86) |  | (86) |
| Balance at December 31, 2018 | \$ | $(5,072)$ | \$ | $(7,013)$ | \$ | $(12,085)$ |

The following table provides information regarding reclassifications out of accumulated other comprehensive income (loss) for the years ended December 31, 2018, 2017 and 2016:

|  | December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Component of Accumulated Other Comprehensive Income (Loss) |  |  |  |  |  |  |
| Reclassification out of unrealized gains and losses on available-for-sale securities: |  |  |  |  |  |  |
| Realized securities gain, net | \$ | (17) | \$ | (10) | \$ | (186) |
| Income tax benefit |  | (4) |  | (4) |  | (65) |
| Realized gain on available-for-sale securities, net of tax, reclassified out of accumulated other comprehensive income (loss) | \$ | (13) | \$ | (6) | \$ | (121) |
| Amortization of defined benefit pension items: |  |  |  |  |  |  |
| Prior service costs ${ }^{(\mathbf{1})}$ | \$ | (110) | \$ | (109) | \$ | (110) |
| Income tax benefit |  | (24) |  | (38) |  | (38) |
| Amortization of defined benefit pension items, net of tax, reclassified out of accumulated other comprehensive income (loss) | \$ | (86) | \$ | (71) | \$ | (72) |

(1) This accumulated other comprehensive income (loss) component is included in the computation of net periodic benefit cost. (For additional information, see Note 8, "Employee Benefit Plans.")

## Note 17. Intangible Assets and Goodwill

In accounting for goodwill and intangible assets, the Company conducts an impairment review at least annually and more frequently if certain impairment indicators are evident. Accounting guidance provides the option of performing a preliminary assessment of qualitative factors before performing more substantial testing for impairment. If the preliminary assessment indicates that it is more likely than not that fair value is below carrying value, a two-step test is employed to determine impairment. The Company opted not to perform the preliminary assessment and employed the two-step test to determine impairment. Based on the testing for impairment of goodwill and intangible assets, there were no impairment charges for 2018, 2017 or 2016.

Information concerning goodwill and intangible assets for years ended December 31, 2018 and 2017 is presented in the following table:

|  | Gross Carrying Value |  | Accumulated Amortization |  | Net Carrying Value |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| December 31, 2018 |  |  |  |  |  |  |
| Amortizable core deposit intangibles | \$ | 16,257 | \$ | 16,257 | \$ | --- |
| Unamortizable goodwill |  | 5,848 |  | --- |  | 5,848 |
| Intangible assets and goodwill | \$ | 22,105 | \$ | 16,257 | \$ | 5,848 |
| December 31, 2017 |  |  |  |  |  |  |
| Amortizable core deposit intangibles | \$ | 16,257 | \$ | 16,207 | \$ | 50 |
| Unamortizable goodwill |  | 5,848 |  | --- |  | 5,848 |
| Intangible assets and goodwill | \$ | 22,105 | \$ | 16,207 | \$ | 5,898 |

## Note 18: Revenue Recognition

On January 1, 2018, the Company adopted ASU No. 2014-09 "Revenue from Contracts with Customers" (Topic 606) and all subsequent ASUs that modified Topic 606. As stated in Note 1 Summary of Significant Accounting Policies, the implementation of the new standard did not have a material impact on the measurement or recognition of revenue. Results for reporting periods beginning after January 1, 2018 and comparative periods are presented under Topic 606.

Topic 606 does not apply to revenue associated with financial instruments, including revenue from loans and securities. In addition, certain noninterest income streams such as financial guarantees, derivatives, and certain credit card fees are outside the scope of the guidance. Topic 606 is applicable to noninterest revenue streams such as service charges on deposit accounts, other service charges and fees, credit and debit card fees, trust income, and annuity and insurance commissions. However, the recognition of these revenue streams did not change significantly upon adoption of Topic 606. Substantially all of the Company's revenue is generated from contracts with customers. Noninterest revenue streams within the scope of Topic 606 are discussed below.

## Service Charges on Deposit Accounts

Service charges on deposit accounts consist of monthly service fees, overdraft and nonsufficient funds fees, ATM fees, wire transfer fees, and other deposit account related fees. The Company's performance obligation for monthly service fees is generally satisfied, and the related revenue recognized, over the period in which the service is provided. Payment for service charges on deposit accounts is primarily received immediately or in the following month through a direct charge to customers' accounts. ATM fees are primarily generated when a Company cardholder uses a non-Company ATM or a non-Company cardholder uses a Company ATM. Wire transfer fees, overdraft and nonsufficient funds fees and other deposit account related fees are transactional based, and therefore, the Company's performance obligation is satisfied, and related revenue recognized, at a point in time.

## Other Service Charges and Fees

Other service charges include safety deposit box rental fees, check ordering charges, and other service charges. Safe deposit box rental fees are charged to the customer on an annual basis and recognized upon receipt of payment. The Company determined that since rentals and renewals occur fairly consistently over time, revenue is recognized on a basis consistent with the duration of the performance obligation. Check ordering charges are transactional based, and therefore, the Company's performance obligation is satisfied, and related revenue recognized, at a point in time.

## Credit and Debit Card Fees

Credit and debit card fees are primarily comprised of interchange fee income and, prior to mid-2017, merchant services income. The Company sold its merchant services income in mid-2017. Interchange fees are earned whenever the Company's debit and credit cards are processed through card payment networks such as Visa. Merchant services income mainly represents fees charged to merchants to process their debit and credit card transactions, in addition to account management fees. The Company's performance obligation for interchange
fee income and merchant services income 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. In compliance with Topic 606, credit and debit card fee income is presented net of associated expense.

## Trust Income

Trust income is primarily comprised of fees earned from the management and administration of trusts and other customer assets. The Company's performance obligation is generally satisfied over time and the resulting fees are recognized monthly, based upon the monthend market value of the assets under management and the applicable fee rate. Payment is generally received a few days after month end through a direct charge to customers' accounts. The Company does not earn performance-based incentives. Estate management fees are based upon the size of the estate. A partial fee is recognized half-way through the estate administration and the remainder of the fee is recognized when remaining assets are distributed and the estate is closed.

## Insurance and Investment

Insurance income primarily consists of commissions received on insurance product sales. The Company acts as an intermediary between the Company's customer and the insurance carrier. The Company's performance obligation is generally satisfied upon the issuance of the insurance policy. Shortly after the insurance policy is issued, the carrier remits the commission payment to the Company, and the Company recognizes the revenue.

Investment income consists of recurring revenue streams such as commissions from sales of mutual funds and other investments. Commissions from the sale of mutual funds and other investments are recognized on trade date, which is when the Company has satisfied its performance obligation. The Company also receives periodic service fees (i.e., trailers) from mutual fund companies typically based on a percentage of net asset value. Trailer revenue is recorded over time, usually monthly or quarterly, as net asset value is determined.

The following presents noninterest income, segregated by revenue streams in-scope and out-of-scope of Topic 606, for the years ended December 31, 2018 and 2017

|  | December 31, |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  | 2016 |  |
| Noninterest Income |  |  |  |  |  |  |
| In-scope of Topic 606: |  |  |  |  |  |  |
| Service charges on deposit accounts | \$ | 2,678 | \$ | 2,776 | \$ | 2,458 |
| Other service charges and fees |  | 132 |  | 205 |  | 212 |
| Credit and debit card fees |  | 1,431 |  | 1,205 |  | 981 |
| Trust income |  | 1,565 |  | 1,530 |  | 1,346 |
| Insurance and Investment (included within Other Income on the Consolidated Statements of Income) |  | 460 |  | 398 |  | 415 |
| Noninterest Income (in-scope of Topic 606) | \$ | 6,266 | \$ | 6,114 | \$ | 5,412 |
| Noninterest Income (out-of-scope of Topic 606) |  | 1,463 |  | 1,522 |  | 1,703 |
| Total noninterest income | \$ | 7,729 | \$ | 7,636 | \$ | 7,115 |

## Exhibit 21

## Subsidiaries of the Registrant

Registrant: National Bankshares Inc.
Incorporated under the laws of the Commonwealth of Virginia
Subsidiaries of National Bankshares Inc.:

The National Bank of Blacksburg
Chartered under the laws of the United States
National Bankshares Financial Services, Inc.
Incorporated under the laws of the Commonwealth of Virginia

NB Operating, Inc.
Incorporated under the laws of the Commonwealth of Virginia

## УНВ Consultants

## Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
National Bankshares, Inc.
Blacksburg, Virginia

## Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of National Bankshares, Inc. and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, 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, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, 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, 2018, 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 13, 2019 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 audits 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.

## /s/ YOUNT, HYDE \& BARBOUR, P.C.

We have served as the Company's auditor since 2000.

Winchester, Virginia
March 13, 2019

## Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors
National Bankshares, Inc.
Blacksburg, Virginia

## Opinion on the Internal Control over Financial Reporting

We have audited National Bankshares, Inc. and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, 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, 2018, 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 as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2018, and the related notes to the consolidated financial statements of the Company, and our report dated March 13, 2019 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 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/ YOUNT, HYDE \& BARBOUR, P.C.
Winchester, Virginia
March 13, 2019

## CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-79979 on Form S-8 of National Bankshares, Inc. of our reports dated March 13, 2019 relating to the consolidated financial statements and the effectiveness of internal control over financial reporting, appearing in the Annual Report on Form 10-K of National Bankshares, Inc. and subsidiaries for the year ended December 31, 2018.
/s/ Yount, Hyde \& Barbour, P.C.

Winchester, Virginia
March 13, 2019

## Item 9. Changes In and Disagreements With Accountants on Accounting and Financial Disclosure

None

## Item 9A. Controls and Procedures

## Disclosure Controls and Procedures

The Company's management evaluated, with the participation of the Company's principal executive officer and principal financial officer, the effectiveness of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this report. Based on that evaluation, the Company's principal executive officer and principal financial officer concluded that the Company's disclosure controls and procedures are effective as of December 31, 2018 to ensure that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified by the Company's management, including the Company's principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure.

There were no changes in the Company's internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) during the year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

Because of the inherent limitations in all control systems, the Company believes that no system of controls, no matter how well designed and operated, can provide absolute assurance that all control issues have been detected.

## Internal Control Over Financial Reporting

## Management's Report on Internal Control Over Financial Reporting

To the Stockholders of National Bankshares, Inc.:
Management is responsible for the preparation and fair presentation of the financial statements included in this annual report. The financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America and reflect management's judgments and estimates concerning effects of events and transactions that are accounted for or disclosed.

Management is also responsible for establishing and maintaining adequate internal control over financial reporting. The Company's internal control over financial reporting includes those policies and procedures that pertain to the Company's ability to record, process, summarize and report reliable financial data. Management recognizes that there are inherent limitations in the effectiveness of any internal control over financial reporting, including the possibility of human error and the circumvention or overriding of internal control. Accordingly, even effective internal control over financial reporting can provide only reasonable assurance with respect to financial statement preparation. Further, because of changes in conditions, the effectiveness of internal control over financial reporting may vary over time.

In order to ensure that the Company's internal control over financial reporting is effective, management regularly assesses such controls and did so most recently for its financial reporting as of December 31, 2018. This assessment was based on criteria for effective internal control over financial reporting described in Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations (COSO, 2013) of the Treadway Commission. Based on this assessment, management believes the Company maintained effective internal control over financial reporting as of December 31, 2018.

The Board of Directors, acting through its Audit Committee, is responsible for the oversight of the Company's accounting policies, financial reporting and internal control. The Audit Committee of the Board of Directors is comprised entirely of outside directors who are independent of management. The Audit Committee is responsible for the appointment and compensation of the independent registered public accounting firm and approves decisions regarding the appointment or removal of the Company Auditor. It meets periodically with management, the independent registered public accounting firm and the internal auditors to ensure that they are carrying out their responsibilities. The Audit Committee is also responsible for performing an oversight role by reviewing and monitoring the financial, accounting and auditing procedures of the Company in addition to reviewing the Company's financial reports. The independent registered public accounting firm and the internal auditors have full and unlimited access to the Audit Committee, with or without management, to discuss the adequacy of internal control over financial reporting, and any other matter which they believe should be brought to the attention of the Audit Committee. The Company's independent registered public accounting firm has also issued an attestation report on the effectiveness of internal control over financial reporting.

## Item 9B. Other Information

None.

## Part III

## Item 10. Directors, Executive Officers and Corporate Governance

## Executive Officers of the Company

The following is a list of names and ages of all executive officers of Bankshares; their terms of office as officers; the positions and offices within Bankshares held by each officer; and each person's principal occupation or employment during the past five years.

| Name | Age | Offices and Positions Held | Year Elected an Officer/Director |
| :---: | :---: | :---: | :---: |
| F. Brad Denardo | 66 | National Bankshares, Inc.: President and Chief Executive Officer, September 1, 2017 to present; Executive Vice President, 2008 to August 31, 2017. | 1989 |
|  |  | The National Bank of Blacksburg: Chairman, September 2017 to Present; President \& CEO, July 2014 to Present; Executive Vice President/Chief Operating Officer, 2002 to July 2014. |  |
|  |  | National Bankshares Financial Services, Inc.: Chairman, President and CEO of National Bankshares Financial Services, Inc., September 1, 2017 to Present; Treasurer, June 2011 to Present. |  |
| David K. Skeens | 52 | National Bankshares, Inc.: Treasurer and Chief Financial Officer, January 2009 to Present. | 2009 |
|  |  | The National Bank of Blacksburg: Senior Vice President/Operations \& Risk Management \& CFO, 2009 to Present; Senior Vice President/Operations \& Risk Management, 2008-2009; Vice President/Operations \& Risk Management, 2004-2008. |  |
| Lara E. Ramsey | 50 | National Bankshares, Inc.: Corporate Secretary, June 1, 2016 to Present. <br> National Bankshares, Inc.: Senior Vice President/Administration, June 2011 to Present. | 2016 |
|  |  | National Bankshares, Inc.: Vice President/Human Resources, January 2001 June 2011. |  |
| Paul M. Mylum | 52 | The National Bank of Blacksburg: Senior Vice President/Chief Lending Officer, August 2016 to Present. | 2012 |
|  |  | The National Bank of Blacksburg: Senior Vice President/Loans, August 2012-August 2016. |  |
| Mark A. Smith | 52 | The National Bank of Blacksburg: Senior Vice President/Chief Credit Officer, April 2016 to October 2018. | 2016 |
| Rebecca M. Melton | 48 | The National Bank of Blacksburg: Senior Vice President/Chief Credit Officer, November 2018 to Present. | 2018 |

Information with respect to the directors of Bankshares is set out under the caption "Election of Directors" of Bankshares' Proxy Statement for the 2019 Annual Meeting of Stockholders to be held on May 14, 2019 ("Proxy Statement") which information is incorporated herein by reference.

The Board of Directors of Bankshares has a standing audit committee made up entirely of independent directors, as that term is defined in the NASDAQ Stock Market Listing Rules. In 2018, Dr. Lewis chaired the Audit Committee and its members were Mr. Ball, Dr. Dooley, Mr. Reynolds and Mr. Webb. Each member of the Audit Committee has extensive business experience; however, the Committee has identified Dr. Lewis as its financial expert, since he has a professional background which involves financial oversight responsibilities. Dr. Lewis oversaw the preparation of financial statements in his past role as President of New River Community College. He previously served as the College's Chief Financial Officer. The Audit Committee's Charter is available on the Company's web site at www.nationalbankshares.com.

The Board of Directors of Bankshares has a Board Risk Committee tasked with setting a risk tolerance and overseeing risks and risk management throughout the Company. In response to the cybersecurity incidents experienced in 2016 and 2017, the Board of Directors
and Board Risk Committee increased their oversight of cybersecurity risk, including receiving monthly updates in greater detail and providing direction for incident response and ongoing capital investment to mitigate risk.

Certain information required by Item 10 is incorporated herein by reference to the Company's Proxy under the headings "Election of Directors", "Stock Ownership of Directors and Executive Officers", "Section 16(a) Beneficial Ownership Reporting Compliance", "Corporate Governance Matters" and "Code of Ethics". The Company and each of its subsidiaries have adopted codes of ethics for directors, officers and employees, specifically including the Chief Executive Officer and Chief Financial Officer of Bankshares. These Codes of Ethics are available on the Company's web site at www.nationalbankshares.com.

## Item 11. Executive Compensation

The information required by Item 11 is incorporated herein by reference to the information that appears under the headings "Compensation Discussion and Analysis," "Compensation Committee Interlocks and Insider Participation," "Compensation Committee Report" and "Pay Ratio" in the Company's Proxy Statement for the Annual Meeting of Shareholders.

## Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by Item 12 is incorporated herein by reference to the information that appears under the heading "Stock Ownership of Directors and Executive Officers" in the Company's Proxy Statement for the Annual Meeting of Shareholders.

## Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by Item 13 is incorporated herein by reference to the information that appears under the headings "Directors Independence and Certain Transactions with Officers and Directors" and "Election of Directors - Director Independence" in the Company's Proxy Statement for the Annual Meeting of Shareholders. As of December 31, 2018 there were no shares available for issuance or exercise, and there are no equity compensation plans in effect.

Item 14. Principal Accounting Fees and Services
The information required by Item 14 is incorporated herein by reference to the information that appears under the heading "Independent Public Accountants" in the Company's Proxy Statement for the Annual Meeting of Shareholders.

## Part IV

## Item 15. Exhibits, Financial Statement Schedules

(a) (1) Financial Statements

The following consolidated financial statements of National Bankshares, Inc. are included in Item 8:
Reports of Independent Registered Public Accounting Firm
Consolidated Balance Sheets - As of December 31, 2018 and 2017
Consolidated Statements of Income - Years ended December 31, 2018, 2017 and 2016
Consolidated Statements of Comprehensive Income - Years ended December 31, 2018, 2017 and 2016
Consolidated Statements of Changes in Stockholders' Equity - Years ended December 31, 2018, 2017 and 2016
Consolidated Statements of Cash Flows - Years ended December 31, 2018, 2017 and 2016
Notes to Consolidated Financial Statements
(a) (2) Financial Statement Schedules

Certain schedules to the consolidated financial statements have been omitted if they were not required by Article 9 of Regulation S-X or if, under the related instructions, they were inapplicable, or if the information is contained elsewhere in this Annual Report on Form 10-K.
(a) (3) Exhibits

A list of the exhibits filed or incorporated in this Annual Report by reference is as follows:

| Exhibit No. | Description | Page No. in Sequential System |
| :---: | :---: | :---: |
| 3(i) | Amended and Restated Articles of Incorporation of National Bankshares, Inc. | (incorporated herein by reference to Exhibit 3.1 of the Form 8 K for filed on March 16, 2006) |
| 3(ii) | Amended By-laws of National Bankshares, Inc. | (incorporated herein by reference to Exhibit 3(ii) of the Form 8 K filed on July 9, 2014) |
| 4 | Specimen copy of certificate for National Bankshares, Inc. common stock | (incorporated herein by reference to Exhibit 4(a) of the Annual Report on Form 10K for fiscal year ended December 31, 1993) |
| *10(i) | National Bankshares, Inc. 1999 Stock Option Plan | (incorporated herein by reference to Exhibit 4.3 of the Form S-8, filed as Registration No. 333-79979 with the Commission on June 4, 1999) |
| *10(ii) | Executive Employment Agreement dated March 11, 2015, between National Bankshares, Inc. and James G. Rakes | (incorporated herein by reference to Exhibit 10.1 of the Form 8 K filed on March 11, 2015) |
| *10(iii) | Employee Lease Agreement dated August 14, 2002, between Nationa Bankshares, Inc. and The National Bank of Blacksburg | (incorporated herein by reference to Exhibit 10 of Form 10Q for the period ended September 30, 2002) |
| *10(iv) | Executive Employment Agreement dated March 11, 2015, between National Bankshares, Inc. and F. Brad Denardo | (incorporated herein by reference to Exhibit 10.2 of the Form 8 K filed on March 11, 2015) |
| *10(v) | Salary Continuation Agreement dated February 8, 2006, between The National Bank of Blacksburg and James G. Rakes | (incorporated herein by reference to Exhibit 99 of the Form 8 K filed on February 8, 2006) |
| *10(vi) | Salary Continuation Agreement dated February 8, 2006, between The National Bank of Blacksburg and F. Brad Denardo | (incorporated herein by reference to Exhibit 99 of the Form 8 K filed on February 8, 2006) |
| *10(vii) | Salary Continuation Agreement dated February 8, 2006, between The National Bank of Blacksburg and David K. Skeens | (incorporated herein by reference to Exhibit 10.2 of the Form 8K filed on January 25, 2012) |
| *10(viii) | First Amendment, dated December 19, 2007, to The National Bank of Blacksburg Salary Continuation Agreement for James G. Rakes | (incorporated herein by reference to Exhibit 10 of the Form 8K filed on December 19, 2007) |
| *10(ix) | First Amendment, dated December 19, 2007, to The National Bank of Blacksburg Salary Continuation Agreement for F. Brad Denardo | (incorporated herein by reference to Exhibit 10 of the Form 8 K filed on December 19, 2007) |


| *10(x) | First Amendment, dated December 19, 2007, to The National Bank of (incorporated herein by reference to Exhibit Blacksburg Salary Continuation Agreement for David K. Skeens 10.2 of the Form 8K filed on January 25, 2012) |
| :---: | :---: |
| *10(xi) | Second Amendment, dated June 12, 2008, to The National Bank of (incorporated herein by reference to Exhibit Blacksburg Salary Continuation Agreement for F. Brad Denardo $\quad 10$ of the Form 8K filed on June 12, 2008) |
| *10(xii) | Second Amendment, dated December 17, 2008, to The National Bank of (incorporated herein by reference to Exhibit Blacksburg Salary Continuation Agreement for James G. Rakes 10(iii) of the Annual Report on Form 10K for fiscal year ended December 31, 2008) |
| *10(xiii) | Second Amendment, dated June 12, 2008, to The National Bank of (incorporated herein by reference to Exhibit Blacksburg Salary Continuation Agreement for David K. Skeens 10.2 of the Form 8K filed on January 25, 2012) |
| *10(xiv) | Third Amendment, dated December 17, 2008, to The National Bank of (incorporated herein by reference to Exhibit Blacksburg Salary Continuation Agreement for F. Brad Denardo 10(iii) of the Annual Report on Form 10K for fiscal year ended December 31, 2008) |
| *10(xv) | Third Amendment, dated January 20 2012, to The National Bank of (incorporated herein by reference to Exhibit Blacksburg Salary Continuation Agreement for David K. Skeens 10.2 of the Form 8K filed on January 25, 2012) |
| *10(xvi) | Salary Continuation Agreement dated May 24, 2013 between (incorporated herein by reference to Exhibit <br> The National Bank of Blacksburg and Paul A. Mylum 10.1 of the Form 8 K filed on March 8, 2018) |
| *10(xvii) | Second Salary Continuation Agreement dated July 1, 2016 between (incorporated herein by reference to Exhibit <br> The National Bank of Blacksburg and F. Brad Denardo 10.1 of the Form 8K filed on July 20, 2016) |
| *10(xviii) | $\begin{array}{ll}\text { Salary Continuation Agreement dated February 6, } 2006 \text { between } & \text { (incorporated herein by reference to Exhibit } \\ \text { The National Bankshares, Inc. and Lara E. Ramsey } & 10.1 \text { of the Form 8K filed on March 6, 2017) }\end{array}$ |
| *10(xix) | First Amendment, dated December 19, 2007, to National Bankshares, Inc. (incorporated herein by reference to Exhibit Salary Continuation Agreement for Lara E. Ramsey 10.1 of the Form 8 K filed on March 6, 2017) |
| *10(xx) | Second Amendment, dated June 12, 2008, to National Bankshares, Inc. (incorporated herein by reference to Exhibit Salary Continuation Agreement for Lara E. Ramsey 10.1 of the Form 8 K filed on March 6, 2017) |
| *10(xxi) | Third Amendment, dated June 22, 2016, to National Bankshares, Inc. (incorporated herein by reference to Exhibit Salary Continuation Agreement for Lara E. Ramsey 10.1 of the Form 8 K filed on March 6, 2017) |
| +21 | Subsidiaries of the Registrant Included herein |
| +23 | Consent of Yount, Hyde \& Barbour, P.C. to incorporation by reference of Included herein independent auditor's report included in this Form 10-K, into registrant's registration statement on Form S-8 |
| +31(i) | Section 906 Certification of Chief Executive Officer Page 102 |
| +31(ii) | Section 906 Certification of Chief Financial Officer Page 103 |
| +32(i) | 18 U.S.C. Section 1350 Certification of Chief Executive Officer Page 104 |
| +32(ii) | 18 U.S.C. Section 1350 Certification of Chief Financial Officer Page 104 |
| +101 | The following materials from National Bankshares, Inc.'s Annual Report Included herein on Form 10-K for the year ended December 31, 2018, formatted in XBRL (Extensible Business Reporting Language), furnished herewith: <br> (i) Consolidated Balance Sheets, (ii) Consolidated Statements of Operations, (iii) Consolidated Statements of Changes in Shareholders' Equity, (iv) Consolidated Statements of Cash Flows, and (v) Notes to Consolidated Financial Statements. |

*Indicates a management contract or compensatory plan required to be filed herein.
+Filed with this Annual Report on Form 10-K.

## Item 16. Summary Information

Not applicable.

## Signatures

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

NATIONAL BANKSHARES, INC.
/s/ F. BRAD DENARDO
F. Brad Denardo

President and Chief Executive Officer (Principal Executive Officer)
/s/ DAVID K. SKEENS
David K. Skeens
Treasurer and Chief Financial Officer
(Principal Financial Officer)
(Principal Accounting Officer)

Date: March 13, 2019

|  | $\underline{\text { Date }}$ | $\underline{\text { Title }}$ |
| :--- | :--- | :--- |
| /s/ L. J. BALL | $\underline{03 / 13 / 2019}$ | Director |
| L. J. Ball | $\underline{03 / 13 / 2019}$ | President and CEO, National Bankshares, Inc. |
| /s/ F. B. DENARDO | $\underline{03 / 13 / 2019}$ | Director |
| F. B. Denardo | $\underline{03 / 13 / 2019}$ | Director |
| /s/ J. E. DOOLEY |  | Director |
| J. E. Dooley |  |  |
| /s/ M.E. DYE |  |  |
| M. E. Dye |  |  |


| s/ N. V. FITZWATER, III | $\underline{03 / 13 / 2019}$ | Director |
| :--- | :--- | :--- |
| V. Fitzwater, III |  |  |
| /s/ C. E. GREEN, III | $\underline{03 / 13 / 2019}$ | Director |

C. E. Green, III

| /s/ M. R. JOHNSON | $\underline{03 / 13 / 2019}$ | Director |
| :--- | :--- | :--- |
| M. R. Johnson | $\underline{03 / 13 / 2019}$ | Director |
| /s/ J. M. LEWIS | $\underline{03 / 13 / 2019}$ | Director |
| J. M. Lewis |  |  |
| M. G. Miller |  |  |


| /s/ W. A. PEERY | 03/13/2019 | Director |
| :---: | :---: | :---: |
| W. A. Peery |  |  |
| /s/ J. G. RAKES | $\underline{03 / 13 / 2019}$ | Chairman of the Board, National Bankshares, Inc. |
| J. G. Rakes |  | Director |
| /s/ G. P. REYNOLDS | 03/13/2019 | Director |
| G. P. Reynolds |  |  |
| /s/ J. C. THOMPSON | 03/13/2019 | Director |
| J. C. Thompson |  |  |
| /s/ J. L. WEBB, JR. | $\underline{03 / 13 / 2019}$ | Director |
| J. L. Webb, Jr. |  |  |

Exhibit No. 31(i)

## CERTIFICATIONS UNDER SECTION 906 OF THE SARBANES OXLEY ACT OF 2002

## I, F. Brad Denardo, President and Chief Executive Officer of National Bankshares, Inc., certify that:

1. I have reviewed this annual report on Form 10-K of National Bankshares, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 (e) and 15d - 15 (e)) and internal control over financial reporting (as defined in Exchange Act Rules $13 \mathrm{a}-15(\mathrm{f})$ and $15 \mathrm{~d}-15(\mathrm{f})$ ) for the registrant and have:
(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; and
(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; and
(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluations; and
(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2019

/s/ F. BRAD DENARDO<br>F. Brad Denardo<br>President and Chief Executive Officer<br>(Principal Executive Officer)

Exhibit 31(ii)

I, David K. Skeens, Treasurer and Chief Financial Officer of National Bankshares, Inc., certify that:

1. I have reviewed this annual report on Form 10-K of National Bankshares, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a - 15 (e) and $15 \mathrm{~d}-15$ (e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; and
(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purpose in accordance with generally accepted accounting principles; and
(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluations; and
(d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2019
/s/ DAVID K. SKEENS
David K. Skeens
Treasurer and
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32(i)

## CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO U.S.C. SECTION 1350

In connection with the Form 10-K of National Bankshares, Inc. for the year ended December 31, 2018, I, F. Brad Denardo, Chairman, President and Chief Executive Officer of National Bankshares, Inc., hereby certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge and belief that:
(1) such Form 10-K for the year ended December 31, 2018, fully complies with the requirements of section 13(a) or 15(d) of the Securities Act of 1934; and
(2) the information contained in such Form 10-K for the year ended December 31, 2018, fairly presents in all material respects, the financial condition and results of operations of National Bankshares, Inc.

Dated: March 13, 2019

/s/ F. BRAD DENARDO<br>F. Brad Denardo<br>President and Chief Executive Officer<br>(Principal Executive Officer)

Exhibit 32(ii)

## CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO U.S.C. SECTION 1350

In connection with the Form 10-K of National Bankshares, Inc. for the year ended December 31, 2018, I, David K. Skeens, Treasurer and Chief Financial Officer of National Bankshares, Inc., hereby certify pursuant to 18 U. S. C. Section 1350, as adopted pursuant to section 906 of the Sarbanes-Oxley Act of 2002, to the best of my knowledge and belief that:
(1) such Form 10-K for the year ended December 31, 2018, fully complies with the requirements of section 13(a) or 15(d) of the Securities Act of 1934; and
(2) the information contained in such Form 10-K for the year ended December 31, 2018, fairly presents in all material respects, the financial condition and results of operations of National Bankshares, Inc.

Dated: March 13, 2019
/s/ DAVID K. SKEENS

David K. Skeens
Treasurer and Chief Financial Officer (Principal Financial Officer)

## Index of Exhibits

The following exhibits are filed with this Annual Report on Form 10-K.

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| 23 | Consent of Yount, Hyde \& Barbour, P.C. | Page 94 |
| $31($ i $)$ | Section 906 Certification of Chief Executive Officer | Page 102 |
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National Bankshares
National Bankshares, Inc.
101 Hubbard Street
Blacksburg, Virginia 24060
www.nationalbankshares.com


[^0]:    ${ }^{(1)}$ The efficiency ratio is a non-GAAP financial measure that the Company believes provides investors with important information regarding operational efficiency. Such information is not prepared in accordance with U.S. generally accepted accounting principles (GAAP) and should not be viewed as a substitute for GAAP. See "Non-GAAP Financial Measures" included in Item 7 of the enclosed Form 10-K.

[^1]:    (1) Loans are presented on a gross basis.

