

TCF Financial Corporation
2018 Annual Report

2018 Financial Highlights

14.74%

Adjusted return on average tangible common equity (ROATCE)¹ exceeded 2018 target range (ROATCE¹: 13.56%; ROACE: 12.42%)

67.15%

Adjusted efficiency ratio¹ within 2018 target range (efficiency ratio: 69.34%)

**\$304
MILLION**

Record net income attributable to TCF

**\$1.5
BILLION**

Total revenue

>100%

Total return to shareholders through common stock dividends and share repurchases

↑7.5%

Loan and lease growth excluding auto finance² (total loan and lease balances declined 0.2%)

↑10.1%

Average non-interest bearing deposit growth

¹ See "Consolidated Financial Condition Analysis—Non-GAAP Financial Measures" in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operation" of the accompanying 2018 Form 10-K for reconciliation of GAAP to non-GAAP measures

² Calculated by subtracting auto finance balances of \$2.0 billion and \$3.2 billion at December 31, 2018 and December 31, 2017, respectively, from total loan and lease balances of \$19.1 billion at both December 31, 2018 and December 31, 2017

Financial Summary

Dollars in thousands, except per-share data

At or for the year ended December 31,

Operating Results	2016	2017	2018
Net interest income	\$ 848,106	\$ 925,238	\$ 992,007
Non-interest income	465,900	448,299	470,885
Total revenue	1,314,006	1,373,537	1,462,892
Provision for credit losses	65,874	68,443	46,768
Non-interest expense	909,887	1,059,934	1,014,400
Income before income tax expense (benefit)	338,245	245,160	401,724
Income tax expense (benefit)	116,528	(33,624)	86,096
Income attributable to non-controlling interest	9,593	10,147	11,270
Net income attributable to TCF Financial Corporation	212,124	268,637	304,358
Preferred stock dividends	19,388	19,904	11,588
Impact of preferred stock redemption	–	5,779	3,481
Net income available to common stockholders	\$ 192,736	\$ 242,954	\$ 289,289

Period-end Balance Sheet Highlights	2016	2017	2018
Total assets	\$21,441,326	\$23,002,159	\$23,699,612
Loans and leases	17,843,827	19,104,460	19,072,311
Loans and leases, excluding auto finance	15,196,086	15,904,821	17,090,034
Debt securities	1,604,749	1,870,594	2,618,917
Deposits	17,242,522	18,335,002	18,903,686

Per Common Share Information	2016	2017	2018
Diluted earnings	\$ 1.15	\$ 1.44	\$ 1.74
Dividends declared	0.30	0.30	0.60
Book value per share	12.66	13.96	14.45
Tangible book value per share ¹	11.33	12.92	13.38

Financial Ratios	2016	2017	2018
Return on average assets	1.05%	1.26%	1.37%
Return on average common equity	9.13	10.80	12.42
Return on average tangible common equity ¹	10.29	15.73	13.56
Adjusted return on average tangible common equity ¹			14.74
Efficiency ratio	69.25	77.17	69.34
Adjusted efficiency ratio ¹			67.15
Net charge-offs as a percentage of average loans and leases	0.26	0.24	0.29
Non-performing assets as a percentage of total assets	1.06	0.59	0.52
Common equity Tier 1 capital ratio	10.24	10.79	10.82

¹ See “Consolidated Financial Condition Analysis—Non-GAAP Financial Measures” in Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operation” of the accompanying 2018 Form 10-K for reconciliation of GAAP to non-GAAP measures



Craig R. Dahl
Chairman, President and
Chief Executive Officer

Dear Shareholders:

TCF built on the positive momentum generated in 2017 to drive record net income in 2018. We delivered on our adjusted return on capital and adjusted efficiency ratio commitments, reduced our risk profile through the successful remix of our balance sheet, recognized the true value of our retail deposit base and generated positive operating leverage for the organization.

As I look back at 2018 and think about our path moving forward, I am most proud of *how* we are producing our strong results. This includes our ability to execute on our business strategies by competing as experts in all that we do while working together with our customers to better meet their financial needs.

Throughout 2018, we also became increasingly more forward-looking as the Consumer Financial Protection Bureau (the “CFPB”) and Office of the Comptroller of the Currency (the “OCC”) matter was resolved and run-off of the auto finance portfolio continued as planned. As a result, we positioned ourselves to recently announce a transformational merger of equals with Chemical Financial Corporation (“Chemical”). We believe this will make us a premier Midwest bank with the scale and profitability to enhance our ability to compete and win in a continually evolving macro environment and banking industry.

Delivering on commitments in 2018

We set out at the beginning of 2018 with two primary objectives: lowering our efficiency ratio and improving our return on capital. In fact, for the first time, we provided formal targets for both metrics. Our rationale for doing so was to clearly communicate our focus on improving in

areas we feel most directly impact our valuation. This focus runs throughout the organization and is reflected in our business plans to grow scalable businesses and leverage our existing infrastructure, and is a key component in our return on capital framework. In 2018, we reported an adjusted efficiency ratio, excluding the impact of the CFPB and OCC settlement and related expenses, of 67.15 percent^{*}, within our target range of 66 percent to 68 percent. In addition, we reported an adjusted return on average tangible common equity (“ROATCE”) of 14.74 percent^{*}, exceeding our target range of 11.5 percent to 13.5 percent. This improvement in adjusted ROATCE was achieved with higher common equity tier 1 capital, higher net income and a reduced risk profile.

Throughout the year, we took several actions to optimize our capital position as we redeemed higher-rate preferred stock, doubled the common stock dividend and continued with our share repurchase program. Even as we took these actions, our common equity tier 1 capital grew over the course of the year due to strong earnings and a balance sheet remix toward more capital-efficient assets. Overall, we returned over 100 percent of net income to shareholders via common stock dividends and share repurchases.

Remixing the balance sheet

In late 2017, we made the decision to discontinue auto finance loan originations and redeploy the run-off into debt securities and other loans and leases to improve the overall mix and drive higher returns over time. We were able to generate interest-earning asset growth in 2018, even as we remixed the balance sheet, while also increasing total revenue. In addition, while total loan and lease balances of \$19.1 billion declined slightly during the year, balances excluding the \$1.2 billion of auto finance run-off increased 7.5 percent. Our outlook for continued profitable growth remains strong as we compete as experts in our growth businesses.

By replacing much of the auto finance portfolio run-off, our highest net charge-off portfolio, with debt securities, our credit risk and liquidity profiles have improved significantly. In 2018, provision for credit losses declined 32 percent, non-performing assets declined 10 percent and our net charge-off rate was 0.29 percent, including the auto finance portfolio and recoveries on previous charge-offs related to consumer real estate non-accrual loan sales. Shifting the mix of our balance sheet to higher credit quality assets is important for us given where the industry is in the credit cycle. As a result, the credit risk profile of our balance sheet today is much lower than it was several years ago.

The value of our retail-focused deposit base

Over the past few years, we have talked about how our retail-focused deposit base sets us apart from peers and becomes more valuable in a higher rate environment. This came to fruition in 2018 due to our consumer deposits which made up 83 percent of our deposit base. As interest rates increased 100 basis points in 2018, our cost of deposits in the fourth quarter of 2018 increased just 26 basis points year-over-year. While our overall deposit costs accelerated later in the year, the increase was primarily driven by certificates of deposit repricing at market rates and the use of promotional deposit accounts to grow our customer base.

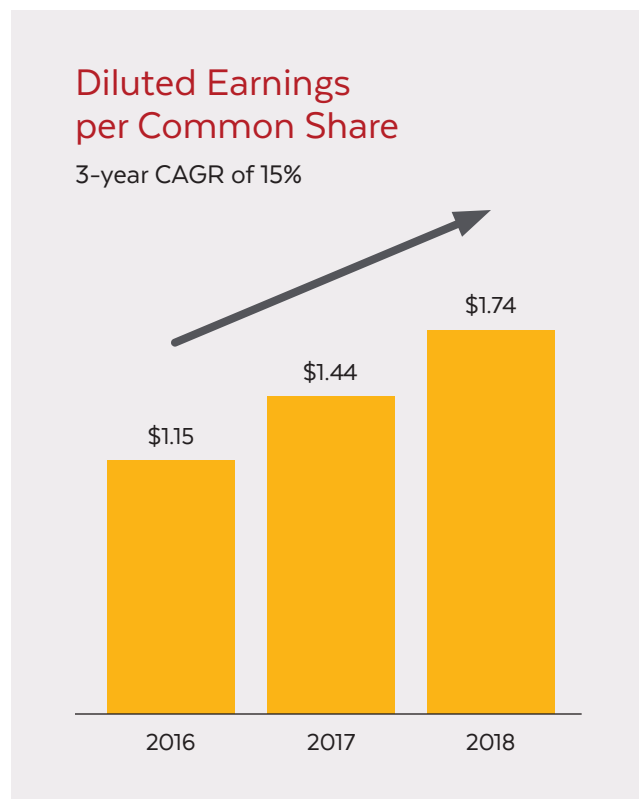
Deposit growth was driven by savings and non-interest bearing deposit balances, which increased by \$1.1 billion in 2018. During the year, we focused on making it easier to do business with TCF by continuing to invest in our digital banking platform while enhancing the customer experience. Our full-featured digital banking experience now includes mobile deposits, advanced budgeting tools and the ability for our customers to lock and unlock their debit cards right from their mobile phones. In addition, we have streamlined the online account opening process by improving the user interface and

optimizing the platform for mobile devices. This is in addition to previous enhancements including fingerprint ID and facial recognition and instant issue debit cards. As a result of these enhancements, we have been able to attract new customers and expand our relationship with existing customers while reducing attrition. We believe we can continue to improve the customer experience going forward, while leveraging investments into scalable solutions and improving efficiencies across the company.

Generating positive operating leverage

A primary focus for me since I became CEO three years ago has been to continue to grow our very strong revenue base, but do so in a more efficient way. This is why we provided an adjusted efficiency ratio target in 2018. After operating with an average efficiency ratio of approximately 70 percent over the past five years, our efforts to improve operating leverage resulted in an adjusted efficiency ratio of 67.15 percent in 2018*. We generated total revenue of \$1.5 billion, up 6.5 percent from 2017, while improving the mix as net gains on sales of loans and servicing fee income declined.

Expenses were well controlled in 2018 as we reinvested cost savings from the auto finance business into talent and technology throughout the organization. This included enhancements to our digital banking platform, expansion of our TCF Home Loans business and investments in



various back office initiatives. Our focus on managing toward an efficiency ratio, and not the expense dollars, gives us the flexibility to be opportunistic as we execute on our strategies. For example, because of our strong revenue performance during the year, we were able to pull forward select investments in 2018, allowing us to accelerate future growth and returns while remaining within our adjusted efficiency ratio target range. Continuing to drive positive operating leverage will remain an important part of how we manage the business going forward.

A look ahead

2018 marked a positive step for TCF as execution of our strategies resulted in tangible progress toward increasing our return on capital and improving our efficiency ratio. While we are pleased with this progress, we are not satisfied. This is why we are so excited about our pending merger with Chemical. This partnership brings together two companies that are complementary in terms of expertise, products, capabilities and geographic footprint. We believe this positions us to accelerate value creation for shareholders by delivering top quartile revenue generation and significant efficiency ratio improvement, all leading to a top quartile return on capital.

We expect the merger to close later in 2019. In the meantime, we remain focused on executing our business

model, which is built on our low cost, retail deposit base which funds our in-footprint and national lending businesses. Our ability to provide an exceptional customer experience, while competing as experts, will remain a core part of who we are moving forward.

On the **retail banking** side, we are focused on enhancing our products and services to attract new customers while eliminating reasons for existing customers to leave. The launch of our new digital banking platform has helped, but there is more work to be done. We have initiatives in place to add additional product features and enhance customer engagement to expand relationships. Meanwhile, we are utilizing tools to better understand our customers and their financial goals so we can provide customized solutions across our suite of financial products and services. Continued growth of our valuable deposit franchise will be important for us moving forward.

Our collection of lending businesses gives us the ability to be selective in how and where we deploy capital while allowing us to manage concentrations across products and geographies. We have made significant investments in our **consumer real estate** business that will benefit us moving forward. With the acquisition of the assets of Rubicon Mortgage Advisors, LLC in late 2017 and the subsequent build-out of TCF Home Loans in 2018, we now have the expertise in place to be able to meet the mortgage needs of our large, retail customer base and grow the business over the course of 2019. This also supports our asset liability strategy to add select longer duration assets to the balance sheet given where we are in the interest rate cycle.

Our **commercial banking** business, which is primarily spread across our key markets of Minneapolis–St. Paul, Chicago, Detroit and Denver, saw strong originations in 2018. Over the past several years, we have not had to stretch for commercial growth simply because we have had more avenues for growth in other portfolios, such as leasing and equipment finance and inventory finance. As a result, we not only have the capacity to grow, but we have strong talent in place to selectively choose when and where we want to allocate capital without bowing to competitive pressures on pricing or structure.

We have been in the **leasing and equipment finance** business for the past 20 years. We are the 12th largest bank-affiliated leasing company in the U.S. and have a level of experience and expertise amongst the best in the industry. Our ability to compete as experts is evident through our focus on financing business-essential equipment and being in select industries that drive strong credit



performance. From a growth standpoint, we continue to see strong originations, a robust backlog and opportunities for platform and portfolio purchases as some specialty lending companies are experiencing pressure on their margins given higher interest rates. Leasing and equipment finance continues to be a key driver of the success within our organization.

Our philosophy of competing as experts applies to **inventory finance** as well, a business we have now been in for over 10 years. Our reputation for providing an exceptional experience for manufacturers and a network of more than 10,800 active dealers is allowing us to retain our exclusive manufacturer agreements and occasionally win new programs. We can also grow with our existing customer base through expansion of new manufacturer products, additional dealers and increased sales. From a credit standpoint, 76 percent of our portfolio is through exclusive manufacturer programs, which include robust risk mitigants such as repurchase and remarketing on repossessed inventory, risk-based collateral inspections and loss recourse and favorable loss rebate.

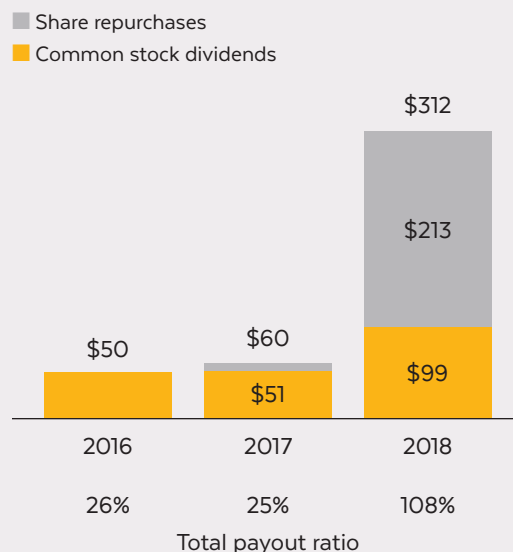
A strong credit culture is not only a principal for TCF as a whole, but for me personally as a banker for over 40 years. We will not stray from our core credit framework and underwriting discipline. The risk profile of our balance sheet today is significantly better than it has been over the past several years when we had higher concentrations of consumer real estate and auto finance balances. In addition, the credit profiles of our businesses continue to outperform the industry. For example, our leasing and equipment finance portfolio has averaged quarterly net charge-offs of just 0.14 percent over the past five years, consistently less than half of industry levels. This is a function of not only the segments we are in, but those we choose not to be in. We believe we are much better positioned today than we were at the end of the last credit cycle.

In addition, we are focused on controlling what we can control. This starts with continuing to improve our efficiency across the organization. We will need to continue to invest in technology, automate processes and make it easier to do business with us by making it easier for our team members to serve our customers. Our commitment to improving the efficiency ratio is not a singular goal for the year, but a leadership belief to always look for efficiencies throughout the course of operating the business.

Capital Return to Shareholders

Total payout ratio of 108% in 2018

(Dollars in millions)



Our ability to continue to compete as experts in all that we do requires strong talent. We are committed to investing in our people and our culture through enhancing team member engagement, expanding talent development programs, enabling our team members to deliver an exceptional customer experience, and fostering collaboration. As we make these investments, I want to share my admiration for the efforts put forth by everyone from our board of directors to our management team to our team members on the front lines. Your hard work and dedication have not gone unnoticed.

As we prepare to create the premier Midwest bank with Chemical, I am most excited about the complementary nature of our businesses, people, values and culture. Our hard work in the past has put us in position to take a bold step for our future. As CEO of the new company, I am confident in our ability to execute and accelerate the value creation for our shareholders, customers and team members. I look forward to the next chapter of TCF...

Craig R. Dahl
Chairman, President and Chief Executive Officer

*See "Consolidated Financial Condition Analysis—Non-GAAP Financial Measures" in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operation" of the accompanying 2018 Form 10-K for reconciliation of GAAP to non-GAAP measures

Competing as Experts Across Our Businesses



Consumer Banking

TCF Consumer Banking includes our community bank and consumer lending business. TCF Retail Banking generates a retail-focused deposit base to fund our loan and lease growth. We have been making significant investments in our digital platform and customer experience to better meet the evolving needs of our customers. In addition, by acquiring the assets of Rubicon Mortgage Advisors, LLC, now TCF Home Loans, in late 2017, we added a team of experts to enhance our ability to offer mortgage products to our large retail customer base.

\$5.4B
YE 2018
loan balances

83%
of total
deposit balances
are consumer



Commercial Banking

Led by an experienced team of commercial bankers, TCF Commercial Banking originates commercial real estate and commercial business loans primarily within our retail footprint. Because of our diversified growth channels in other portfolios, we have not had to rely on growth in commercial loans in recent years. As a result, we have capacity to grow, but can be selective in when and where we allocate our capital, without bowing to competitive pressures on pricing or structure.

\$3.9B
YE 2018
loan balances

8.1%
FY 2018
growth rate



Leasing and Equipment Finance

TCF has been competing as experts in Leasing and Equipment Finance for 20 years by providing a full array of financing solutions to manufacturers, dealers and end users. We have a proven track record of growing the business organically, as well as through platform and portfolio purchases. We focus on financing business-essential equipment while taking a disciplined approach by participating in select markets that drive strong credit performance, which has allowed us to consistently outperform industry averages.

\$4.7B
YE 2018
loan and lease
balances

0.16%
2018 net
charge-off rate



Inventory Finance

TCF is an industry leader in Inventory Finance, utilizing manufacturer relationships to provide financing to dealers in various industries, including powersports and lawn and garden. We have grown this high-barrier-to-entry business with our existing customer base as well as through the addition of new exclusive program agreements. These exclusive programs are structured with various risk mitigants to minimize losses.

\$3.1B
YE 2018
loan balances

More than
10,800
active dealers

Focused on Our People and Communities

Giving back to our communities

We believe in giving back to our communities through philanthropy and volunteerism. In 2018, the TCF Foundation granted nearly \$2.3 million to 650 charitable organizations focused on community development, human services, arts and culture, and veterans' services. Our team member-driven philanthropy generated another \$500,000 in incremental support for local organizations. In addition, our team members gave generously of their time, logging more than 20,000 hours volunteering for many worthwhile non-profit organizations.

The TCF Foundation also matched the generous charitable contributions of our team members. Through the Employee Matching Gift program, team members' contributions were matched 200% on gifts up to \$10,000. The TCF Foundation donated \$1.3 million to non-profit organizations last year through this program.



\$2.3M
in grants to 650
charitable organizations

20,000+
volunteer hours

200K
students reached
by TCF Financial
Scholars Program



765,000
hours of
student learning



Leadership in financial education

Since 2013, TCF has focused on strengthening the financial capability of teens and adults through two programs: the TCF Financial Scholars Program for teens and the TCF Financial Fitness Program for adults. Partnering with EVERFI, one of the nation's leading providers of financial education programming, these programs provide access to free, independently created financial education content in an innovative online learning format.

Through the end of the 2018 academic year, the Financial Scholars Program reached more than 200,000 students in 448 schools and promoted more than 765,000 hours of learning. TCF's Financial Fitness Program, available to anyone free of charge on our website, reached more than 4,200 adults who participated in 9,700 hours of learning.

Our commitment to corporate social responsibility

We recently issued our first Corporate Social Responsibility Report, outlining our commitment to helping to improve the quality of life in our communities. We define our social responsibility commitments with five pillars: Community, Education, People, Environment and Stewardship. In this report, we provide specific accomplishments and updates on our progress in each of these areas.

We invite you to read our full report at tcfbank.com/csr.



\$124M
in community
development
investments and
loans

27%
reduction
in paper
consumption

Board of Directors



Craig R. Dahl
Chairman, President and
Chief Executive Officer
Director since 2012



Peter Bell
Former Chair,
Metropolitan Council
Director since 2009



William F. Bieber
Chairman,
ATEK Companies, Inc.
Director since 1997



Theodore J. Bigos
Owner,
Bigos Management, Inc.
Director since 2008



Karen L. Grandstrand
Shareholder,
Fredrikson & Byron, P.A.
Director since 2010



George G. Johnson
CPA/Chairman,
George Johnson & Company and
George Johnson Consultants
Director since 1998



Richard H. King
Executive Vice President,
Operations,
Thomson Reuters
Director since 2014



Vance K. Opperman
President and
Chief Executive Officer,
Key Investment, Inc.
Director since 2009



Roger J. Sit
Chief Executive Officer,
Global Chief Investment Officer
and Director,
Sit Investment Associates
Director since 2015



Julie H. Sullivan
President,
University of St. Thomas
Director since 2016



Barry N. Winslow
Retired Vice Chairman,
TCF Financial Corporation
Director since 2008



Theresa M. H. Wise
Chief Executive Officer
and Principal,
Utaza, LLC
Director since 2019

Executive Management Team

TCF FINANCIAL CORPORATION

Craig R. Dahl
Chairman, President and
Chief Executive Officer

Brian W. Maass
Executive Vice President,
Chief Financial Officer

Michael S. Jones
Executive Vice President,
Consumer Banking

William S. Henak
Executive Vice President,
Wholesale Banking

Thomas J. Butterfield
Executive Vice President,
Chief Information Officer

James M. Costa
Chief Risk Officer and
Chief Credit Officer

Patricia L. Jones
Executive Vice President,
Chief Administrative Officer

Andrew J. Jackson
Chief Audit Executive Officer

Susan D. Bode
Senior Vice President,
Chief Accounting Officer

Joseph T. Green
Senior Vice President,
General Counsel and Secretary

Timothy R. Sedabres
Senior Vice President,
Director of Investor Relations

Jason S. Sasanfar
Senior Vice President,
Treasurer

TCF NATIONAL BANK

Consumer Banking

Kevin Miller
Executive Vice President,
Community Banking

Brian M. Call
Executive Vice President,
Consumer Lending

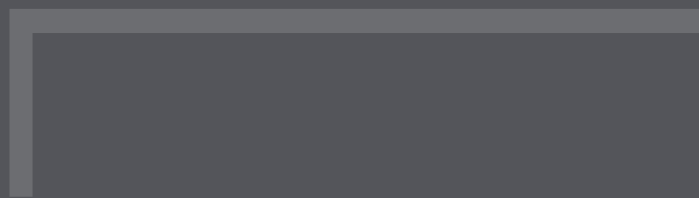
Michael Shea
Executive Vice President,
Operations

Wholesale Banking

TCF Capital Solutions
Gary A. Peterson
Chief Executive Officer

TCF Inventory Finance, Inc.
Rosario A. Perrelli
President and Chief Executive Officer

Commercial Banking
R. Patricia Kelly
President



Form 10-K

For the fiscal year ended December 31, 2018

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

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

or

Transition Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from _____ to _____
Commission File No. 001-10253

TCF Financial Corporation

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

41-1591444

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

200 Lake Street East

Wayzata, Minnesota 55391-1693

(Address and Zip Code of principal executive offices)

(952) 745-2760

(Registrant's telephone number, including area code)

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

(Title of each class)	(Name of each exchange on which registered)
Common Stock (par value \$.01 per share)	New York Stock Exchange
Depository shares, each representing a 1/1000 th interest in a share of 5.70% Series C Non-Cumulative Perpetual Preferred Stock	New York Stock Exchange

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

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

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

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

Indicate by check mark 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 the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter as reported by the New York Stock Exchange, was \$3,817,422,395.

As of February 19, 2019, there were 163,980,779 shares outstanding of the registrant's common stock, par value \$.01 per share, its only outstanding class of common stock.

DOCUMENTS INCORPORATED BY REFERENCE

Specific portions of the Registrant's definitive Proxy Statement for the 2019 Annual Meeting of Stockholders to be held on April 24, 2019 are incorporated by reference into Part III hereof.

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Part I

Item 1. Business

General

TCF Financial Corporation (together with its direct and indirect subsidiaries, "we," "us," "our," "TCF" or the "Company"), a Delaware corporation incorporated on April 28, 1987, is a national bank holding company based in Wayzata, Minnesota. References herein to "TCF Financial" or the "Holding Company" refer to TCF Financial Corporation on an unconsolidated basis. Its principal subsidiary, TCF National Bank ("TCF Bank"), is headquartered in Sioux Falls, South Dakota. TCF Bank operates bank branches in Illinois, Minnesota, Michigan, Colorado, Wisconsin, Arizona and South Dakota (TCF's "primary banking markets"). Through its direct subsidiaries, TCF Bank provides a full range of consumer-facing and commercial services, including consumer banking services in 47 states, commercial banking services in 42 states, commercial leasing and equipment financing in all 50 states and, to a limited extent, in foreign countries and commercial inventory financing in all 50 states and Canada and, to a limited extent, in other foreign countries.

TCF provides convenient financial services through multiple channels in its primary banking markets. TCF has developed products and services designed to meet the specific needs of the largest consumer segments in the market. The Company focuses on attracting and retaining customers through an exceptional customer experience driven by convenience through multiple points of contact, including digital banking, phone banking, a branch presence with select locations open at least six days a week and with extended hours, and access to automated teller machine ("ATM") networks. TCF's philosophy is to generate interest income, fees and other revenue growth through business lines that emphasize higher yielding assets and low interest cost deposits. TCF's growth strategies include organic growth in existing businesses, development of new products and services, new customer acquisition and acquisitions of portfolios or businesses. New products and services are designed to build on existing businesses and expand into complementary products and services through strategic initiatives. Funded generally through retail deposit generation, TCF continues to focus on profitable asset growth.

TCF generated total revenue, defined as net interest income plus total non-interest income, of \$1.5 billion, \$1.4 billion and \$1.3 billion in 2018, 2017 and 2016, respectively. TCF had total assets of \$23.7 billion at December 31, 2018 and was the 49th largest publicly traded bank holding company in the United States based on total assets at September 30, 2018.

On January 28, 2019, TCF entered into an Agreement and Plan of Merger (the "Merger Agreement") with Chemical Financial Corporation ("Chemical"), a bank holding company with \$21.5 billion in assets, headquartered in Detroit, Michigan. The merger is expected to close in late 2019, subject to satisfaction of customary closing conditions, including regulatory approvals and approval by the shareholders of TCF and Chemical. Under the terms of the Merger Agreement, which has been unanimously approved by the boards of directors of both companies, each outstanding share of TCF common stock will be converted into the right to receive, without interest, 0.5081 shares of Chemical common stock. Also, at the effective time of the merger, each outstanding share of the 5.70% Series C non-cumulative perpetual preferred stock of TCF will be converted into the right to receive, without interest, one share of a newly created series of preferred stock of Chemical with equivalent rights and preferences (the "New Chemical Preferred Stock"). The shares of Chemical common stock and the New Chemical Preferred Stock to be issued in the merger will be listed on the Nasdaq. Following the completion of the merger, TCF and Chemical shareholders will own approximately 54% and 46% of the combined company, respectively, on a fully diluted basis.

Effective April 1, 2017, the Company executed its strategic shift from an originate-to-sell and originate-to-hold model to an entirely originate-to-hold model for its auto finance business and effective December 1, 2017, the Company discontinued auto finance loan originations. The determination was based on management's review of strategic alternatives and the financial outlook of the auto finance loan origination business compared with alternative uses of capital. TCF's subsidiary, Gateway One Lending & Finance, LLC ("Gateway One"), continues to service existing auto loans on its balance sheet and those that are serviced for others. The decision to discontinue auto finance loan originations resulted in a goodwill impairment charge of \$73.0 million, an other intangible assets impairment charge of \$0.4 million and approximately \$14.8 million of expenses related to severance, other asset impairments and lease termination expenses in 2017.

The Company's reportable segments are Consumer Banking, Wholesale Banking and Enterprise Services.

Consumer Banking

Consumer Banking is comprised of all of the Company's consumer-facing businesses and includes retail banking, consumer real estate and other, and auto finance. TCF's consumer banking strategy is primarily to generate deposits and originate high credit quality secured consumer real estate loans for investment and for sale. Deposits are generated from consumers and small businesses to provide a source of low cost funds, with a focus on building and maintaining quality customer relationships.

Retail Banking TCF offers an array of solutions for consumers and small businesses through its physical and digital distribution channels. TCF offers a broad selection of deposit and lending services including (i) checking and savings accounts, (ii) credit and debit cards, (iii) check cashing and remittance services and (iv) residential, consumer and small business lending.

Deposits are the primary source of TCF's funds for use in lending and for other general business purposes. Deposit inflows and outflows are significantly influenced by general interest rates, market and competitive conditions and other economic factors. Deposits are acquired from within TCF's primary banking markets through (i) checking, savings and money market accounts, (ii) certificates of deposit and (iii) individual retirement accounts. Such deposit accounts provide fee income, including fees and service charges.

At December 31, 2018, TCF had 314 branches, consisting of 189 traditional branches, 122 supermarket branches and three campus branches. TCF operates 120 branches in Illinois, 85 in Minnesota, 50 in Michigan, 33 in Colorado, 17 in Wisconsin, seven in Arizona and two in South Dakota. TCF also offers 845 ATMs across TCF's primary banking markets. See "Item 1A. Risk Factors" for further information regarding the risks related to TCF's supermarket branch relationships.

Providing a wide range of retail banking services is an integral component of TCF's business philosophy. Primary drivers of fees and service charges include the number of customers we attract, the customers' level of engagement and the frequency with which the customer uses our solutions. TCF's business philosophy is to offer our customers an "easy-to-bank-with" experience, with multiple solutions that benefit the customer and are consistent with TCF's business philosophy. Customers have convenient access to their funds through their credit and debit cards, as well as by utilizing TCF's enhanced digital channels. TCF's card programs are supported by interchange fees paid by retailers.

Consumer Real Estate and Other TCF originates consumer loans for personal, family or household purposes, such as home purchases, debt consolidation and financing of home improvements. TCF's retail lending origination activity primarily consists of consumer real estate secured lending. It also includes originating loans secured by personal property and, to a limited extent, unsecured personal loans. Consumer loans are originated for investment and for sale, either on a fixed-term basis or as a revolving line of credit. TCF's junior lien lending business is a national platform focused on originating junior lien loans to high credit quality customers. TCF Home Loans, a division of TCF Bank, originates first mortgage lien loans in our primary banking markets. TCF has two consumer real estate loan sale programs: one that sells the nationally originated consumer real estate junior lien loans and one that sells the first mortgage lien loans through correspondent relationships. TCF does not have any consumer real estate subprime lending programs.

Auto Finance Gateway One services existing loans on new and used autos on its balance sheet and those that are serviced for others.

Wholesale Banking

Wholesale Banking is comprised of commercial banking, leasing and equipment finance, and inventory finance. TCF's wholesale banking strategy is primarily to originate high credit quality secured loans and leases for investment.

Commercial With an emphasis on secured lending, essentially all of TCF's commercial loans were secured either by properties or other business assets at December 31, 2018 and 2017.

Commercial real estate loans originated by TCF are primarily secured by commercial real estate, including multi-family housing, office buildings, health care facilities, warehouse and industrial buildings, hotel and motel buildings, self-storage buildings and retail services buildings. The commercial real estate portfolio represented 75.5% and 77.3% of TCF's total commercial portfolio at December 31, 2018 and 2017, respectively.

Commercial business loans originated by TCF are secured by various types of business assets including inventory, receivables, equipment or financial instruments. Commercial business loans are used for a variety of purposes, including working capital and financing the purchase of equipment.

Leasing and Equipment Finance TCF provides a broad range of comprehensive lease and equipment finance products addressing the diverse financing needs of small to large companies in a growing number of select market segments including specialty vehicles, construction equipment, golf cart and turf equipment, manufacturing equipment, medical equipment, trucks and trailers, furniture and fixtures, technology and data processing equipment, and agricultural equipment. TCF's leasing and equipment finance businesses are TCF Equipment Finance, a division of TCF Bank, and Winthrop Resources Corporation ("Winthrop"). TCF Equipment Finance delivers equipment finance solutions primarily to small and mid-size companies in various industries with significant diversity in the types of underlying equipment. Winthrop focuses on providing customized lease financing to meet the special needs of mid-size and large companies and health care facilities that procure high-tech essential business equipment such as computers, servers, telecommunication equipment, medical equipment and other technology equipment.

Inventory Finance TCF Inventory Finance, Inc. ("TCF Inventory Finance") originates commercial, primarily variable-rate loans which are secured by the underlying floorplan equipment and supported by repurchase agreements from original equipment manufacturers. The operation focuses on establishing relationships with distributors, dealer buying groups and manufacturers, giving TCF access to thousands of independent retailers primarily in the areas of powersports equipment and lawn and garden equipment. TCF Inventory Finance's portfolio balances are impacted by seasonal shipments and sales activities as dealers receive inventory shipments in anticipation of the upcoming selling season while carrying current season product. In 2009, TCF Inventory Finance formed a joint venture with The Toro Company ("Toro") called Red Iron Acceptance, LLC ("Red Iron"). Red Iron provides U.S. distributors and dealers and select Canadian distributors of the Toro[®] and Exmark[®] brands with reliable, cost-effective sources of financing. TCF maintains a 55% ownership interest in Red Iron, with Toro owning the other 45%.

Enterprise Services

Enterprise Services is comprised of (i) corporate treasury, which includes the Company's investment and borrowing portfolios and management of capital, debt and market risks, (ii) corporate functions, such as information technology, risk and credit management, bank operations, finance, investor relations, corporate development, internal audit, legal and human capital management that provide services to the operating segments, (iii) the Holding Company and (iv) eliminations. The Company's investment portfolio accounts for the earning assets within this segment. Borrowings may be used to offset reductions in deposits or to support lending activities. This segment also includes residual revenues and expenses representing the difference between actual amounts incurred by Enterprise Services and amounts allocated to the operating segments, including interest rate risk residuals such as funds transfer pricing mismatches.

Corporate Treasury Corporate treasury's primary responsibility is management of liquidity, capital, interest rate risk, and investment and borrowing portfolios. Corporate treasury has authority to invest in various types of liquid assets including, but not limited to, U.S. Department of the Treasury obligations and debt securities of various federal agencies and U.S. Government sponsored enterprises, obligations of states and political subdivisions, deposits of insured banks, bankers' acceptances and federal funds. Corporate treasury also has the authority to enter into wholesale borrowing transactions which may be used to compensate for reductions in deposit inflows or net deposit outflows, or to support lending, leasing and other expansion activities. These borrowings may include Federal Home Loan Bank ("FHLB") advances, brokered deposits, repurchase agreements, federal funds and other permitted borrowings from counterparties.

See "Item 7. Management's Discussion and Analysis - Consolidated Income Statement Analysis - Reportable Segments" and Note 24. Business Segments of Notes to Consolidated Financial Statements for further information.

Other Information

Activities of Subsidiaries of TCF TCF's business operations include those conducted by direct and indirect subsidiaries of TCF Financial, all of which are consolidated for purposes of preparing TCF's consolidated financial statements. TCF Bank's subsidiaries principally engage in leasing, inventory finance and auto finance activities. See "Consumer Banking" and "Wholesale Banking" above for further information.

Competition TCF competes with a number of depository institutions and financial service providers primarily based on price and service and faces significant competition in attracting and retaining deposits and in lending activities. Direct competition for deposits comes primarily from banks, savings institutions, credit unions and investment banks. Additional significant competition for deposits comes from institutions selling money market mutual funds and corporate and government securities. TCF competes for the origination of loans with banks, mortgage bankers, mortgage brokers, consumer and commercial finance companies, credit unions, insurance companies and savings institutions. TCF also competes nationwide with other companies and banks in the financing of equipment and inventory, leasing of equipment and origination of consumer real estate junior lien loans. The growth of financial technology companies partnering with financial services providers has increased competition for loan, lease and deposit products.

Employees As of December 31, 2018, TCF had 5,544 employees, including 698 part-time employees. TCF provides its employees with comprehensive benefits, some of which are provided on a contributory basis, including medical and dental plans, a 401(k) savings plan with a company matching contribution, life insurance and short- and long-term disability coverage.

Regulation

TCF Financial, as a publicly held bank holding company, and TCF Bank, which has deposits insured by the Federal Deposit Insurance Corporation (the "FDIC"), are subject to extensive regulation. Among other things, TCF Financial and TCF Bank are subject to minimum capital requirements, lending and deposit restrictions and numerous other requirements. TCF Financial's primary regulator is the Federal Reserve and TCF Bank's primary regulator is the Office of the Comptroller of the Currency (the "OCC"). TCF's consumer products are also regulated by the Consumer Financial Protection Bureau (the "CFPB").

Regulatory Capital Requirements TCF Financial and TCF Bank are subject to various minimum regulatory capital requirements administered by the Federal Reserve and the OCC. These requirements include quantitative measures that assign risk weightings to assets and off-balance sheet items, as well as define and set minimum regulatory capital requirements. Failure to meet minimum capital requirements can initiate certain mandatory, and possible additional discretionary, actions by the federal banking regulators that, if undertaken, could have a material adverse effect on TCF's financial condition and results of operations. These federal banking regulators are required by law to take prompt action when institutions are viewed as engaging in unsafe or unsound practices or do not meet certain minimum capital requirements. In addition to other potential actions, failure to meet these requirements would result in limitations on capital distributions as well as executive bonuses. The Basel III capital standards allowed institutions not subject to the advanced approaches requirements to opt out of including components of accumulated other comprehensive income (loss) in common equity Tier 1 capital. TCF and TCF Bank made the one-time permanent election to not include accumulated other comprehensive income (loss) in regulatory capital. TCF and TCF Bank are subject to a capital conservation buffer. As of January 1, 2019, the Basel III capital standard requires TCF and TCF Bank to maintain a 2.5% capital conservation buffer, designed to absorb losses during periods of economic stress, composed entirely of common equity Tier 1 capital, on top of the minimum risk-weighted asset ratios, resulting in minimum ratios for TCF Bank of (i) a common equity Tier 1 capital ratio of at least 7.0%, (ii) a Tier 1 risk-based capital ratio of at least 8.5% and (iii) a total risk-based capital ratio of at least 10.5%. TCF and TCF Bank exceeded the Basel III capital standard at December 31, 2018. See Note 16. Regulatory Capital Requirements of Notes to Consolidated Financial Statements for further information.

Restrictions on Distributions TCF Financial's ability to pay dividends is subject to limitations imposed by the Federal Reserve. In general, Federal Reserve regulatory guidelines require the board of directors of a bank holding company to consider a number of factors in determining the payment of dividends, including the quality and level of current and future earnings. Restricted retained earnings represents earnings legally appropriated to thrift bad debt reserves and deducted for federal income tax purposes in prior years and is generally not available for payment of cash dividends or other distributions to stockholders. See Note 15. Equity of Notes to Consolidated Financial Statements for further information on restricted retained earnings.

Dividends or other capital distributions from TCF Bank to TCF Financial are an important source of funds to enable TCF Financial to pay dividends on its preferred and common stock, to pay TCF Financial's obligations, to repurchase common stock or to meet other cash needs. The ability of TCF Financial and TCF Bank to pay dividends depends on regulatory policies and regulatory capital requirements and may be subject to regulatory approval.

In general, TCF Bank may not declare or pay a dividend to TCF Financial in excess of 100% of its net retained earnings for the current year combined with its net retained earnings for the preceding two calendar years without prior approval of the OCC. The OCC also has the authority to prohibit the payment of dividends by a national bank when it determines such payments would constitute an unsafe and unsound banking practice. TCF Bank's ability to make capital distributions in the future may require regulatory approval and may be restricted by its federal banking regulators. TCF Bank's ability to make any such distributions will also depend on its earnings and ability to meet minimum regulatory capital requirements in effect during future periods. In the future, these capital adequacy standards may be higher than existing minimum regulatory capital requirements. See Note 16. Regulatory Capital Requirements of Notes to Consolidated Financial Statements for further information.

In addition, income tax considerations may limit the ability of TCF Bank to make dividend payments in excess of its current and accumulated tax earnings. Annual dividend distributions in excess of earnings could result in a tax liability based on the amount of excess earnings distributed and current tax rates.

Regulation of TCF and Affiliates and Insider Transactions TCF Financial is subject to Federal Reserve regulations, examinations and reporting requirements applicable to bank holding companies. Subsidiaries of bank holding companies, like TCF Bank, are subject to certain restrictions in their dealings with holding company affiliates.

A holding company must serve as a source of strength for its subsidiary banks and the Federal Reserve may require a holding company to contribute additional capital to an undercapitalized subsidiary bank. In addition, the OCC may assess TCF Financial if it believes the capital of TCF Bank has become impaired. If TCF Financial were to fail to pay such an assessment within three months, the Board of Directors would be required to cause the sale of TCF Bank's stock to cover a deficiency in the capital. In the event of a bank holding company's bankruptcy, any commitment by the bank holding company to a federal banking regulator to maintain the capital of a subsidiary bank would be assumed by the bankruptcy trustee and may be entitled to priority over other creditors.

Under the Bank Holding Company Act of 1956 (the "BHCA"), Federal Reserve approval is required before acquiring more than 5% control, or substantially all of the assets, of another bank or bank holding company, or merging or consolidating with such a bank or bank holding company. The BHCA also generally prohibits a bank holding company, with certain exceptions, from acquiring direct or indirect ownership or control of more than 5% of the voting shares of any company which is not a bank or bank holding company, or from engaging directly or indirectly in activities other than those of banking, managing or controlling banks, providing services for its subsidiaries or conducting activities permitted by the Federal Reserve as being closely related to the business of banking. Further restrictions or limitations on acquisitions or establishing financial subsidiaries may also be imposed by TCF's regulators or examiners.

Restrictions on Acquisitions and Changes in Control Under federal and state law, merger and branch acquisition transactions may be subject to certain restrictions, including certain nationwide and statewide insured deposit maximum concentration levels or other limitations. In addition, federal and state laws and regulations contain a number of provisions which impose restrictions on changes in control of financial institutions such as TCF Bank and which require regulatory approval prior to any such changes in control.

Insurance of Accounts TCF Bank is a member of the FDIC, which maintains the Deposit Insurance Fund (the "DIF"). The FDIC insures deposits up to prescribed limits for each depositor through the DIF, which is funded through assessments on member institutions. To maintain the DIF, member institutions are assessed an insurance premium based on an assessment base and an assessment rate.

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act") gave the FDIC much greater discretion to manage the DIF and also changed the assessment base from domestic deposits to average total assets less tangible equity. Additionally, the Dodd-Frank Act raised the minimum designated reserve ratio (the "DRR") to 1.35% of estimated insured deposits from 1.15% and required this new minimum be reached by September 30, 2020. From July 1, 2016 to October 1, 2018, an additional surcharge of 4.5 cents for each \$100 of an institution's assessment base in excess of \$10.0 billion was assessed to ensure the DRR reached this new minimum by the required date. The DIF ratio calculated by the FDIC using estimated insured deposits as of September 30, 2018 was 1.36%.

In 2018, insurance premiums on bank deposits insured by the FDIC for banks with at least \$10.0 billion in total assets ranged from 1.5 cents to 40 cents per \$100 of the institution's assessment base. TCF's FDIC insurance expense was \$15.1 million, \$16.0 million and \$15.9 million in 2018, 2017 and 2016, respectively.

In addition to deposit insurance premium assessments from the FDIC, additional assessments may be imposed by the Financing Corporation, a separate U.S. government agency affiliated with the FDIC, to pay for the interest cost of Financing Corporation bonds. As of December 31, 2018, the Financing Corporation assessment rate was 14 cents for each \$10,000 of the institution's assessment base.

Examinations and Regulatory Sanctions TCF is subject to periodic examination by the Federal Reserve, the OCC, the CFPB and the FDIC. Federal banking regulators may impose a number of restrictions or new requirements on institutions, including, but not limited to, growth limitations, dividend restrictions, increased regulatory capital requirements, increased loan and lease loss reserve requirements, increased supervisory assessments, activity limitations or other restrictions that could have an adverse effect on such institutions, their holding companies or holders of their debt and equity securities. Various enforcement remedies, including civil money penalties, may be assessed against an institution or an institution's directors, officers, employees, agents or independent contractors. Certain enforcement actions may not be publicly disclosed by TCF or its federal banking regulators. Subsidiaries of TCF Bank are also subject to state and/or self-regulatory organization licensing, regulation and examination requirements in connection with certain activities.

National Bank Investment Limitations Permissible investments by national banks are limited by the National Bank Act of 1864, as amended, and by rules of the OCC. Non-traditional bank activities permitted by the Gramm-Leach-Bliley Act of 1999 will subject a bank to additional regulatory limitations or requirements, including a required regulatory capital deduction and application of transactions with affiliates limitations in connection with such activities.

Taxation

Federal Taxation TCF's federal income tax returns are open and subject to examination for 2015 and later tax return years. As a result of the Tax Cuts and Jobs Act ("Tax Reform"), enacted on December 22, 2017, TCF recorded a reasonable estimate of a net tax benefit of \$130.7 million in 2017, primarily resulting from the re-measurement of the Company's estimated net deferred tax liability. TCF recorded an additional net tax benefit of \$1.1 million in the second quarter of 2018 for the finalization of the provisional amounts recorded in 2017.

State Taxation TCF and/or its subsidiaries currently file tax returns in all state and local taxing jurisdictions which impose corporate income, franchise or other taxes. TCF's various state income tax returns are generally open for 2014 and later tax return years based on individual state statutes of limitation. The methods of filing and the methods for calculating taxable and apportionable income vary depending on the laws of each taxing jurisdiction.

Foreign Taxation TCF and/or its subsidiaries currently file tax returns in Canada and certain Canadian provinces which impose corporate income taxes. TCF's various foreign income tax returns are open and subject to examination for 2014 and later tax return years. The methods of filing and the methods for calculating taxable and apportionable income vary depending on the laws of each taxing jurisdiction.

See "Item 7. Management's Discussion and Analysis - Consolidated Income Statement Analysis - Income Taxes", Note 2. Summary of Significant Accounting Policies and Note 14. Income Taxes of Notes to Consolidated Financial Statements for further information regarding TCF's income taxes.

Available Information

TCF's website, www.tcfbank.com, includes free access to Company news releases, investor presentations, conference calls to discuss published financial results, TCF's Annual Report and periodic filings required by the U.S. Securities and Exchange Commission (the "SEC"), including annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, proxy statements, and amendments to those reports, as soon as reasonably practicable after electronic filing of such material with, or furnishing it to, the SEC. TCF's periodic filings required by the SEC are also available on the SEC's website, www.sec.gov. TCF's Compensation, Nominating, and Corporate Governance Committee and Audit Committee charters, Corporate Governance Guidelines, Codes of Ethics and information on all of TCF's securities are also available on TCF's website. Stockholders may request these documents in print free of charge by contacting the Corporate Secretary at TCF Financial Corporation, 200 Lake Street East, Mail Code EX0-01-G, Wayzata, MN 55391-1693.

Item 1A. Risk Factors

An investment in securities issued by TCF, including an investment in TCF's common and preferred stock, involves certain risks that should be considered carefully. The most significant risks that management believes affect TCF are described below. Any of the risks described below may have a material impact on TCF's financial condition, results of operations or reputation. To the extent that any of the information contained in this Annual Report on Form 10-K is forward-looking, the risk factors set forth below also are cautionary statements identifying important factors that could cause TCF's actual results to differ materially from those expressed in any forward-looking statements.

TCF's financial results are significantly affected by general economic and political conditions.

TCF's operations and profitability are impacted by both business and economic conditions generally, as well as those in the local markets in which TCF operates. Economic conditions have a significant impact on the demand for TCF's products and services, as well as the ability of its customers to repay loans and leases, the value of the collateral securing loans and leases, the ability of TCF to sell loans and leases, the stability of its deposit funding sources and sales revenue at the end of contractual lease terms. A significant decline in general economic conditions caused by inflation, recession, unemployment, changes in debt securities markets, government shutdowns, defaults, anticipated defaults or rating agency downgrades of sovereign debt (including debt of the U.S.), changes in housing market prices or other factors could impact economic conditions and, in turn, could have a material adverse effect on TCF's financial condition and results of operations.

Additionally, adverse economic conditions may result in a decline in demand for equipment that TCF leases or finances, which could result in a decline in the amount of new equipment being placed in service, as well as declines in the values of collateral already in service. Adverse economic conditions may also hinder TCF from expanding the inventory finance business by limiting its ability to attract and retain manufacturers and dealers as expected. Any such difficulties in TCF's leasing and equipment and inventory finance businesses could have a material adverse effect on its financial condition and results of operations.

TCF and its customers face cyber-security and other external risks, including "denial of service," "hacking," "ransomware" and "identity theft," that could adversely affect TCF's reputation and could have a material adverse effect on TCF's financial condition and results of operations.

TCF's computer systems and network infrastructure present security risks and could be susceptible to cyber-attacks, such as denial of service, hacking, ransomware or identity theft. Hacking, cyber-attacks and identity theft risks, in particular, could cause serious financial and reputational harm. Information security risks for financial institutions such as TCF have generally increased in recent years in part because of the proliferation of new technologies, the use of the internet and telecommunications technologies to conduct financial transactions and the increased sophistication and activities of organized crime, hackers, terrorists, activists and other external parties, including foreign state-sponsored parties. Additionally, cyber threats are rapidly evolving. TCF may not be able to anticipate or prevent all such attacks and may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities or incidents.

While TCF does not believe it has experienced a material cyber-security breach, TCF experiences periodic threats to its data and systems, including malware and computer virus attacks, attempted unauthorized access of accounts, internal employee fraud or misappropriation of information, misplaced or lost data, human or programming errors and attempts to disrupt its systems. In the future, TCF may incur increasing costs in an effort to minimize these risks and could be held liable for damages and suffer reputational damage as a result of any security breach or loss. There can be no assurance that such cyber incidents will not occur again and they could occur more frequently and on a more significant scale. Due to the complexity and interconnectedness of our systems, efforts to minimize these risks by enhancing our infrastructure and operating systems can create a risk of system disruptions and security issues, and a significant and widespread disruption to our infrastructure or operating systems that support our business and customers could adversely affect our business operations.

Other increasingly sophisticated and large-scale efforts on the part of third parties to breach data security with respect to financial transactions include intercepting account information at locations where customers make purchases or withdraw money, as well as through the use of social engineering schemes such as "phishing." For example, many retailers have reported data breaches resulting in the loss of customer information and many financial institutions have experienced losses as account information has been stolen through the use of skimmers placed on ATMs and point of sale terminals. In the event that third parties are able to misappropriate financial information of TCF's customers, even if such breaches take place due to weaknesses in other parties' security protections, TCF could suffer reputational damage or financial losses which could have a material adverse effect on its financial condition and results of operations.

TCF's financial results are subject to interest rate risk.

TCF's earnings and cash flows largely depend upon its net interest income. Interest rates are highly sensitive to many factors that are beyond TCF's control, including general economic conditions and policies of various governmental and regulatory agencies, including the Federal Reserve. Changes in monetary policy, including changes in interest rates, could influence the amount of interest TCF receives on loans, leases and other investments and the amount of interest TCF pays on deposits and other borrowings, as well as: (i) TCF's ability to originate loans and leases and attract or retain deposits; (ii) the fair value of TCF's financial assets and liabilities and (iii) the average life of TCF's interest-earning assets. A significant portion of TCF's loans, including certain consumer real estate, commercial real estate and inventory finance loans, bear interest at variable- and adjustable-rates. Increases in market interest rates can have a negative impact to our business, including reducing the amount of money our customers borrow or adversely impacting their ability to make increased payments caused by any increase in interest rates. In addition, as interest rates increase, in order to compete for deposits in our primary banking markets, TCF may have to offer more attractive interest rates to depositors, or pursue other sources of liquidity, such as wholesale funding. If the interest rates paid on deposits and other borrowings increase at a faster rate than the interest rates received on loans, leases and other investments, TCF's net interest income and earnings could be adversely affected due to the increase in interest expense without a corresponding increase in interest income. Earnings could also be adversely affected if the interest rates received on loans, leases and other investments decrease more quickly than the interest rates paid on deposits and other borrowings due to the decrease in interest income without a corresponding decrease in interest expense. In addition, we have a debt security portfolio that could decline substantially in value if interest rates increase materially or if obligations of states and political subdivisions debt securities become subject to less favorable tax treatment. Although management believes it has implemented effective asset and liability management strategies, any substantial, unexpected or prolonged change in market interest rates could have a material adverse effect on its financial condition and results of operations.

Acquisitions may disrupt TCF's business and dilute stockholder value.

TCF regularly evaluates merger and acquisition opportunities and conducts due diligence activities related to possible transactions with banks or other financial institutions. As a result, negotiations may take place and future mergers or acquisitions involving cash, debt or equity securities may occur at any time. Transactions with other banks, businesses or branches involve various risks, such as: difficulty in estimating the value of the other company; payment of a premium over book and market values that may dilute TCF's tangible book value and earnings per share in the short- and long-term; potential exposure to unknown or contingent liabilities of the target company; exposure to potential asset quality issues of the target company; volatility in reported income as goodwill impairment losses could occur irregularly and in varying amounts; difficulty and expense of integrating the operations and personnel of the target company; inability to realize the expected revenue increases, cost savings, increases in product sales or other projected benefits; potential disruption to TCF's business; potential diversion of TCF management's time and attention; slower than anticipated growth; potential loss of key employees and customers of either company; and potential changes in banking or tax laws or regulations, any of which could have a material adverse effect on TCF's financial condition and results of operations.

Risks related to TCF's proposed merger with Chemical

TCF and Chemical have operated and, until the completion of the merger, will continue to operate, independently. The success of the merger, including anticipated benefits and cost savings, will depend, in part, on TCF's and Chemical's ability to successfully combine and integrate the businesses of TCF and Chemical in a manner that permits growth opportunities and does not materially disrupt the existing customer relations or result in decreased revenues due to loss of customers. It is possible that the integration process could result in the loss of key employees, the disruption of either company's ongoing businesses or inconsistencies in standards, controls, procedures and policies that adversely affect the combined company's ability to maintain relationships with customers, depositors, clients and employees or to achieve the anticipated benefits and cost savings of the merger. If the combined companies experience difficulties with the integration process, the anticipated benefits of the merger may not be realized fully or at all, or may take longer to realize than expected.

TCF may have difficulty attracting and retaining key personnel until the proposed merger is complete, which could cause customers to seek to discontinue or reduce their banking relationship with TCF. Some of our employees may experience uncertainty about their future roles with the combined company following the proposed merger with Chemical. If key employees depart because of issues relating to the uncertainty and difficulty of integration or a desire not to remain with TCF, our business could be harmed. In addition, subject to certain exceptions, we have agreed to operate our business in the ordinary course prior to the closing of the proposed merger with Chemical. This restriction may prevent us from pursuing certain business opportunities that may arise prior to completion of the merger.

TCF has incurred, and will continue to incur, substantial expenses in connection with the negotiation and completion of the transactions contemplated by the merger agreement with Chemical. If the merger is not completed, TCF would have to recognize these expenses without realizing the expected benefits of the merger. These circumstances could have an adverse effect on TCF's business, results of operations and stock price.

Under the merger agreement, both TCF and Chemical have agreed not to, subject to certain exceptions generally related to their respective boards of directors' exercise of their fiduciary duties, as set forth in the merger agreement, initiate or solicit, or knowingly facilitate or knowingly encourage, inquiries or proposals with respect to, engage or participate in any discussions or negotiations concerning, or provide any confidential information relating to, certain alternative business combination transactions. In addition, the merger agreement contains certain termination rights for both TCF and Chemical. If the merger agreement is terminated under certain circumstances by TCF, including termination of the merger agreement to accept an alternative business combination transaction as permitted by and subject to the terms of the merger agreement, TCF would be required to pay Chemical a termination fee of \$134.0 million, which could have an adverse impact on TCF's financial condition. Further, these provisions might discourage a party that might have an interest in merging with TCF or acquiring all or a significant part of TCF from considering or proposing that merger or acquisition even if it were prepared to pay consideration with a higher per share price than that proposed in the merger, or might result in a potential competing merger partner or acquiror proposing to pay a lower per share price to acquire TCF than it might otherwise have proposed to pay.

Before the merger may be completed, TCF and Chemical must obtain approvals from the Board of Governors of the Federal Reserve System. Other approvals, waivers or consents from regulators may also be required. These regulators may impose conditions on the completion of the merger or require changes to the terms of the merger. Although TCF and Chemical do not currently expect that any such conditions or changes would be imposed, there can be no assurance that they will not be, and such conditions or changes could have the effect of delaying or preventing completion of the merger or imposing additional costs on or limiting the revenues of the combined company following the merger, any of which might have an adverse effect on the combined company following the merger.

Before the merger may be completed, TCF and Chemical must obtain the requisite approval of their respective shareholders. There is no assurance that these approvals will be obtained.

Litigation filed against TCF, its board of directors or Chemical and its board of directors could prevent or delay the completion of the merger or result in the payment of damages following completion of the merger.

In connection with the merger, lawsuits may be filed against TCF, Chemical, or the directors and officers of either company in connection with the merger. The defense or settlement of any lawsuit or claim that remains unresolved at the effective time of the merger may adversely affect the combined company's business, financial condition, results of operations, cash flows and market price.

An inability to obtain needed liquidity could have a material adverse effect on TCF's financial condition and results of operations.

TCF's liquidity could be limited by an inability to access the capital markets or unforeseen outflows of cash, which could arise due to circumstances outside of its control, such as a general market disruption, a downturn in the markets in which we function, difficult credit markets, regulatory actions against us or operational problems that affect TCF or third parties. TCF's credit rating is important to its liquidity. A reduction or anticipated reduction in TCF's credit ratings could adversely affect the ability of TCF Bank and its subsidiaries to lend and adversely affect its liquidity and competitive position, increase its borrowing costs, limit its access to the capital markets or trigger unfavorable contractual obligations, such as termination of or providing additional collateral pursuant to our derivative contracts. An inability to meet its funding needs on a timely basis could have a material adverse effect on TCF's financial condition and results of operations.

Competition for growth in deposits and evolving payment system developments could increase TCF's funding costs.

TCF relies on bank deposits as a low cost and stable source of funding. TCF competes with banks and other financial institutions for deposits and it is expected that competition for deposits will continue to increase. If TCF's competitors raise the rates they pay on deposits, TCF may experience either a loss of deposits or an increase in rates paid by TCF to avoid losing deposits. Industry developments involving payment system changes could also impose additional costs. Losses of deposits may require TCF to address its liquidity needs in ways that increase its funding costs. Increased funding costs could reduce TCF's net interest margin and net interest income, which could have a material adverse effect on TCF's financial condition and results of operations.

The soundness of other financial institutions could adversely affect TCF's financial results.

TCF's ability to engage in routine funding transactions could be adversely affected by the actions and commercial soundness of other financial institutions. TCF routinely executes transactions with counterparties in the financial industry, including brokers and dealers, commercial banks and other institutional clients. As a result, defaults by, or even speculation regarding the soundness of, any financial institution, or the financial services industry generally, could lead to losses by, or other adverse consequences to, TCF or a counterparty. Many of these transactions expose TCF to credit risk in the event of default of the counterparty or client. A diminished availability of counterparties who satisfy TCF's credit quality requirements could negatively impact our business. In addition, TCF's credit risk may be exacerbated if the collateral held by TCF cannot be realized or is liquidated at prices not sufficient to recover the full amount of the financial exposure. Any such losses could have a material adverse effect on TCF's financial condition and results of operations.

TCF relies on its systems and counterparties, including reliance on other companies for the provision of key components of its business infrastructure, and any failures, including failures due to cyber-attacks, could have a material adverse effect on its financial condition and results of operations.

TCF, through systems and counterparties, settles funds on behalf of financial institutions, other businesses and consumers and receives funds from payment networks, consumers and other paying agents. TCF's businesses depend on their ability to process, record and monitor a large number of complex transactions and process large amounts of information, including employee and financial information. Any disruptions to these systems may result in significant costs and other adverse developments. Although we have plans, policies and procedures designed to prevent or limit the negative effect of these disruptions, there can be no assurance that these will be successful. Our failure to effectively mitigate or promptly remediate any disruptions could result in an inability to perform necessary business functions, damage our reputation, result in a loss of customer business or confidence, subject us to regulatory scrutiny or expose us to litigation or other financial liability, any of which could materially affect us, including our results of operations.

Third party vendors provide key components of TCF's business infrastructure, such as internet connections, network access and transaction and other processing services. While TCF has selected these third party vendors carefully and attempts to monitor ongoing compliance with any arrangements with TCF, it does not control their actions. Any problems experienced or caused by these third parties, including inadequate or interrupted service, could adversely affect TCF's ability to process, record or monitor transactions, or to deliver products and services to its customers and to conduct its business. Furthermore, concentration among larger third party providers servicing large segments of the banking industry can also potentially affect wide segments of the financial industry. Replacing these third party vendors could entail significant delay and expense.

TCF also may be subject to disruptions of its operating systems arising from events that are wholly or partially beyond its control, which may include, whether suffered by TCF or its counterparties, computer malware, cyber-attacks, electrical, internet or telecommunications outages, natural disasters, terrorist acts or other damage to property or physical assets. Such disruptions may give rise to loss of services to customers and loss or liability to TCF. Any system failure could have a material adverse effect on TCF's financial condition and results of operations. If any of TCF's financial, accounting or other data processing systems fail or if personal information of TCF's customers or clients were mishandled or misused (whether by employees or counterparties), TCF could suffer regulatory consequences, reputational damage and financial losses, any of which could have a material adverse effect on our financial condition and results of operations. Furthermore, our customers' devices may become the target of cyber-attacks or information security breaches that could result in the unauthorized release, gathering, monitoring, misuse, loss or destruction of TCF's or our customers' confidential, proprietary and other information, or otherwise disrupt TCF's, our customers' or other third parties' business operations. For example, various retailers have reported they were victims of cyber-attacks in which large amounts of their customers' data, including debit and credit card information, was obtained. In these situations, we may incur costs to address fraudulent transaction activity affecting our customers.

In addition, certain of TCF's floating rate funding and certain products, such as variable- and adjustable-rate loans, reference a benchmark rate, such as the London Interbank Offered Rate ("LIBOR"), to determine the applicable interest rate or payment amount. In the event such benchmark rate or other referenced financial metric is significantly changed, replaced, discontinued or otherwise unavailable to us, there may be uncertainty or differences in the calculation of the applicable interest rate or payment amount depending on the terms of the governing instrument and there may be significant work required to transition to using any new benchmark rate or other financial metric. This could result in changes to previously recorded transactions, disputes, litigation or other actions with customers or counterparties regarding the interpretation and enforceability of certain provisions of LIBOR-based contracts, create hedging imbalances or require changes to our hedging strategies and may impact our existing transaction data, products, systems, operations and pricing processes.

The success of TCF's supermarket branches depends on the continued long-term success and viability of TCF's supermarket partners, TCF's ability to maintain licenses or lease agreements for its supermarket locations and customer preferences.

A significant financial decline or change in ownership involving one of TCF's supermarket partners, including New Albertson's Inc. (our supermarket partner for our Jewel-Osco locations) and SUPERVALU INC. (our supermarket partner for our Cub Foods locations), could result in the loss of supermarket branches or could increase costs to operate the supermarket branches. At December 31, 2018, TCF had 122 supermarket branches. Supermarket banking continues to play an important role in TCF's deposit account strategy. TCF is subject to the risk, among others, that its license or lease for a location or locations will terminate upon the sale or closure of that location or locations by the supermarket partner or that we may not be able to renew branch leases with our supermarket partners on favorable terms, or at all. In October 2018, SUPERVALU INC. completed its merger with United Natural Foods, Inc. ("UNFI"), becoming a wholly-owned subsidiary of UNFI. Should UNFI choose to sell any Cub Foods store, the buyer may terminate the branch license or lease for that location after a specified notice period in certain circumstances at the buyer's election. Furthermore, UNFI or an independent franchisee could choose to close any Cub Foods store after a specified notice period at which point the branch license or lease as to that location would automatically terminate.

Difficult economic conditions, financial or labor difficulties in the supermarket industry, or a decrease in in-store customer traffic or utilization of traditional bank branches may reduce activity in TCF's supermarket branches. Although utilization of these branches may decrease, the nature of these leases with our supermarket partners generally do not allow us to terminate significant numbers of individual branches. Because these leases are generally all renewed together, in the event of a decrease in customer utilization there may be limited opportunities to terminate unprofitable branch leases without incurring additional costs or penalties. Any of the above risks could have a material adverse effect on TCF's financial condition and results of operations.

The allowance for loan and lease losses maintained by TCF may not be sufficient to cover actual losses experienced by TCF and losses in excess of TCF's allowance could have a material adverse effect on TCF's financial condition and results of operations.

TCF maintains an allowance for loan and lease losses, which is a reserve established through a provision for credit losses. The level of the allowance for loan and lease losses represents management's best estimate of probable credit losses incurred within the existing portfolio of loans and leases based on management's continuing evaluation of industry concentrations, specific credit risks, loan and lease loss experience, current loan and lease portfolio quality, present economic, political and regulatory conditions and unidentified losses in the current loan and lease portfolio. The determination of the appropriate level of the allowance for loan and lease losses involves a high degree of subjectivity and requires management to make significant estimates of current credit risks using qualitative and quantitative factors, each of which is subject to significant change. Changes in economic conditions affecting customers, new information regarding existing loans and leases, identification of additional problem loans and leases, lower than expected recoveries in the case of default and other factors may require an increase in the allowance for loan and lease losses. In addition, federal banking regulators periodically review TCF's allowance for loan and lease losses and may disagree with the estimates determined by management. An increase in the provision for credit losses would result in a decrease in net income and possibly risk-based capital, and could have a material adverse effect on TCF's financial condition and results of operations.

TCF is subject to extensive government regulation and supervision and changes in applicable laws and regulations or their enforcement could have a material adverse effect on TCF's financial results.

TCF Financial, its subsidiary TCF Bank and certain indirect subsidiaries are subject to extensive federal and state regulation and supervision. Banking regulations are primarily intended to protect bank customers, depositors' funds, federal deposit insurance funds and the banking system as a whole, not stockholders. These regulations affect TCF's revenues, lending practices, capital structure, investment practices, dividend policy and growth, among other things. Congress and federal regulators continually review banking laws, regulations and policies for possible changes and the implementation of banking laws or regulations may change depending on leadership at federal banking agencies. Since many new banking rules are issued with limited interpretive guidance, we may not sufficiently comply with or anticipate the full impact of such new rules.

Future changes in regulations, regulatory policies, interpretation and enforcement of statutes, regulations or policies could reduce revenues and increase compliance burdens and could limit the types of financial services and products we may offer or increase competition from non-banks offering competing financial services and products, among other things. Future legislative and regulatory initiatives cannot be fully or accurately predicted. Such proposals may impose more stringent standards than currently applicable or anticipated with respect to capital and liquidity requirements, leverage, deposit insurance and risk management requirements for depository institutions. For example, the CFPB has examination and enforcement authority over TCF Bank and its subsidiaries, and broad rulemaking authority to administer and carry out the purposes and objectives of the federal consumer financial laws with respect to all financial institutions that offer financial products and services to consumers. The CFPB is authorized to make rules identifying and prohibiting acts or practices that are unfair, deceptive or abusive in connection with any transaction with a consumer for a consumer financial product or service, or the offering of a consumer financial product or service. Uncertainties remain regarding how the term "abusive" will be interpreted. Regulatory actions that adversely impact our deposit, lending, loan collection, campus banking programs or customer opt-in preferences with respect to overdrafts could have a material adverse effect on our financial condition and results of operations. In recent years there has been an increase in the frequency of enforcement actions brought by federal banking regulators, such as the CFPB, dealing with matters such as indirect auto lending, fair lending, account fees, loan servicing and other products and services provided to customers.

While TCF has policies and procedures designed to prevent violations of laws, regulations and regulatory policies, and to ensure compliance with new or changed laws, regulations and regulatory policies, there can be no assurance that violations will not occur and failure to comply could result in reputational damage, remediation, disgorgement, penalties, increased capital requirements, higher deposit insurance assessments, other monetary relief, injunctive relief or changes to TCF's business practices or operations, any of which could have a material adverse effect on its financial condition and results of operations.

Increased competition in the already highly competitive financial services industry could have a material adverse effect on TCF's financial condition and results of operations.

The financial services industry is highly competitive and could become even more competitive as a result of legislative, regulatory and technological changes, as well as continued industry consolidation, which may increase in connection with current economic and market conditions. TCF competes with other commercial banks, savings and loan associations, mutual savings banks, finance companies, mortgage banking companies, credit unions and investment companies. In addition, technology has lowered barriers to entry and made it possible for non-banks to offer products and services traditionally provided by banks, such as providing loans through peer-to-peer lending. Some of TCF's competitors have fewer regulatory constraints or lower cost structures. Privately-held competitors may have more flexibility than TCF as a publicly-held enterprise. Adapting to industry changes in information technology systems, on which TCF and the financial services industry generally highly depend, could also present operational issues and require considerable capital spending. Decreased underwriting standards of competitors may also result in lower interest rates on loans originated by TCF or lower loan volumes originated by TCF. As a result, any increased competition in the already highly competitive financial services industry could have a material adverse effect on TCF's financial condition and results of operations.

TCF Financial relies on dividends from TCF Bank for most of its liquidity.

TCF Financial is a separate and distinct legal entity from TCF Bank. TCF Financial's liquidity comes principally from dividends from TCF Bank. These dividends, which are limited by various federal and state regulations, are the principal source of funds TCF Financial uses to pay dividends on its preferred and common stock and to meet its other cash needs. In the event TCF Bank is unable to pay dividends to TCF Financial, it may not be able to pay dividends, repurchase common stock or pay other obligations, which could have a material adverse effect on TCF's financial condition and results of operations. See Note 16. Regulatory Capital Requirements for further discussion on regulations governing the payment of dividends by TCF Bank.

TCF's earnings are significantly affected by the fiscal and monetary policies of the federal government and its agencies, as well as other legal changes affecting businesses and consumers.

The policies of the Federal Reserve impact TCF significantly. The Federal Reserve regulates the supply of money and credit in the U.S. Its policies directly and indirectly influence the rate of interest earned on loans and leases and paid on borrowings and interest-bearing deposits, and also affect the value of financial instruments that TCF holds. Changes in those policies are difficult to predict. Federal Reserve policies can also affect TCF's borrowers, potentially increasing the risk that they may fail to repay their loans or leases. For example, a tightening of the money supply by the Federal Reserve could increase unemployment or reduce the demand for a borrower's products and services. This could adversely affect the borrower's earnings and ability to repay its loan or lease. As a result, changes to the fiscal and monetary policies by the Federal Reserve could have a material adverse effect on TCF's financial condition and results of operations.

In addition, legal changes affecting consumers and businesses, including the deductibility or other tax attributes associated with certain products, may significantly decrease the demand for certain products that we offer. For example, Tax Reform limits the tax deductibility of interest paid on home equity loans to those loans used to purchase or substantially improve qualified residences, which may decrease consumer demand for such loan products.

Damage to TCF's reputation could have a material adverse effect on TCF's financial results.

Reputational risk, or the risk to earnings and capital from negative public opinion, is inherent in TCF's business. Negative public opinion could adversely affect TCF's ability to keep and attract employees and customers and expose it to adverse legal and regulatory consequences. Negative public opinion could result from TCF's actual or alleged conduct in any number of activities, including lending practices, corporate governance, regulatory compliance, mergers and acquisitions, disclosure, cyber-security, sharing or inadequate protection of customer information or from actions taken by government regulators and community organizations in response to such conduct and could be exacerbated by negative publicity. Because TCF conducts most of its businesses under the "TCF" brand, negative public opinion about one business could affect all of TCF's businesses.

Failure to keep pace with technology-driven products and services could adversely affect TCF's business.

The financial services industry is continually undergoing rapid technological change with frequent introductions of new technology-driven products and services. TCF's future success depends, in part, upon its ability to address the needs of its customers by using technology to provide products and services that will satisfy customer demands, create additional efficiencies in its operations, avoid disruptions relating to upgrading systems and prevent cyber-attacks and security breaches. Many of TCF's competitors have substantially greater resources to invest in technological improvements. TCF may not be able to effectively develop and implement new technology-driven products and services or be successful in marketing these products and services to its customers. Failure to successfully keep pace with technological change affecting the financial services industry could have a material adverse effect on TCF's financial condition and results of operations.

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

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

The Company is subject to certain risks related to originating and selling loans that could have a material adverse effect on TCF's financial condition and results of operations.

TCF relies on the sale of loans to generate earnings and manage its liquidity and capital levels, as well as create geographical and product diversity in its loan portfolio. Disruptions in the financial markets, a decrease in demand for loans we sell, changes to laws or regulations that reduce the attractiveness of such loans to purchasers of the loans or a decrease in the willingness of purchasers to purchase loans from TCF or in general, could require TCF to decrease its lending activities or retain a greater portion of the loans it originates. Selling fewer loans would result in a decrease in the gains recognized on the sale of loans, would decrease TCF's capital ratios as a result of the increase of risk weighted assets, could result in decreased liquidity and could result in increased credit risk as TCF's loan portfolio increased in size, any of which could have a material adverse effect on TCF's financial condition and results of operations.

The structure of certain loan sales may result in the retention of credit risk. TCF may receive interest-only strips in connection with certain of its loan sales. The interest-only strip is recorded at fair value, which represents the present value of future cash flows expected to be received by TCF. The value of these interest-only strips may be affected by factors such as changes in the behavior patterns of customers (including defaults and prepayments), changes in the strength of the economy and developments in the interest rate markets; therefore, actual performance may differ from TCF's expectations. The impact of such factors could have a material adverse effect on the value of these interest-only strips and on TCF's financial condition and results of operations.

When loans are sold or securitized, it is customary to make representations, warranties and covenants to the purchaser or investors about the loans, including the manner in which they were originated and will be serviced. These agreements generally require the repurchase of loans or indemnification in the event TCF breaches these representations, warranties or covenants and such breaches are not cured. In addition, some agreements contain a requirement to repurchase loans as a result of early payoffs by the borrower, early payment default of the borrower or the failure to obtain valid title. TCF has not been obligated to make significant repurchases of sold loans in the past. A material increase in the amount of loans repurchased could have a material adverse effect on TCF's financial condition and results of operations.

Changes in accounting policies or in accounting standards could materially affect how TCF reports its financial condition and results of operations.

TCF's accounting policies are fundamental to the understanding of its financial condition and results of operations. Some of these policies require the use of estimates and assumptions that may affect the value of TCF's assets or liabilities and results of operations. The accounting policy for the allowance for loan and lease losses is critical because it requires management to make challenging, subjective and complex judgments about matters that are inherently uncertain and because materially different amounts would be reported if different estimates or assumptions were used. If such estimates or assumptions underlying the financial statements are incorrect, TCF could experience material losses.

From time to time the Financial Accounting Standards Board (the "FASB") and the SEC change the financial accounting and reporting standards or the interpretation of those standards that govern the preparation of TCF's financial statements. These changes are beyond TCF's control, can be difficult to predict and could materially impact how TCF reports its financial condition and results of operations. Additionally, TCF could be required to apply a new or revised standard retrospectively, resulting in it restating prior period financial statements in material amounts.

For example, in June 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which changes the impairment model for most financial assets and requires the use of a current expected credit loss ("CECL") approach to determine the allowance for credit losses for loans and held to maturity debt securities. In November 2018, the FASB issued ASU No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses*, which clarifies that receivables arising from operating leases are not within the scope of Subtopic 326-20 and should be accounted for in accordance with Topic 842. CECL represents a significant change in U.S. generally accepted accounting principles and may result in a material impact on our consolidated financial statements. The impact of these ASUs will depend on the composition of TCF's portfolios and general economic conditions at the date of the adoption. TCF has established a governance structure to implement these ASUs and is developing the methodologies and models to be used upon adoption. Management will begin to test the new methodologies and models in 2019. The adoption of these ASUs will be required on a modified retrospective basis with a cumulative effect adjustment required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2020.

Significant legal actions could subject TCF to substantial uninsured liabilities.

TCF can be subject to claims and legal actions related to its operations. These claims and legal actions, including supervisory or enforcement actions by TCF's regulators and other government authorities or private litigation, could result in large, unpredictable monetary awards or penalties, as well as significant defense costs. While TCF maintains insurance coverage in amounts and with deductibles that it believes are appropriate for its operations, such insurance does not cover all types of liability, including regulatory fines or penalties and may not continue to be available to TCF at a reasonable cost, or at all. As a result, TCF may be exposed to substantial uninsured liabilities, which could have a material adverse effect on TCF's financial condition and results of operations.

For example, on January 19, 2017, the CFPB filed a civil lawsuit against TCF Bank in the United States District Court for the District of Minnesota alleging violations of the Consumer Financial Protection Act (the "CFPA") and Regulation E §1005.17, in connection with TCF Bank's practices administering checking account overdraft program "opt-in" requirements from 2010 to early 2014. Pursuant to a restitution plan with the CFPB and OCC resulting from the litigation, TCF Bank will pay restitution in the total amount of \$25.0 million to certain current and former customers and TCF Bank paid \$5.0 million in civil money penalties. For further discussion, see "Item 3. Legal Proceedings" and Note 26. Litigation Contingencies in this Annual Report on Form 10-K.

In addition, customers may make claims and take legal action pertaining to TCF's deposit products and sale and servicing of its loan and lease products, account opening/origination practices, fees, employment practices, checking account overdraft program "opt in" requirements, or fiduciary responsibilities. Whether or not such claims and legal action have merit, they may result in significant financial liability and could adversely affect the market perception of TCF and its products and services, as well as impact customer demand for those products and services. Any financial liability or reputational damage could have a material adverse effect on TCF's financial condition and results of operations.

In addition, the financial services industry has increasingly been targeted by lawsuits alleging infringement of patent rights, often from patent holding companies seeking to monetize patents they have purchased or otherwise obtained. Regardless of the scope or validity of such patents or other intellectual property rights, or the merits of any claims by potential or actual litigants, TCF may have to engage in protracted and costly litigation which may be time consuming and disruptive to TCF's operations and management. If TCF is found to infringe on one or more patents or other intellectual property rights, it may be required to pay substantial damages or royalties to a third-party, or it may be subject to a temporary or permanent injunction prohibiting TCF from utilizing certain technologies.

For a discussion of litigation risks related to our merger with Chemical, see *"Litigation filed against TCF, its board of directors or Chemical and its board of directors could prevent or delay the completion of the merger or result in the payment of damages following completion of the merger"* in this Risk Factors section.

We face a risk of noncompliance with the Bank Secrecy Act and other anti-money laundering statutes and regulations and corresponding enforcement proceedings.

The federal Bank Secrecy Act, the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 and other laws and regulations require financial institutions, among other duties, to institute and maintain effective anti-money laundering programs and to file suspicious activity and currency transaction reports as appropriate. The federal Financial Crimes Enforcement Network, established by the U.S. Treasury Department to administer the Bank Secrecy Act, is authorized to impose significant civil money penalties for violations of those requirements and has engaged in coordinated enforcement efforts with the individual federal banking regulators, as well as the U.S. Department of Justice, Drug Enforcement Administration and Internal Revenue Service. There is also increased scrutiny of compliance with the rules enforced by the Office of Foreign Assets Control and compliance with the Foreign Corrupt Practices Act. Federal and state bank regulators also have focused on compliance with Bank Secrecy Act and anti-money laundering regulations. If our policies, procedures and systems are deemed deficient or the policies, procedures and systems of the financial institutions that we may acquire in the future are deficient, we would be subject to liability, including fines and regulatory actions such as restrictions on our ability to pay dividends and the necessity to obtain regulatory approvals to proceed with certain aspects of our business plan, including our acquisition plans, which would negatively impact our business, financial condition and results of operations. Sanctions that the regulators have imposed on banks that have not complied with all requirements have been especially severe. Failure to maintain and implement adequate programs to combat money laundering and terrorist financing could also have serious reputational consequences for us. Any of these results could materially and adversely affect our business, financial condition and results of operations.

TCF's framework for managing risks may not be effective in mitigating risk and any resulting loss.

TCF's risk management framework seeks to mitigate risk and any resulting loss. TCF has established processes intended to identify, measure, monitor, report and analyze the types of risk to which TCF is subject, including legal and compliance, operational, reputational, strategic and market risk such as interest rate, credit, liquidity and foreign currency risk. However, as with any risk management framework, there are inherent limitations to TCF's risk management strategies. There may exist, or develop in the future, risks that TCF has not appropriately anticipated or identified. Any future breakdowns in TCF's risk management framework could have a material adverse effect on its financial condition and results of operations.

Financial institutions depend on the accuracy and completeness of information about customers and counterparties.

In deciding whether to extend credit or enter into other transactions, TCF may rely on information furnished by or on behalf of customers and counterparties, including financial statements, credit reports and other financial information. TCF may also rely on representations of those customers, counterparties or other third parties, such as independent auditors, as to the accuracy and completeness of that information. Reliance on inaccurate or misleading financial statements, credit reports or other financial information could cause TCF to enter into unfavorable transactions which could have a material adverse effect on TCF's financial condition and results of operations.

The failure to attract and retain key personnel could have a material adverse effect on TCF's financial condition and results of operations.

TCF's success depends to a large extent upon its key personnel, including its ability to attract and retain such personnel. The loss of key personnel could have a material adverse impact on TCF's business because of their skills, market knowledge, industry experience and the difficulty of promptly finding qualified replacements. Additionally, portions of TCF's business are relationship driven and many of TCF's key personnel have extensive customer relationships. Loss of key personnel to a competitor could result in the loss of some of TCF's customers. As a result, a failure to attract and retain key personnel could have a material adverse effect on TCF's financial condition and results of operations.

Consumers may decide not to use banks to complete their financial transactions.

Technology and other changes are allowing consumers to complete financial transactions through alternative methods that historically have involved banks. For example, consumers can now maintain funds that would have previously been held as traditional bank deposits in brokerage accounts, online bank accounts, mutual funds or general-purpose reloadable prepaid cards. Consumers can also complete transactions such as paying bills, transferring funds and obtaining loans 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 loss of lower-cost deposits as a source of funds could have a material adverse effect on TCF's financial condition and results of operations.

TCF is subject to examinations and challenges by tax authorities that could adversely affect TCF's results of operations and financial condition.

TCF is subject to federal, state and foreign income tax regulations, which often require interpretation due to their complexity. Changes in income tax regulations, including those resulting from the enactment of Tax Reform or in how the regulations are interpreted could have a material adverse effect on TCF's results of operations. In the normal course of business, TCF is routinely subject to examinations and challenges from taxing authorities regarding its tax positions. Taxing authorities have been aggressive in challenging tax positions taken by financial institutions. These tax positions may relate to tax compliance, sales and use, franchise, gross receipts, payroll, property and income tax issues, including tax base, apportionment and tax credit planning. These challenges may result in adjustments to the timing or amount of taxable income or deductions, or the allocation of income among tax jurisdictions. If any such challenges are made and are not resolved in TCF's favor, they could have a material adverse effect on TCF's financial condition and results of operations.

TCF's internal controls may be ineffective.

Management regularly reviews and updates TCF's internal controls, disclosure controls and procedures and corporate governance policies and procedures. Any system of controls, however well designed and operated, is based in part on certain assumptions and can provide only reasonable, not absolute, assurances that the objectives of the system are met. Any failure or circumvention of TCF's controls and procedures or failure to comply with regulations related to controls and procedures could have a material adverse effect on our reputation, financial condition and results of operations.

TCF is subject to environmental liability and risks related to natural disasters that are associated with lending activities.

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

In addition, severe weather, earthquakes, other natural disasters, pandemics, acts of war or terrorism and other adverse external events could have a significant impact on our lending business. Such events could impair the ability of borrowers to repay outstanding loans, impair the value of collateral securing loans, cause significant property damage and/or cause us to incur additional expenses. Because our lending businesses are geographically diverse, those businesses are likely to be impacted more often by natural disasters, including hurricanes, flooding, fires and earthquakes, which have caused extensive damage in various parts of the United States in which they conduct business. The occurrence of any such events could have a material adverse effect on our financial condition and results of operations.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Offices TCF owns its headquarters office in Wayzata, Minnesota. Other operations facilities, located in Minnesota, Illinois and California, are either owned or leased. These facilities are predominantly utilized by the Consumer Banking and Wholesale Banking reportable segments. Several facilities in Minnesota are also utilized by the Enterprise Services reportable segment. At December 31, 2018, TCF leased or licensed 145 of its bank branch offices, owned the buildings and land for 143 of its bank branch offices and owned the buildings and leased the land for the remaining 26 bank branch offices, all of which are functional and appropriately maintained and are utilized by both the Consumer Banking and Wholesale Banking reportable segments. These branch offices are located in Illinois, Minnesota, Michigan, Colorado, Wisconsin, Arizona and South Dakota. For further information on premises and equipment, see Note 8. Premises and Equipment, Net of Notes to Consolidated Financial Statements.

Item 3. Legal Proceedings

From time to time TCF is a party to legal proceedings arising out of its lending, leasing and deposit operations, including foreclosure proceedings and other collection actions as part of its lending and leasing collections activities. TCF may also be subject to regulatory examinations and enforcement actions brought by federal regulators, including the SEC, the Federal Reserve, the OCC and the CFPB which may impose sanctions on TCF for failures related to regulatory compliance. From time to time borrowers and other customers, and employees and former employees have also brought actions against TCF, in some cases claiming substantial damages. TCF and other financial services companies are subject to the risk of class action litigation. Litigation is often unpredictable and the actual results of litigation cannot be determined and therefore the ultimate resolution of a matter and the possible range of loss associated with certain potential outcomes cannot be established. Based on our current understanding of TCF's pending legal proceedings, management does not believe that judgments or settlements arising from pending or threatened legal matters, individually or in the aggregate, would have a material adverse effect on the consolidated financial position, operating results or cash flows of TCF.

On January 19, 2017, the CFPB filed a civil lawsuit against TCF Bank in the United States District Court for the District of Minnesota (the "Court"), captioned Consumer Financial Protection Bureau v. TCF National Bank, alleging violations of the CFPA and Regulation E, §1005.17 in connection with TCF Bank's practices administering checking account overdraft program "opt-in" requirements from 2010 to early 2014. On September 8, 2017, the Court issued a ruling on the motion made by TCF Bank to dismiss the complaint of the CFPB. In its ruling, the Court granted TCF Bank's motion to dismiss the CFPB's Regulation E claims and also dismissed the CFPB's unfair, deceptive and abusive conduct claims under the CFPA for periods prior to July 21, 2011. On July 20, 2018, TCF Bank entered into a Stipulated Final Judgment and Order (the "CFPB Settlement") with the CFPB to resolve the matter and has entered into a Consent Order and a Consent Order For a Civil Money Penalty and related stipulations (collectively, the "OCC Consent Orders") with the OCC to resolve related regulatory issues with the OCC (collectively, the CFPB Settlement and the OCC Consent Orders are referred to herein as the "Consent Agreements"). The Consent Agreements provide, among other things, for TCF Bank to submit a restitution plan to the CFPB and OCC pursuant to which TCF Bank will pay restitution in the total amount of \$25.0 million to certain current and former customers and require a notice to certain customers opted-in to overdraft service reminding them of their current opt-in choice. TCF is working toward completion of the restitution plan and expects to satisfy all the requirements in a timely fashion and in accordance with the terms of the CFPB Settlement and the restitution plan. Pursuant to the Consent Agreements, TCF Bank paid \$5.0 million in civil money penalties, \$3.0 million of which was paid to the OCC and \$2.0 million of which was paid to the CFPB. In addition, TCF Bank expects to incur approximately \$2.0 million in administrative costs related to the administration of the restitution plan required under the Consent Agreements.

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

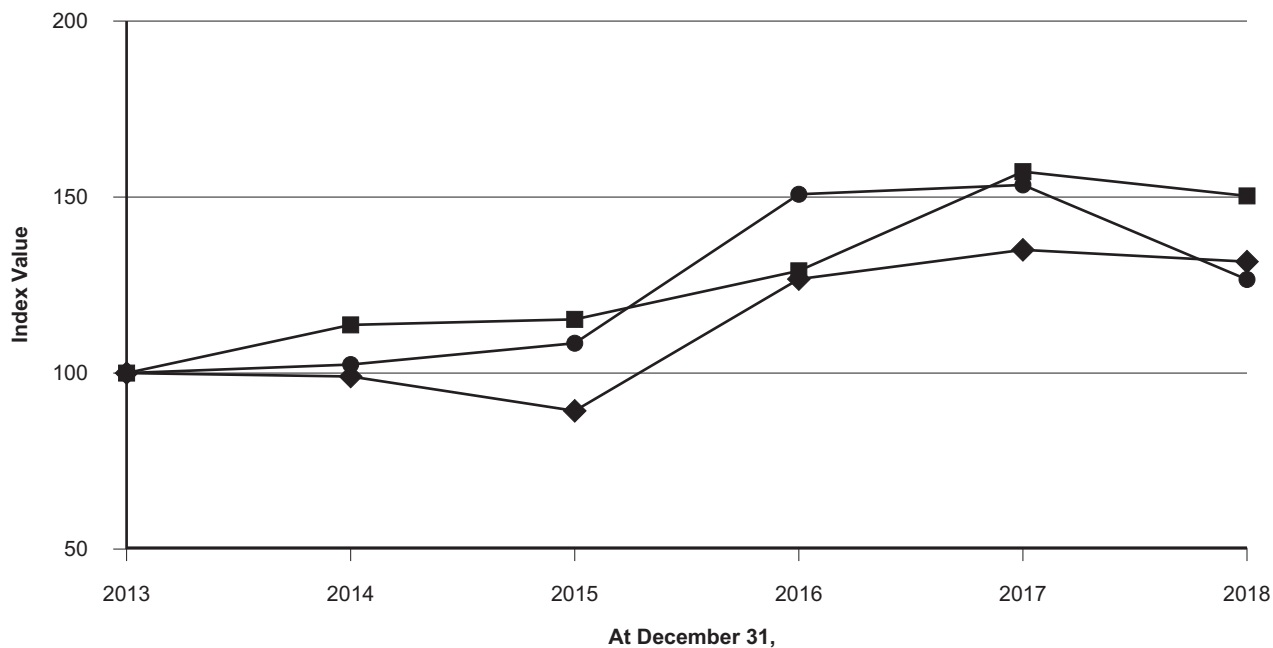
TCF's common stock trades on the New York Stock Exchange under the symbol "TCF." As of February 19, 2019, there were 5,151 holders of record of TCF's common stock.

The Board of Directors of TCF Financial and TCF Bank have each adopted a Capital Adequacy and Dividend Policy. The policies define how enterprise risk related to capital will be managed, how the adequacy of capital will be measured and the process by which capital strategy, capital management and preferred and common stock dividend recommendations will be presented to TCF's Board of Directors. TCF management is charged with ensuring that capital strategy actions, including the declaration of preferred and common stock dividends, are prudent, efficient and provide value to TCF's stockholders, while ensuring that past and prospective earnings retention is consistent with TCF's capital needs, asset quality, risk profile and overall financial condition. The Board of Directors intends to continue its practice of paying quarterly cash dividends on TCF's common stock as justified by the financial condition of TCF. The declaration and amount of future dividends will depend on circumstances existing at the time, including TCF's earnings, level of internally generated common capital excluding earnings, financial condition and capital requirements, the cash available to pay such dividends (derived mainly from dividends and distributions from TCF Bank), as well as regulatory and contractual limitations and such other factors as the Board of Directors may deem relevant. Dividends for the current dividend period on all outstanding shares of preferred stock must be declared and paid or declared and a sum sufficient for the payment thereof must be set aside before any dividend may be declared or paid on TCF's common stock. In general, TCF Bank may not declare or pay a dividend to TCF Financial in excess of 100% of its net retained earnings for the current year combined with its net retained earnings for the preceding two calendar years without prior approval of the OCC. Restrictions on the ability of TCF Bank to pay cash dividends or possible diminished earnings of TCF may limit the ability of TCF Financial to pay dividends in the future to holders of its preferred and common stock. In addition, the ability of TCF Financial and TCF Bank to pay dividends depends on regulatory policies and capital requirements and may be subject to regulatory approval. See "Item 1. Business - Regulation - Regulatory Capital Requirements", "Item 1. Business - Regulation - Restrictions on Distributions", Note 16. Regulatory Capital Requirements and Note 25. Parent Company Financial Information of Notes to Consolidated Financial Statements.

Total Return Performance

The following chart compares the cumulative total stockholder return on TCF common stock over the last five fiscal years with the cumulative total return of the KBW NASDAQ Regional Banking Index and the Standard and Poor's ("S&P") 500 Index (assuming the investment of \$100 in each index on December 31, 2013 and reinvestment of all dividends).

TCF Total Stock Return Performance Chart



◆ TCF Financial Corporation ● KBW NASDAQ Regional Banking Index ■ S&P 500 Index

Index	At December 31,					
	2013	2014	2015	2016	2017	2018
TCF Financial Corporation	\$ 100.00	\$ 99.03	\$ 89.27	\$ 126.70	\$ 135.01	\$ 131.65
KBW NASDAQ Regional Banking Index	100.00	102.42	108.48	150.80	153.45	126.59
S&P 500 Index	100.00	113.69	115.26	129.05	157.22	150.33

Source: S&P Global Market Intelligence

Repurchases of TCF Stock

Share repurchase activity for the quarter ended December 31, 2018 was as follows:

Period	Total Number of Shares Purchased	Average Price Paid Per Share	Total Number of Shares Purchased as Part of Publicly Announced Plan	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plan
October 1 to October 31, 2018				
Share repurchase program ⁽¹⁾	—	\$ —	—	\$ 141,025,633
Employee transactions ⁽²⁾	12,698	23.78	N.A.	N.A.
November 1 to November 30, 2018				
Share repurchase program ⁽¹⁾	1,860,210	\$ 22.01	1,860,210	\$ 100,079,548
Employee transactions ⁽²⁾	—	—	N.A.	N.A.
December 1 to December 31, 2018				
Share repurchase program ⁽¹⁾	1,040,000	\$ 21.18	1,040,000	\$ 78,052,490
Employee transactions ⁽²⁾	—	—	N.A.	N.A.
Total				
Share repurchase program ⁽¹⁾	2,900,210	\$ 21.71	2,900,210	\$ 78,052,490
Employee transactions ⁽²⁾	12,698	23.78	N.A.	N.A.

N.A. Not Applicable

- (1) On July 25, 2018, the Board of Directors approved a \$150.0 million increase to TCF's common stock repurchase program. Repurchases will be based on market conditions, the trading price of TCF shares and other factors. The ability to repurchase shares in the future may be adversely affected by new legislation or regulations or by changes in regulatory policies. Repurchases under this authorization may be commenced or suspended at any time or from time to time.
- (2) Represents restricted stock withheld pursuant to the terms of awards granted under either the TCF Financial Incentive Stock Program or the TCF Financial 2015 Omnibus Incentive Plan to offset tax withholding obligations that occur upon vesting and release of restricted stock. Both plans provide that the value of shares withheld shall be the average of the high and low prices of common stock of TCF Financial Corporation on the date the relevant transaction occurs.

Item 6. Selected Financial Data

The selected five-year financial summary presented below should be read in conjunction with the Consolidated Financial Statements and related notes. Historical data is not necessarily indicative of TCF's future results of operations or financial condition. See "Item 1A. Risk Factors."

Five-Year Financial Summary

(Dollars in thousands, except per share data)	At or For the Year Ended December 31,				
	2018	2017	2016	2015	2014
Consolidated Income:					
Net interest income	\$ 992,007	\$ 925,238	\$ 848,106	\$ 820,388	\$ 815,629
Non-interest income	470,885	448,299	465,900	441,998	433,267
Total revenue	1,462,892	1,373,537	1,314,006	1,262,386	1,248,896
Provision for credit losses	46,768	68,443	65,874	52,944	95,737
Non-interest expense	1,014,400	1,059,934	909,887	894,747	871,777
Income before income tax expense (benefit)	401,724	245,160	338,245	314,695	281,382
Income tax expense (benefit)	86,096	(33,624)	116,528	108,872	99,766
Income attributable to non-controlling interest	11,270	10,147	9,593	8,700	7,429
Net income attributable to TCF Financial Corporation	304,358	268,637	212,124	197,123	174,187
Preferred stock dividends	11,588	19,904	19,388	19,388	19,388
Impact of preferred stock redemption	3,481	5,779	—	—	—
Net income available to common stockholders	\$ 289,289	\$ 242,954	\$ 192,736	\$ 177,735	\$ 154,799
Earnings per common share:					
Basic	\$ 1.75	\$ 1.44	\$ 1.15	\$ 1.07	\$ 0.95
Diluted	1.74	1.44	1.15	1.07	0.94
Dividends declared	0.60	0.30	0.30	0.225	0.20
Consolidated Financial Condition:					
Loans and leases	\$ 19,072,311	\$ 19,104,460	\$ 17,843,827	\$ 17,435,999	\$ 16,401,646
Total assets	23,699,612	23,002,159	21,441,326	20,689,609	19,393,656
Deposits	18,903,686	18,335,002	17,242,522	16,719,989	15,449,882
Borrowings	1,449,472	1,249,449	1,077,572	1,039,938	1,235,535
Total equity	2,556,260	2,680,584	2,444,645	2,306,917	2,135,364
Book value per common share	14.45	13.96	12.66	11.94	11.10
Tangible book value per common share ⁽¹⁾	13.38	12.92	11.33	10.59	9.72
Financial Ratios:					
Return on average assets	1.37%	1.26%	1.05%	1.03%	0.96%
Return on average common equity	12.42	10.80	9.13	9.19	8.71
Adjusted return on average common equity ⁽¹⁾	13.51	10.80	9.13	9.19	8.71
Return on average tangible common equity ⁽¹⁾	13.56	15.73	10.29	10.48	10.08
Adjusted return on average tangible common equity ⁽¹⁾	14.74	15.73	10.29	10.48	10.08
Net interest margin ⁽²⁾	4.63	4.54	4.34	4.42	4.61
Common equity to assets	9.99	10.42	10.09	9.80	9.58
Dividend payout ratio	34.48	20.83	26.09	21.03	21.28
Efficiency ratio	69.34	77.17	69.25	70.88	69.80
Adjusted efficiency ratio ⁽¹⁾	67.15	77.17	69.25	70.88	69.80
Credit Quality Ratios:					
Non-accrual loans and leases as a percentage of total loans and leases	0.56%	0.62%	1.02%	1.15%	1.32%
Non-performing assets as a percentage of total loans and leases and other real estate owned	0.65	0.72	1.28	1.43	1.71
Allowance for loan and lease losses as a percentage of total loans and leases	0.83	0.90	0.90	0.90	1.00
Net charge-offs as a percentage of average loans and leases	0.29	0.24	0.26	0.30	0.49

(1) See "Item 7. Management's Discussion and Analysis - Consolidated Financial Condition Analysis - Non-GAAP Financial Measures" for further information.

(2) Net interest income on a fully tax-equivalent basis divided by average interest-earning assets.

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

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Management's discussion and analysis of the consolidated financial condition and results of operations of TCF Financial Corporation should be read in conjunction with "Part I, Item 1A. Risk Factors," "Item 6. Selected Financial Data" and "Item 8. Consolidated Financial Statements."

Overview

TCF Financial Corporation (together with its direct and indirect subsidiaries, "we," "us," "our," "TCF" or the "Company"), a Delaware corporation, is a national bank holding company based in Wayzata, Minnesota. References herein to "TCF Financial" or the "Holding Company" refer to TCF Financial Corporation on an unconsolidated basis. Its principal subsidiary, TCF National Bank ("TCF Bank"), is headquartered in Sioux Falls, South Dakota. At December 31, 2018, TCF Bank operated 314 bank branches in Illinois, Minnesota, Michigan, Colorado, Wisconsin, Arizona and South Dakota (TCF's "primary banking markets"). Through its direct subsidiaries, TCF Bank provides a full range of consumer-facing and commercial services, including consumer banking services in 47 states, commercial banking services in 42 states, commercial leasing and equipment financing in all 50 states and, to a limited extent, in foreign countries and commercial inventory financing in all 50 states and Canada and, to a limited extent, in other foreign countries.

TCF provides convenient financial services through multiple channels in its primary banking markets. TCF has developed products and services designed to meet the specific needs of the largest consumer segments in the market. The Company focuses on attracting and retaining customers through an exceptional customer experience driven by convenience through multiple points of contact, including digital banking, phone banking, a branch presence with select locations open at least six days a week and with extended hours, and access to automated teller machine ("ATM") networks. TCF's philosophy is to generate interest income, fees and other revenue growth through business lines that emphasize higher yielding assets and low interest cost deposits. TCF's growth strategies include organic growth in existing businesses, development of new products and services, new customer acquisition and acquisitions of portfolios or businesses. New products and services are designed to build on existing businesses and expand into complementary products and services through strategic initiatives. Funded generally through retail deposit generation, TCF continues to focus on profitable asset growth.

Net interest income, the difference between interest income earned on loans and leases, debt securities, investments and other interest-earning assets (interest income) and interest paid on deposits and borrowings (interest expense), represented 67.8% of TCF's total revenue for 2018, compared with 67.4% and 64.5% for 2017 and 2016, respectively. Net interest income can change significantly from period to period based on interest rates, customer prepayment patterns and the volume and mix of interest-earning assets, non-interest bearing deposits and interest-bearing liabilities. TCF manages the risk of changes in interest rates on its net interest income through a management Asset & Liability Committee ("ALCO") and through related interest rate risk monitoring and management policies. See "Part I, Item 1A. Risk Factors" and "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" for further discussion.

Non-interest income is a significant source of revenue for TCF and an important component of TCF's results of operations. The significant components of non-interest income are from leasing and equipment finance, and fees and service charges. The leasing and equipment finance business generates non-interest income primarily from operating leases and sales-type leases. Providing a wide range of consumer banking services is an integral component of TCF's business philosophy. Primary drivers of fees and service charges include the number of customers we attract, the customers' level of engagement and the frequency with which the customer uses our solutions.

As an effort to diversify TCF's non-interest income sources and manage credit concentration risk, TCF sells loans, primarily secured by consumer real estate, which results in gains on sales, as well as servicing fee income. Primary drivers of gains on sales include TCF's ability to originate loans, identify loan buyers and execute loan sales.

Effective April 1, 2017, the Company executed its strategic shift from an originate-to-sell and originate-to-hold model to an entirely originate-to-hold model for its auto finance business and effective December 1, 2017, the Company discontinued auto finance loan originations. The determination was based on management's review of strategic alternatives and the financial outlook of the auto finance loan origination business compared with alternative uses of capital. TCF's subsidiary, Gateway One Lending & Finance, LLC ("Gateway One"), continues to service existing auto loans on its balance sheet and those that are serviced for others. The decision to discontinue auto finance loan originations resulted in a goodwill impairment charge of \$73.0 million, an other intangible assets impairment charge of \$0.4 million and approximately \$14.8 million of expenses related to severance, other asset impairments and lease termination expenses in 2017.

The following portions of this Management's Discussion and Analysis of Financial Condition and Results of Operations ("Management's Discussion and Analysis") focus in more detail on the results of operations for 2018, 2017 and 2016 and on information about TCF's financial condition, loan and lease portfolio, liquidity, funding resources, capital and other matters.

Pending Merger with Chemical Financial Corporation On January 28, 2019, TCF entered into an Agreement and Plan of Merger (the "Merger Agreement") with Chemical Financial Corporation ("Chemical"), a bank holding company with \$21.5 billion in assets, headquartered in Detroit, Michigan. The merger is expected to close in late 2019, subject to satisfaction of customary closing conditions, including regulatory approvals and approval by the shareholders of TCF and Chemical. Under the terms of the Merger Agreement, which has been unanimously approved by the boards of directors of both companies, each outstanding share of TCF common stock will be converted into the right to receive, without interest, 0.5081 shares of Chemical common stock. Also, at the effective time of the merger, each outstanding share of the 5.70% Series C non-cumulative perpetual preferred stock of TCF will be converted into the right to receive, without interest, one share of a newly created series of preferred stock of Chemical with equivalent rights and preferences (the "New Chemical Preferred Stock"). The shares of Chemical common stock and the New Chemical Preferred Stock to be issued in the merger will be listed on the Nasdaq. Following the completion of the merger, TCF and Chemical shareholders will own approximately 54% and 46% of the combined company, respectively, on a fully diluted basis.

Results of Operations

Performance Summary TCF reported net income of \$304.4 million for 2018, compared with \$268.6 million and \$212.1 million for 2017 and 2016, respectively. TCF reported diluted earnings per common share of \$1.74 for 2018, compared with \$1.44 and \$1.15 for 2017 and 2016, respectively.

Return on average assets on a fully tax-equivalent basis was 1.37% for 2018, compared with 1.26% and 1.05% for 2017 and 2016, respectively. Total average assets were \$23.1 billion for 2018, compared with \$22.1 billion and \$21.1 billion for 2017 and 2016, respectively. Return on average common equity ("ROACE") was 12.42% for 2018, compared with 10.80% and 9.13% for 2017 and 2016, respectively. Return on average tangible common equity ("ROATCE") was 13.56% for 2018, compared with 15.73% and 10.29% for 2017 and 2016, respectively. Adjusted ROATCE for 2018, which excludes the settlement with the Consumer Financial Protection Bureau (the "CFPB") and the Office of the Comptroller of the Currency (the "OCC") of \$32.0 million, including related expenses, was 14.74%. Total average common equity was \$2.3 billion for 2018, compared with \$2.2 billion and \$2.1 billion for 2017 and 2016, respectively. Total average tangible common equity was \$2.2 billion for 2018, compared with \$2.0 billion and \$1.9 billion for 2017 and 2016, respectively. See "Consolidated Financial Condition Analysis — Non-GAAP Financial Measures" in this Management's Discussion and Analysis for further information.

Consolidated Income Statement Analysis

Net Interest Income Net interest income was \$992.0 million for 2018, compared with \$925.2 million and \$848.1 million for 2017 and 2016, respectively. Net interest income represented 67.8% of TCF's total revenue for 2018, compared with 67.4% and 64.5% for 2017 and 2016, respectively. The increase in net interest income in 2018 was primarily due to increased interest income on the variable- and adjustable-rate loan portfolios (including the inventory finance loan portfolio) as a result of interest rate increases and higher average balances, increased interest income on the leasing and equipment finance loan and lease portfolio and higher average balances of debt securities available for sale, partially offset by increased cost of funds and lower average balances of auto finance loans and decreased interest income on the fixed-rate consumer real estate loans. The increase in net interest income in 2017 was primarily due to an increase in interest income on loans and leases, partially offset by a decrease in interest income on loans held for sale and an increase in total interest expense. Total interest income increased primarily due to higher average balances and increased average yields on commercial loans, increased average yields on auto finance loans, higher average balances and increased average yields on inventory finance loans and higher average balances of leasing and equipment finance loans and leases. These increases were partially offset by lower average balances of consumer real estate loans. Total interest expense increased primarily due to higher average balances of long-term borrowings and increased average rates and higher average balances of certificates of deposit driven by the current interest rate environment, partially offset by lower average rates on money market accounts.

Net interest income on a fully tax-equivalent basis divided by average interest-earning assets is referred to as the net interest margin, expressed as a percentage. Net interest income and net interest margin are affected by (i) changes in prevailing short- and long-term interest rates, (ii) loan and deposit pricing strategies and competitive conditions, (iii) the volume and mix of interest-earning assets, non-interest bearing deposits and interest-bearing liabilities, (iv) the level of non-accrual loans and leases and other real estate owned and (v) the impact of modified loans and leases. Net interest margin was 4.63% for 2018, compared with 4.54% and 4.34% for 2017 and 2016, respectively.

TCF's average balances, interest, and yields and rates on major categories of TCF's interest-earning assets and interest-bearing liabilities on a fully tax-equivalent basis were as follows:

	Year Ended December 31,								
	2018			2017			Change		
(Dollars in thousands)	Average Balance	Interest ⁽¹⁾	Yields and Rates ⁽¹⁾	Average Balance	Interest ⁽¹⁾	Yields and Rates ⁽¹⁾	Average Balance	Interest	Yields and Rates (bps)
Assets:									
Investments and other	\$ 319,472	\$ 11,964	3.74%	\$ 282,507	\$ 10,491	3.71%	\$ 36,965	\$ 1,473	3
Debt securities held to maturity	154,619	3,970	2.57	170,006	4,436	2.61	(15,387)	(466)	(4)
Debt securities available for sale:									
Taxable	1,390,016	37,436	2.69	823,526	18,382	2.23	566,490	19,054	46
Tax-exempt ⁽²⁾	815,540	21,694	2.66	712,530	22,916	3.22	103,010	(1,222)	(56)
Loans and leases held for sale	103,240	6,619	6.41	208,678	16,606	7.96	(105,438)	(9,987)	(155)
Loans and leases: ⁽³⁾									
Consumer real estate:									
Fixed-rate	1,790,069	97,850	5.47	1,934,395	109,185	5.64	(144,326)	(11,335)	(17)
Variable- and adjustable-rate	3,027,030	196,291	6.48	2,961,449	171,671	5.80	65,581	24,620	68
Total consumer real estate	4,817,099	294,141	6.11	4,895,844	280,856	5.74	(78,745)	13,285	37
Commercial:									
Fixed-rate	875,551	39,789	4.54	977,698	47,587	4.87	(102,147)	(7,798)	(33)
Variable- and adjustable-rate	2,832,471	153,068	5.40	2,455,578	111,886	4.56	376,893	41,182	84
Total commercial	3,708,022	192,857	5.20	3,433,276	159,473	4.64	274,746	33,384	56
Leasing and equipment finance	4,642,811	230,418	4.96	4,399,138	202,508	4.60	243,673	27,910	36
Inventory finance	3,079,059	214,262	6.96	2,646,500	164,386	6.21	432,559	49,876	75
Auto finance	2,565,668	136,692	5.33	3,105,326	152,974	4.93	(539,658)	(16,282)	40
Other	13,603	579	4.26	11,149	571	5.11	2,454	8	(85)
Total loans and leases	18,826,262	1,068,949	5.68	18,491,233	960,768	5.20	335,029	108,181	48
Total interest-earning assets	21,609,149	1,150,632	5.32	20,688,480	1,033,599	5.00	920,669	117,033	32
Other assets ⁽⁴⁾	1,452,999			1,363,487			89,512		
Total assets	\$23,062,148			\$22,051,967			\$ 1,010,181		
Liabilities and Equity:									
Non-interest bearing deposits	\$ 3,843,494			\$ 3,492,233			\$ 351,261		
Interest-bearing deposits:									
Checking	2,438,040	714	0.03	2,541,407	379	0.01	(103,367)	335	2
Savings	5,621,723	20,009	0.36	4,888,280	4,255	0.09	733,443	15,754	27
Money market	1,553,255	11,582	0.75	2,140,553	10,139	0.47	(587,298)	1,443	28
Certificates of deposit	4,897,937	74,808	1.53	4,495,062	51,239	1.14	402,875	23,569	39
Total interest-bearing deposits	14,510,955	107,113	0.74	14,065,302	66,012	0.47	445,653	41,101	27
Total deposits	18,354,449	107,113	0.58	17,557,535	66,012	0.38	796,914	41,101	20
Borrowings:									
Short-term borrowings	3,288	77	2.35	5,267	58	1.10	(1,979)	19	125
Long-term borrowings	1,412,186	43,067	3.05	1,239,433	27,749	2.24	172,753	15,318	81
Total borrowings	1,415,474	43,144	3.05	1,244,700	27,807	2.23	170,774	15,337	82
Total interest-bearing liabilities	15,926,429	150,257	0.94	15,310,002	93,819	0.61	616,427	56,438	33
Total deposits and borrowings	19,769,923	150,257	0.76	18,802,235	93,819	0.50	967,688	56,438	26
Accrued expenses and other liabilities	761,723			713,794			47,929		
Total liabilities	20,531,646			19,516,029			1,015,617		
Total TCF Financial Corp. stockholders' equity	2,506,179			2,513,424			(7,245)		
Non-controlling interest in subsidiaries	24,323			22,514			1,809		
Total equity	2,530,502			2,535,938			(5,436)		
Total liabilities and equity	\$23,062,148			\$22,051,967			\$ 1,010,181		
Net interest income and margin		\$1,000,375	4.63		\$ 939,780	4.54		\$ 60,595	9

(1) Interest and yields are presented on a fully tax-equivalent basis.

(2) The yield on tax-exempt debt securities available for sale is computed on a tax-equivalent basis using a statutory federal income tax rate of 21% and 35% for 2018 and 2017, respectively.

(3) Average balances of loans and leases include non-accrual loans and leases and are presented net of unearned income.

(4) Includes leased equipment and related initial direct costs under operating leases of \$288.4 million and \$224.7 million for 2018 and 2017, respectively.

Year Ended December 31,

	2017			2016			Change		
	Average Balance	Interest ⁽¹⁾	Yields and Rates ⁽¹⁾	Average Balance	Interest ⁽¹⁾	Yields and Rates ⁽¹⁾	Average Balance	Interest	Yields and Rates (bps)
(Dollars in thousands)									
Assets:									
Investments and other	\$ 282,507	\$ 10,491	3.71%	\$ 319,582	\$ 9,314	2.91%	\$ (37,075)	\$ 1,177	80
Debt securities held to maturity	170,006	4,436	2.61	190,863	4,649	2.44	(20,857)	(213)	17
Debt securities available for sale:									
Taxable	823,526	18,382	2.23	719,743	16,238	2.26	103,783	2,144	(3)
Tax-exempt ⁽²⁾	712,530	22,916	3.22	495,708	15,900	3.21	216,822	7,016	1
Loans and leases held for sale	208,678	16,606	7.96	479,401	39,648	8.27	(270,723)	(23,042)	(31)
Loans and leases: ⁽³⁾									
Consumer real estate:									
Fixed-rate	1,934,395	109,185	5.64	2,285,647	130,753	5.72	(351,252)	(21,568)	(8)
Variable- and adjustable-rate	2,961,449	171,671	5.80	2,948,482	156,919	5.32	12,967	14,752	48
Total consumer real estate	4,895,844	280,856	5.74	5,234,129	287,672	5.50	(338,285)	(6,816)	24
Commercial:									
Fixed-rate	977,698	47,587	4.87	972,107	47,445	4.88	5,591	142	(1)
Variable- and adjustable-rate	2,455,578	111,886	4.56	2,154,774	85,996	3.99	300,804	25,890	57
Total commercial	3,433,276	159,473	4.64	3,126,881	133,441	4.27	306,395	26,032	37
Leasing and equipment finance	4,399,138	202,508	4.60	4,106,718	183,029	4.46	292,420	19,479	14
Inventory finance	2,646,500	164,386	6.21	2,414,684	140,453	5.82	231,816	23,933	39
Auto finance	3,105,326	152,974	4.93	2,693,041	110,651	4.11	412,285	42,323	82
Other	11,149	571	5.11	9,538	548	5.74	1,611	23	(63)
Total loans and leases	18,491,233	960,768	5.20	17,584,991	855,794	4.87	906,242	104,974	33
Total interest-earning assets	20,688,480	1,033,599	5.00	19,790,288	941,543	4.76	898,192	92,056	24
Other assets ⁽⁴⁾	1,363,487			1,285,127			78,360		
Total assets	\$22,051,967			\$21,075,415			\$ 976,552		
Liabilities and Equity:									
Non-interest bearing deposits	\$ 3,492,233			\$ 3,248,510			\$ 243,723		
Interest-bearing deposits:									
Checking	2,541,407	379	0.01	2,452,206	346	0.01	89,201	33	—
Savings	4,888,280	4,255	0.09	4,677,517	1,510	0.03	210,763	2,745	6
Money market	2,140,553	10,139	0.47	2,488,977	15,114	0.61	(348,424)	(4,975)	(14)
Certificates of deposit	4,495,062	51,239	1.14	4,229,247	44,818	1.06	265,815	6,421	8
Total interest-bearing deposits	14,065,302	66,012	0.47	13,847,947	61,788	0.45	217,355	4,224	2
Total deposits	17,557,535	66,012	0.38	17,096,457	61,788	0.36	461,078	4,224	2
Borrowings:									
Short-term borrowings	5,267	58	1.10	7,051	51	0.73	(1,784)	7	37
Long-term borrowings	1,239,433	27,749	2.24	890,846	20,785	2.33	348,587	6,964	(9)
Total borrowings	1,244,700	27,807	2.23	897,897	20,836	2.32	346,803	6,971	(9)
Total interest-bearing liabilities	15,310,002	93,819	0.61	14,745,844	82,624	0.56	564,158	11,195	5
Total deposits and borrowings	18,802,235	93,819	0.50	17,994,354	82,624	0.46	807,881	11,195	4
Accrued expenses and other liabilities	713,794			686,360			27,434		
Total liabilities	19,516,029			18,680,714			835,315		
Total TCF Financial Corp. stockholders' equity	2,513,424			2,373,176			140,248		
Non-controlling interest in subsidiaries	22,514			21,525			989		
Total equity	2,535,938			2,394,701			141,237		
Total liabilities and equity	\$22,051,967			\$21,075,415			\$ 976,552		
Net interest income and margin		\$ 939,780	4.54		\$858,919	4.34		\$ 80,861	20

(1) Interest and yields are presented on a fully tax-equivalent basis.

(2) The yield on tax-exempt debt securities available for sale is computed on a tax-equivalent basis using a statutory federal income tax rate of 35% for all periods presented.

(3) Average balances of loans and leases include non-accrual loans and leases and are presented net of unearned income.

(4) Includes leased equipment and related initial direct costs under operating leases of \$224.7 million and \$140.3 million for 2017 and 2016, respectively.

The components of the changes in net interest income on a fully tax-equivalent basis by volume and rate were as follows:

(In thousands)	Year Ended					
	December 31, 2018			December 31, 2017		
	Versus December 31, 2017			Versus December 31, 2016		
	Increase (Decrease) Due to			Increase (Decrease) Due to		
	Volume ⁽¹⁾	Rate ⁽¹⁾	Total	Volume ⁽¹⁾	Rate ⁽¹⁾	Total
Interest income:						
Investments and other	\$ 1,384	\$ 89	\$ 1,473	\$ (1,166)	\$ 2,343	\$ 1,177
Debt securities held to maturity	(396)	(70)	(466)	(530)	317	(213)
Debt securities available for sale:						
Taxable	14,890	4,164	19,054	2,318	(174)	2,144
Tax-exempt	3,052	(4,274)	(1,222)	6,974	42	7,016
Loans and leases held for sale	(7,212)	(2,775)	(9,987)	(21,553)	(1,489)	(23,042)
Loans and leases:						
Consumer real estate:						
Fixed-rate	(7,966)	(3,369)	(11,335)	(19,589)	(1,979)	(21,568)
Variable- and adjustable-rate	3,873	20,747	24,620	715	14,037	14,752
Total consumer real estate	(4,575)	17,860	13,285	(18,630)	11,814	(6,816)
Commercial:						
Fixed-rate	(4,770)	(3,028)	(7,798)	360	(218)	142
Variable- and adjustable-rate	18,617	22,565	41,182	13,001	12,889	25,890
Total commercial	13,374	20,010	33,384	13,913	12,119	26,032
Leasing and equipment finance	11,581	16,329	27,910	13,326	6,153	19,479
Inventory finance	28,730	21,146	49,876	14,284	9,649	23,933
Auto finance	(28,060)	11,778	(16,282)	18,588	23,735	42,323
Other	113	(105)	8	88	(65)	23
Total loans and leases	17,671	90,510	108,181	46,284	58,690	104,974
Total interest income	47,218	69,815	117,033	44,754	47,302	92,056
Interest expense:						
Deposits:						
Checking	(16)	351	335	14	19	33
Savings	730	15,024	15,754	72	2,673	2,745
Money market	(3,298)	4,741	1,443	(1,924)	(3,051)	(4,975)
Certificates of deposit	4,923	18,646	23,569	2,979	3,442	6,421
Total deposits	3,124	37,977	41,101	1,768	2,456	4,224
Borrowings:						
Short-term borrowings	(28)	47	19	(15)	22	7
Long-term borrowings	4,257	11,061	15,318	7,862	(898)	6,964
Total borrowings	4,195	11,142	15,337	7,801	(830)	6,971
Total interest expense	3,921	52,517	56,438	3,310	7,885	11,195
Net interest income	\$ 42,362	\$ 18,233	\$ 60,595	\$ 40,815	\$ 40,046	\$ 80,861

(1) Changes attributable to the combined impact of volume and rate have been allocated proportionately to the change due to volume and the change due to rate. Changes due to volume and rate are calculated independently for each line item presented.

Provision for Credit Losses The provision for credit losses was \$46.8 million for 2018, compared with \$68.4 million and \$65.9 million for 2017 and 2016, respectively. The decrease in 2018 was primarily due to run-off in and maturation of the auto finance portfolio, partially offset by a decrease in recoveries on previous charge-offs related to the consumer real estate non-accrual loan sales. The recoveries on previous charge-offs related to the consumer real estate non-accrual loan sales were \$6.6 million for 2018, compared with \$13.3 million for 2017. The increase in 2017 was primarily due to increased provision for credit losses attributable to the auto finance, commercial and leasing and equipment finance portfolios, partially offset by a decrease in provision for credit losses attributable to the consumer real estate portfolio.

The provision for credit losses is predominantly a function of TCF's reserving methodology used to determine the appropriate level of the allowance for loan and lease losses, which is a critical accounting estimate. TCF's evaluation of incurred losses is based on historical loss rates multiplied by the respective portfolio's loss emergence period. Factors utilized in the determination and allocation of the allowance for loan and lease losses and the related provision for credit losses include historical trends in loss rates, a portfolio's overall risk characteristics, changes in its character or size, risk rating migration, delinquencies, collateral values, economic outlook and prevailing economic conditions.

For further information, see "Consolidated Financial Condition Analysis — Credit Quality" in this Management's Discussion and Analysis and Note 7. Allowance for Loan and Lease Losses and Credit Quality Information of Notes to Consolidated Financial Statements.

Non-interest Income The components of non-interest income were as follows:

(Dollars in thousands)	Year Ended December 31,			Change	
	2018	2017	2016	2018 / 2017	2017 / 2016
Leasing and equipment finance	\$ 185,107	\$ 145,039	\$ 119,166	27.6%	21.7%
Fees and service charges	132,201	131,887	137,664	0.2	(4.2)
Card revenue	58,864	55,732	54,882	5.6	1.5
ATM revenue	19,690	19,624	20,445	0.3	(4.0)
Gains on sales of loans, net	33,498	42,787	85,259	(21.7)	(49.8)
Servicing fee income	27,334	41,347	40,182	(33.9)	2.9
Gains (losses) on debt securities, net	348	237	(581)	46.8	N.M.
Other	13,843	11,646	8,883	18.9	31.1
Total non-interest income	\$ 470,885	\$ 448,299	\$ 465,900	5.0	(3.8)
Total non-interest income as a percentage of total revenue	32.2%	32.6%	35.5%		

N.M. Not Meaningful

Leasing and Equipment Finance Leasing and equipment finance non-interest income was \$185.1 million for 2018, compared with \$145.0 million and \$119.2 million for 2017 and 2016, respectively. The increase in 2018 was primarily due to increases in operating lease revenue and sales-type lease revenue. The increase in 2017 was primarily due to an increase in operating lease revenue, mainly driven by the acquisition of Equipment Financing & Leasing Corporation ("EFLC") in the second quarter of 2017 and portfolio growth.

Fees and Service Charges Fees and service charges were \$132.2 million for 2018, compared with \$131.9 million and \$137.7 million for 2017 and 2016, respectively. The decrease in 2017 was primarily due to ongoing consumer behavior changes, as well as higher average checking account balances per customer.

Gains on Sales of Loans, Net Net gains on sales of loans were \$33.5 million for 2018, compared with \$42.8 million and \$85.3 million for 2017 and 2016, respectively. The decreases in both periods were primarily due to the strategic shift executed in 2017 to no longer sell auto finance loans and decreased volume of consumer real estate loans sold. TCF sold \$1.0 billion of consumer real estate loans in 2018, compared with \$1.3 billion and \$1.6 billion in 2017 and 2016, respectively. TCF did not sell any auto finance loans in 2018, compared with \$424.7 million and \$2.1 billion in 2017 and 2016, respectively. See Note 6. Loans and Leases of Notes to Consolidated Financial Statements for further information.

Servicing Fee Income Servicing fee income was \$27.3 million on \$4.0 billion of average loans and leases serviced for others for 2018, compared with \$41.3 million on \$5.2 billion of average loans and leases serviced for others for 2017 and \$40.2 million on \$4.9 billion of average loans and leases serviced for others for 2016. The decrease in 2018 was primarily due to continued run-off in the auto finance serviced for others portfolio.

Non-interest Expense The components of non-interest expense were as follows:

(Dollars in thousands)	Year Ended December 31,			Change	
	2018	2017	2016	2018 / 2017	2017 / 2016
Compensation and employee benefits	\$ 497,063	\$ 482,512	\$ 475,964	3.0 %	1.4 %
Occupancy and equipment	165,812	156,909	149,980	5.7	4.6
Operating lease depreciation	73,829	55,901	40,359	32.1	38.5
Foreclosed real estate and repossessed assets, net	17,050	17,756	13,187	(4.0)	34.6
Other	260,646	346,856	230,397	(24.9)	50.5
Total non-interest expense	\$ 1,014,400	\$ 1,059,934	\$ 909,887	(4.3)	16.5
Efficiency ratio	69.34%	77.17%	69.25%	(783) bps	792 bps
Adjusted efficiency ratio ⁽¹⁾	67.15	77.17	69.25	(1,002)	792

(1) See "Consolidated Financial Condition Analysis - Non-GAAP Financial Measures" in this Management's Discussion and Analysis for further information.

Compensation and Employee Benefits Compensation and employee benefits expense was \$497.1 million for 2018, compared with \$482.5 million and \$476.0 million for 2017 and 2016, respectively. The increase in 2018 was primarily due to higher salaries, higher medical claims expense, including a large medical claim of \$7.4 million, and higher incentive compensation, partially offset by lower headcount in the auto finance business. The increase in 2017 was primarily due to higher enterprise services contract labor utilization, higher incentive compensation and one-time employee bonuses, partially offset by reduced headcount in auto finance resulting in lower salaries and commissions.

Occupancy and Equipment Occupancy and equipment expense was \$165.8 million for 2018, compared with \$156.9 million and \$150.0 million for 2017 and 2016, respectively. The increase in 2018 was primarily due to increased software maintenance expense and software depreciation expense. The increase in 2017 was primarily due to increased software maintenance expense and ATM expenses, partially offset by lower repairs and maintenance. Depreciation and amortization expense related to premises and equipment was \$48.6 million, \$45.9 million and \$44.9 million for 2018, 2017 and 2016, respectively.

Operating Lease Depreciation Operating lease depreciation was \$73.8 million for 2018, compared with \$55.9 million and \$40.4 million for 2017 and 2016, respectively. The increases in both periods were primarily due to higher balances of leased equipment.

Foreclosed Real Estate and Repossessed Assets, Net Net foreclosed real estate and repossessed assets expense was \$17.1 million for 2018, compared with \$17.8 million and \$13.2 million for 2017 and 2016, respectively. The increase in 2017 was due to higher repossessed assets expense primarily attributable to auto finance and lower gains on sales of commercial properties, partially offset by lower operating costs associated with maintaining fewer consumer properties.

Other Non-interest Expense Other non-interest expense was \$260.6 million for 2018, compared with \$346.9 million and \$230.4 million for 2017 and 2016, respectively. The decrease in 2018 was primarily due to charges related to the discontinuation of auto finance loan originations in 2017, as well as decreases in professional fees, loan and lease processing expense and charitable contributions, partially offset by the settlement with the CFPB and the OCC of \$32.0 million, including related expenses. The increase in 2017 was primarily due to charges related to the discontinuation of auto finance loan originations, including goodwill and other intangible assets impairment charges of \$73.4 million and severance, asset impairment and lease termination expenses of \$14.8 million, as well as increases in professional fees, charitable contributions, outside processing expense, advertising and marketing expense, and card processing expense, partially offset by decreases in loan and lease processing expense and branch realignment expense. See Note 23. Other Non-interest Expense of Notes to Consolidated Financial Statements for further information.

Income Taxes Income tax expense was \$86.1 million for 2018, compared with income tax benefit of \$33.6 million and income tax expense of \$116.5 million for 2017 and 2016, respectively. Income tax expense was 21.4% of income before income taxes for 2018. Income tax expense for 2018 was primarily impacted by the change in the corporate statutory tax rate as a result of the Tax Cuts and Jobs Act, enacted on December 22, 2017 ("Tax Reform"). Income tax expense for 2018 was also impacted by a net tax benefit of \$1.1 million recorded in the second quarter of 2018 for the finalization of the provisional amounts recorded in 2017 related to Tax Reform. Income tax benefit for 2017 was impacted by an estimated net tax benefit of \$130.7 million primarily resulting from the re-measurement of the Company's estimated net deferred tax liability as a result of the enactment of Tax Reform. See Note 2. Summary of Significant Accounting Policies and Note 14. Income Taxes of Notes to Consolidated Financial Statements for further information.

Reportable Segment Results The Company's reportable segments are Consumer Banking, Wholesale Banking and Enterprise Services. See Note 24. Business Segments of Notes to Consolidated Financial Statements for further information regarding net income (loss), revenues and assets for each of TCF's reportable segments.

Consumer Banking

Consumer Banking is comprised of all of the Company's consumer-facing businesses and includes retail banking, consumer real estate and other, and auto finance. TCF's consumer banking strategy is primarily to generate deposits and originate high credit quality secured consumer real estate loans for investment and for sale. Effective December 1, 2017, the Company discontinued auto finance loan originations. TCF continues to service existing auto loans on its balance sheet and those that are serviced for others. Deposits are generated from consumers and small businesses to provide a source of low cost funds, with a focus on building and maintaining quality customer relationships.

Consumer Banking generated net income available to common stockholders of \$102.9 million for 2018, compared with \$23.1 million and \$124.0 million for 2017 and 2016, respectively.

Consumer Banking net interest income was \$556.1 million for 2018, compared with \$574.6 million and \$559.9 million for 2017 and 2016, respectively. Consumer Banking net interest income was 56.1% of the Company's total net interest income for 2018, compared with 62.1% and 66.0% for 2017 and 2016, respectively. The decrease in 2018 was primarily due to lower average balances of auto finance loans, increased interest expense on deposits and decreased interest income on the fixed-rate consumer real estate loans, partially offset by increased interest income on the variable- and adjustable-rate consumer real estate loans, higher net funds transfer pricing credits and lower interest expense on inter-company borrowings. The increase in 2017 was primarily due to an increase in interest income on loans primarily due to higher average yields on auto finance loans and an increase in funds transfer pricing credits driven by deposits, partially offset by a decrease in interest income on consumer real estate loans and an increase in total interest expense due to an increase in interest expense on inter-company borrowings and an increase in funds transfer charges.

Consumer Banking provision for credit losses was \$24.9 million for 2018, compared with \$48.2 million and \$50.8 million for 2017 and 2016, respectively. The decrease in 2018 was primarily due to run-off in and maturation of the auto finance portfolio, partially offset by a decrease in recoveries on previous charge-offs related to the consumer real estate non-accrual loan sales. The recoveries on previous charge-offs related to the consumer real estate non-accrual loan sales were \$6.6 million for 2018, compared with \$13.3 million for 2017. The decrease in 2017 was primarily due to a decrease in the provision for credit losses attributable to the consumer real estate portfolio, partially offset by an increase in the provision for credit losses attributable to the auto finance portfolio. The provision for credit losses is predominantly a function of TCF's reserving methodology used to determine the appropriate level of the allowance for loan and lease losses. For further information, see "Consolidated Income Statement Analysis — Provision for Credit Losses" and "Consolidated Financial Condition Analysis — Credit Quality" in this Management's Discussion and Analysis and Note 7. Allowance for Loan and Lease Losses and Credit Quality Information of Notes to Consolidated Financial Statements.

Consumer Banking non-interest income was \$269.2 million for 2018, compared with \$290.0 million and \$337.0 million for 2017 and 2016, respectively. Consumer Banking non-interest income was 57.2% of the Company's total non-interest income for 2018, compared with 64.7% and 72.3% for 2017 and 2016, respectively. The decrease in non-interest income in 2018 was primarily due to decreased servicing fee income due to continued run-off in the auto finance serviced for others portfolio and decreased gains on sales of loans primarily due to the strategic shift executed in 2017 to no longer sell auto finance loans and decreased volume of consumer real estate loans sold. Servicing fee income attributable to the Consumer Banking segment was \$26.0 million for 2018, compared with \$40.0 million for 2017. Average Consumer Banking loans serviced for others were \$3.6 billion for 2018, compared with \$4.8 billion for 2017. The decrease in 2017 was primarily due to a decrease in net gains on sales of loans as a result of the strategic shift executed in 2017 to no longer sell auto finance loans and decreased volume of consumer real estate loans sold. The decrease was also due to a decrease in fees and service charges as a result of ongoing consumer behavior changes and higher average checking account balances per customer.

Consumer Banking non-interest expense was \$666.7 million for 2018, compared with \$743.7 million and \$652.5 million for 2017 and 2016, respectively. The decrease in 2018 was primarily due to charges related to the discontinuation of auto finance loan originations in 2017, as well as a decrease in compensation and employee benefits expense as a result of lower headcount in the auto finance business and a decrease in loan processing expense. These decreases were partially offset by the settlement with the CFPB and the OCC of \$32.0 million, including related expenses and higher allocations of other non-interest expense from the Enterprise Services segment. The increase in 2017 was primarily due to charges related to the discontinuation of auto finance loan originations, including goodwill and other intangible asset impairment charges and severance, asset impairment and lease termination expenses, as well as increases in occupancy and equipment expense, allocation expense from Enterprise Services, advertising and marketing expense, net foreclosed real estate and repossessed assets expense and card processing expense. These increases were partially offset by a decrease in compensation and employee benefits expense attributable to reduced headcount in auto finance resulting in lower salaries and commissions, a decrease in branch realignment expense and a decrease in loan processing expense.

Wholesale Banking

Wholesale Banking is comprised of commercial banking, leasing and equipment finance, and inventory finance. TCF's wholesale banking strategy is primarily to originate high credit quality secured loans and leases for investment.

Wholesale Banking generated net income available to common stockholders of \$181.6 million for 2018, compared with \$278.4 million and \$130.0 million for 2017 and 2016, respectively.

Wholesale Banking net interest income was \$379.7 million for 2018, compared with \$359.3 million and \$343.7 million for 2017 and 2016, respectively. Wholesale Banking net interest income was 38.3% of the Company's total net interest income for 2018, compared with 38.8% and 40.5% for 2017 and 2016, respectively. The increase in net interest income in 2018 was primarily due to increased interest income on the variable- and adjustable-rate wholesale loan portfolios and the leasing and equipment finance portfolio, partially offset by an increase in net funds transfer pricing charges and higher interest expense on inter-company borrowings driven by increases in interest rates and higher average balances of loans and leases. The increase in 2017 was primarily due to increased interest income on loans and leases due to higher average balances and increased average yields on commercial and inventory finance loans and higher average balances of leasing and equipment finance loans and leases, partially offset by an increase in net funds transfer pricing charges driven by an increase in loans and leases and higher interest expense on inter-company borrowings.

Wholesale Banking provision for credit losses was \$21.8 million for 2018, compared with \$20.2 million and \$15.1 million for 2017 and 2016, respectively. The increase in 2017 was primarily due to increased provision for credit losses attributable to the commercial and leasing and equipment finance portfolios, partially offset by a decrease in the provision for credit losses attributable to the inventory finance portfolio. The provision for credit losses is predominantly a function of TCF's reserving methodology used to determine the appropriate level of the allowance for loan and lease losses. For further information, see "Consolidated Income Statement Analysis — Provision for Credit Losses" and "Consolidated Financial Condition Analysis — Credit Quality" in this Management's Discussion and Analysis and Note 7. Allowance for Loan and Lease Losses and Credit Quality Information of Notes to Consolidated Financial Statements.

Wholesale Banking non-interest income was \$200.5 million for 2018, compared with \$158.0 million and \$128.9 million for 2017 and 2016, respectively. Wholesale Banking non-interest income was 42.6% of the Company's total non-interest income for 2018, compared with 35.2% and 27.7% for 2017 and 2016, respectively. The increase in non-interest income for 2018 was primarily due to an increase in leasing and equipment finance non-interest income as a result of increased operating lease revenue and sales-type lease revenue. The increase in 2017 was primarily due to an increase in leasing and equipment finance non-interest income due to an increase in operating lease revenue, mainly driven by the acquisition of EFLC in the second quarter of 2017 and portfolio growth.

Wholesale Banking non-interest expense was \$311.9 million for 2018, compared with \$277.4 million and \$247.1 million for 2017 and 2016, respectively. The increase in 2018 was primarily due to an increase in operating lease depreciation as a result of higher balances of leased equipment, higher allocations of other non-interest expense from the Enterprise Services segment and an increase in compensation and employee benefits expense. The increase in 2017 was primarily due to an increase in operating lease depreciation primarily attributable to higher balances of leased equipment resulting in part from the acquisition of EFLC and an increase in occupancy and equipment expense.

Enterprise Services

Enterprise Services is comprised of (i) corporate treasury, which includes the Company's investment and borrowing portfolios and management of capital, debt and market risks, (ii) corporate functions, such as information technology, risk and credit management, bank operations, finance, investor relations, corporate development, internal audit, legal and human capital management that provide services to the operating segments, (iii) the Holding Company and (iv) eliminations. The Company's investment portfolio accounts for the earning assets within this segment. Borrowings may be used to offset reductions in deposits or to support lending activities. This segment also includes residual revenues and expenses representing the difference between actual amounts incurred by Enterprise Services and amounts allocated to the operating segments, including interest rate risk residuals such as funds transfer pricing mismatches.

Enterprise Services generated net income available to common stockholders of \$4.9 million for 2018, compared with a net loss available to common shareholders of \$58.5 million and \$61.3 million for 2017 and 2016, respectively.

Enterprise Services net interest income was \$56.2 million for 2018, compared with net interest expense of \$8.7 million and \$55.4 million for 2017 and 2016, respectively. The increase in net interest income in 2018 was due to asset sensitivity of the funds transfer pricing mismatches as a result of rising interest rates, an increase in interest income attributable to higher average balances of debt securities available for sale and an increase in interest income on inter-company borrowings, partially offset by an increase in interest expense on deposits. The decrease in net interest expense in 2017 was primarily driven by a decrease in funds transfer pricing mismatches as a result of rising interest rates and an increase in interest income attributable to higher average balances of debt securities available for sale, partially offset by an increase in interest expense primarily due to higher average balances of long-term borrowings and higher interest expense on deposits.

Enterprise Services non-interest expense was \$35.7 million for 2018, compared with \$38.8 million and \$10.3 million for 2017 and 2016, respectively. The decrease in 2018 was primarily due to higher allocations of other non-interest expense to the Consumer Banking and Wholesale Banking segments and decreases in professional fees and charitable contributions, partially offset by an increase in compensation and employee benefits expense primarily driven by higher medical claims expense and an increase in occupancy and equipment expense. The increase in 2017 was primarily due to higher compensation and employee benefits expense due to higher contract labor utilization, higher incentive compensation and one-time employee bonuses, as well as higher professional fees related to strategic investments in technology capabilities and higher contribution expense related to the additional donation to TCF Foundation of \$5.0 million. These increases were partially offset by a decrease in occupancy and equipment expense.

Consolidated Financial Condition Analysis

Debt Securities Available for Sale and Debt Securities Held to Maturity Total debt securities available for sale were \$2.5 billion at December 31, 2018, compared with \$1.7 billion at December 31, 2017. TCF's debt securities available for sale portfolio consists primarily of fixed-rate mortgage-backed securities issued by the Federal National Mortgage Association (the "FNMA") and the Federal Home Loan Mortgage Corporation (the "FHLMC"), and obligations of states and political subdivisions. The increase in securities available for sale was primarily due to purchases of fixed-rate mortgage-backed debt securities, partially offset by sales of obligations of states and political subdivisions and proceeds from maturities of and principal collected on fixed-rate mortgage-backed securities. TCF may, from time to time, sell securities available for sale and utilize the proceeds to reduce borrowings, fund growth in loans and leases or for other corporate purposes. TCF sold \$251.3 million of obligations of states and political subdivisions during 2018. There were no sales of debt securities available for sale in 2017 and 2016.

Total debt securities held to maturity were \$148.9 million at December 31, 2018, compared with \$161.6 million at December 31, 2017. TCF's debt securities held to maturity portfolio consists primarily of fixed-rate mortgage-backed securities issued by the FNMA. The decrease in debt securities held to maturity was primarily due to proceeds from maturities of and principal collected on fixed-rate mortgage-backed securities.

The amortized cost, fair value and fully tax-equivalent yield of debt securities available for sale and debt securities held to maturity by final contractual maturity were as follows. The final contractual maturities do not consider possible prepayments and therefore expected maturities may differ because borrowers may have the right to prepay.

(Dollars in thousands)	At December 31,								
	2018			2017			2016		
	Amortized Cost	Fair Value	Tax-equivalent Yield	Amortized Cost	Fair Value	Tax-equivalent Yield	Amortized Cost	Fair Value	Tax-equivalent Yield
Debt securities available for sale:									
Mortgage-backed securities:									
Due in one year or less	\$ —	\$ —	—%	\$ 6	\$ 6	1.98%	\$ 1	\$ 1	8.02%
Due in 1-5 years	10,105	10,033	2.04	—	—	—	18	18	2.28
Due in 5-10 years	210,522	208,514	2.54	82,842	82,046	2.04	54,202	54,429	1.93
Due after 10 years	1,710,073	1,694,647	3.05	825,347	812,639	2.32	773,519	756,461	2.25
Obligations of states and political subdivisions:									
Due in 1-5 years	14,359	14,342	2.39	15,178	15,312	2.97	—	—	—
Due in 5-10 years	299,310	295,254	2.51	431,494	435,821	3.14	277,228	274,576	3.13
Due after 10 years	252,635	247,275	2.72	363,487	363,194	3.29	351,744	337,950	3.20
Total debt securities available for sale	\$2,497,004	\$2,470,065	2.90	\$1,718,354	\$1,709,018	2.72	\$1,456,712	\$1,423,435	2.63
Debt securities held to maturity:									
Mortgage-backed securities:									
Due in 5-10 years	\$ 30	\$ 32	6.50%	\$ —	\$ —	—%	\$ —	\$ —	—%
Due after 10 years	146,022	146,435	2.56	158,776	162,826	2.55	178,514	181,146	2.54
Other securities:									
Due in one year or less	—	—	—	1,000	1,000	3.00	—	—	—
Due in 1-5 years	2,400	2,400	2.92	1,400	1,400	3.21	1,400	1,400	2.86
Due in 5-10 years	400	400	3.00	400	400	3.00	1,400	1,400	3.36
Total debt securities held to maturity	\$ 148,852	\$ 149,267	2.57	\$ 161,576	\$ 165,626	2.56	\$ 181,314	\$ 183,946	2.55

See Note 5. Debt Securities Available for Sale and Debt Securities Held to Maturity of Notes to Consolidated Financial Statements for further information regarding TCF's debt securities available for sale and debt securities held to maturity.

Loans and Leases Information about loans and leases held in TCF's portfolio was as follows:

(Dollars in thousands)	At December 31,					Compound Annual Growth Rate	
	2018	2017	2016	2015	2014	1-Year 2018 / 2017	5-Year 2018 / 2013
	Consumer real estate:						
First mortgage lien	\$ 2,444,380	\$ 1,959,387	\$ 2,292,596	\$ 2,624,956	\$ 3,139,152	24.8%	(8.3)%
Junior lien	2,965,960	2,860,309	2,791,756	2,839,316	2,543,212	3.7	2.9
Total consumer real estate	5,410,340	4,819,696	5,084,352	5,464,272	5,682,364	12.3	(3.1)
Commercial:							
Commercial real estate	2,908,147	2,751,285	2,634,191	2,593,429	2,624,255	5.7	1.2
Commercial business	943,156	809,908	652,287	552,403	533,410	16.5	18.4
Total commercial	3,851,303	3,561,193	3,286,478	3,145,832	3,157,665	8.1	4.1
Leasing and equipment finance	4,699,740	4,761,661	4,336,310	4,012,248	3,745,322	(1.3)	6.5
Inventory finance	3,107,356	2,739,754	2,470,175	2,146,754	1,877,090	13.4	13.3
Auto finance	1,982,277	3,199,639	2,647,741	2,647,596	1,915,061	(38.0)	9.8
Other	21,295	22,517	18,771	19,297	24,144	(5.4)	(4.5)
Total loans and leases	\$ 19,072,311	\$ 19,104,460	\$ 17,843,827	\$ 17,435,999	\$ 16,401,646	(0.2)	3.8

(In thousands)	At December 31, 2018						
	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total
Geographic Distribution:							
California	\$ 1,329,099	\$ 218,714	\$ 654,381	\$ 130,913	\$ 320,379	\$ 2	\$ 2,653,488
Illinois	1,064,791	494,830	195,911	85,169	74,039	5,978	1,920,718
Minnesota	863,910	743,567	104,553	75,051	28,491	4,731	1,820,303
Michigan	392,431	558,991	138,816	140,492	31,892	5,651	1,268,273
Texas	41,680	167,867	452,670	163,134	182,478	9	1,007,838
Florida	214,223	151,013	257,472	147,102	120,567	34	890,411
Wisconsin	185,359	369,881	70,120	108,032	15,283	833	749,508
Colorado	263,066	191,169	89,886	39,799	29,613	3,500	617,033
New York	56,028	47,438	257,121	118,489	112,812	40	591,928
Other	999,753	907,833	2,478,810	2,099,175	1,066,723	517	7,552,811
Total	\$ 5,410,340	\$ 3,851,303	\$ 4,699,740	\$ 3,107,356	\$ 1,982,277	\$ 21,295	\$ 19,072,311

The contractual maturities of loans and leases outstanding were as follows:

	At December 31, 2018 ⁽¹⁾						
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total
Amounts due:							
Within 1 year	\$ 117,891	\$ 554,492	\$ 1,621,895	\$ 3,107,356	\$ 632,636	\$ 11,983	\$ 6,046,253
1 to 5 years	406,641	2,630,236	2,955,013	—	1,348,137	3,052	7,343,079
Over 5 years	4,885,808	666,575	122,832	—	1,504	6,260	5,682,979
Total	\$ 5,410,340	\$ 3,851,303	\$ 4,699,740	\$ 3,107,356	\$ 1,982,277	\$ 21,295	\$ 19,072,311
Amounts due after 1 year:							
Fixed-rate loans and leases	\$ 2,254,390	\$ 678,811	\$ 3,076,022	\$ —	\$ 1,349,641	\$ 9,165	\$ 7,368,029
Variable- and adjustable-rate loans and leases	3,038,059	2,618,000	1,823	—	—	147	5,658,029
Total after 1 year	\$ 5,292,449	\$ 3,296,811	\$ 3,077,845	\$ —	\$ 1,349,641	\$ 9,312	\$ 13,026,058

(1) This table does not include the effect of prepayments, which is an important consideration in management's interest-rate risk analysis. Company experience indicates that loans and leases remain outstanding for significantly shorter periods than their contractual terms.

Consumer Real Estate TCF's consumer real estate portfolio represented 28.4% of TCF's total loan and lease portfolio at December 31, 2018, compared with 25.2% at December 31, 2017. The consumer real estate portfolio is secured by mortgages on residential real estate and consisted of \$2.4 billion of first mortgage lien loans and \$3.0 billion of junior lien loans, compared with \$2.0 billion and \$2.9 billion, respectively, at December 31, 2017. The average loan size was \$126 thousand for first mortgage lien loans and \$51 thousand for junior lien loans at December 31, 2018, compared with \$99 thousand and \$48 thousand, respectively, at December 31, 2017. Loans are originated for investment and for sale. The increase in the consumer real estate portfolio was primarily due to loan purchases of \$950.4 million during the year. Consumer real estate originations were \$2.0 billion in 2018, compared with \$2.3 billion in 2017. TCF sold \$1.0 billion of consumer real estate loans in 2018, compared with \$1.3 billion in 2017. At December 31, 2018, 53.7% of the consumer real estate portfolio was in TCF's primary banking markets, compared with 61.5% at December 31, 2017. At December 31, 2018, 56.7% of the consumer real estate portfolio carried a variable or adjustable interest rate generally tied to the prime rate, compared with 62.2% at December 31, 2017. At December 31, 2018, 46.2% of TCF's consumer real estate loans consisted of closed-end loans, compared with 42.2% at December 31, 2017. TCF's closed-end consumer real estate loans require payments of principal and interest over a fixed term.

The average Fair Isaac Corporation ("FICO[®]") credit score at loan origination for the consumer real estate portfolio was 740 at December 31, 2018, compared with 738 at December 31, 2017. As part of TCF's credit risk monitoring, TCF obtains updated FICO score information quarterly. The average updated FICO score for the consumer real estate portfolio was 737 at December 31, 2018, compared with 736 at December 31, 2017.

TCF's consumer real estate underwriting standards are intended to produce adequately secured loans to customers with good credit scores at the origination date. Beginning in 2008, TCF generally has not made new loans in excess of 90% loan-to-value at origination. TCF also has not originated consumer real estate loans with multiple payment options or loans with "teaser" interest rates. At December 31, 2018, 77.4% of the consumer real estate portfolio had been originated since January 1, 2009 with net charge-offs of 0.01% in 2018.

The consumer real estate junior lien portfolio was comprised of \$2.8 billion of home equity lines of credit ("HELOCs") and \$164.8 million of amortizing consumer real estate junior lien mortgage loans at December 31, 2018, compared with \$2.7 billion and \$206.2 million, respectively, at December 31, 2017. At December 31, 2018, \$2.5 billion of the consumer real estate junior lien HELOCs had a 10-year interest-only draw period and a 20-year amortization repayment period, compared with \$2.3 billion at December 31, 2017. At December 31, 2018 and 2017, all of these loans were within the 10-year interest-only draw period and will not convert to amortizing loans until 2021 or later. At December 31, 2018, \$308.8 million of the consumer real estate junior lien HELOCs were interest-only revolving draw loans with no defined amortization period and original draw periods of five to 40 years, compared with \$400.4 million at December 31, 2017. As of December 31, 2018, 12.5% of these loans mature prior to 2021. Outstanding balances on consumer real estate lines of credit were 66.1% of total lines of credit at December 31, 2018, compared with 66.9% at December 31, 2017.

Commercial TCF's commercial portfolio represented 20.2% of TCF's total loan and lease portfolio at December 31, 2018, compared with 18.6% at December 31, 2017. The commercial portfolio consisted of \$2.9 billion of commercial real estate loans and \$943.2 million of commercial business loans at December 31, 2018, compared with \$2.8 billion and \$809.9 million, respectively, at December 31, 2017. The increase in the commercial portfolio was primarily due to originations outpacing payments. Total commercial originations were \$2.8 billion in 2018, compared with \$2.1 billion in 2017. At December 31, 2018, 68.6% of TCF's commercial real estate loans outstanding were secured by properties located in TCF's primary banking markets, compared with 74.7% at December 31, 2017. While commercial real estate collateral is generally located in TCF's primary banking markets, commercial real estate lending follows its strong, proven sponsors into other markets. With an emphasis on secured lending, essentially all of TCF's commercial loans were secured either by properties or other business assets at December 31, 2018 and 2017. At December 31, 2018, variable- and adjustable-rate loans represented 78.3% of total commercial loans outstanding, compared with 73.5% at December 31, 2017.

TCF's commercial real estate loan portfolio by property and loan type was as follows:

(In thousands)	At December 31,					
	2018			2017		
	Permanent	Construction and Development	Total	Permanent	Construction and Development	Total
Multi-family housing	\$ 846,422	\$ 185,187	\$ 1,031,609	\$ 791,201	\$ 178,517	\$ 969,718
Office buildings	388,547	34,937	423,484	305,853	56,177	362,030
Health care facilities	283,317	41,100	324,417	262,889	34,632	297,521
Warehouse/industrial buildings	284,040	31,066	315,106	309,804	4,795	314,599
Hotels and motels	252,404	44,231	296,635	199,336	41,176	240,512
Self-storage	233,261	43,040	276,301	246,369	44,676	291,045
Retail services ⁽¹⁾	187,732	2,050	189,782	251,903	5,052	256,955
Residential home builders	24,397	15,007	39,404	—	—	—
Other	10,463	946	11,409	18,397	508	18,905
Total	\$ 2,510,583	\$ 397,564	\$ 2,908,147	\$ 2,385,752	\$ 365,533	\$ 2,751,285

(1) Primarily retail strip shopping centers and malls, convenience stores, supermarkets, restaurants and automobile related businesses.

Leasing and Equipment Finance TCF's leasing and equipment finance portfolio represented 24.6% of TCF's total loan and lease portfolio at December 31, 2018, compared with 24.9% at December 31, 2017. The leasing and equipment finance portfolio consisted of \$2.5 billion of leases and \$2.2 billion of loans at December 31, 2018, compared with \$2.5 billion and \$2.3 billion, respectively, at December 31, 2017. Leasing and equipment finance originations (including operating lease originations) were \$2.1 billion in 2018, compared with \$2.0 billion in 2017. The uninstalled backlog of approved transactions was \$572.4 million at December 31, 2018, compared with \$506.4 million at December 31, 2017. The average loan and lease size was \$75 thousand at December 31, 2018, compared with \$77 thousand at December 31, 2017.

At December 31, 2018, \$93.0 million of TCF's lease portfolio was discounted with third-party financial institutions on a non-recourse basis, compared with \$119.5 million at December 31, 2017. These amounts are recorded in long-term borrowings. The leasing and equipment finance portfolio table below includes lease residuals, including those related to non-recourse debt. Lease residuals represent the estimated fair value of the leased equipment at the expiration of the initial term of the transaction and are reviewed on an ongoing basis. Any downward revisions in estimated fair value are recorded to expense in the periods in which they become known. At December 31, 2018, lease residuals totaled \$138.3 million, or 9.5% of original equipment value, including \$6.3 million related to non-recourse sales, compared with \$139.9 million, or 9.7% of original equipment value, including \$6.2 million related to non-recourse sales at December 31, 2017. See Note 2. Summary of Significant Accounting Policies of Notes to Consolidated Financial Statements for further information on lease accounting.

TCF's leasing and equipment finance portfolio by equipment type was as follows:

(Dollars in thousands)	At December 31,			
	2018		2017	
	Balance	Percent of Total	Balance	Percent of Total
Specialty vehicles	\$ 1,396,113	29.7%	\$ 1,403,142	29.5%
Construction equipment	556,905	11.9	548,575	11.5
Golf cart and turf equipment	428,578	9.1	431,888	9.1
Manufacturing equipment	421,978	9.0	472,902	9.9
Medical equipment	353,540	7.5	335,636	7.1
Trucks and trailers	339,863	7.2	367,206	7.7
Furniture and fixtures	307,075	6.5	334,732	7.0
Technology and data processing equipment	297,292	6.3	290,999	6.1
Agricultural equipment	144,903	3.1	148,269	3.1
Other	453,493	9.7	428,312	9.0
Total	\$ 4,699,740	100.0%	\$ 4,761,661	100.0%

Inventory Finance TCF's inventory finance portfolio represented 16.3% of TCF's total loan and lease portfolio at December 31, 2018, compared with 14.3% at December 31, 2017. The inventory finance portfolio consisted of \$3.1 billion of loans at December 31, 2018, compared with \$2.7 billion at December 31, 2017. The increase was primarily due to the addition of new exclusive programs driving strong originations, as well as growth with existing customers resulting from new manufacturer products and increased customer sales. Inventory finance originations were \$8.9 billion in 2018, compared with \$7.4 billion in 2017. Origination levels are impacted by the velocity of fundings and repayments with dealers. TCF's inventory finance customers included more than 10,800 active dealers at December 31, 2018, compared with more than 10,900 active dealers at December 31, 2017.

TCF's inventory finance portfolio by marketing segment was as follows:

(Dollars in thousands)	At December 31,			
	2018		2017	
	Balance	Percent of Total	Balance	Percent of Total
Powersports	\$ 1,275,128	41.0%	\$ 1,187,049	43.3%
Lawn and garden	667,429	21.5	606,173	22.1
Other	1,164,799	37.5	946,532	34.6
Total	\$ 3,107,356	100.0%	\$ 2,739,754	100.0%

Auto Finance TCF's auto finance portfolio represented 10.4% of TCF's total loan and lease portfolio at December 31, 2018, compared with 16.7% at December 31, 2017. The auto finance portfolio consisted of \$2.0 billion of loans at December 31, 2018, compared with \$3.2 billion at December 31, 2017. The decrease was due to run-off as a result of the discontinuation of auto finance loan originations effective December 1, 2017. There were no auto finance originations in 2018, compared with \$2.2 billion in 2017. TCF did not sell any auto finance loans in 2018, compared with \$424.7 million in 2017. The auto finance portfolio consisted of 20.7% new auto loans and 79.3% used auto loans at December 31, 2018, compared with 19.9% and 80.1%, respectively, at December 31, 2017.

Credit Quality The following summarizes TCF's loan and lease portfolio based on the credit quality factors that TCF believes are the most important and should be considered to understand the overall condition of the portfolio. The following items should be considered throughout this section:

- Loans and leases that are over 60-days delinquent have a higher potential to become non-accrual and generally are a leading indicator for future charge-off trends.
- Troubled debt restructuring ("TDR") loans are loans to financially troubled borrowers that have been modified such that TCF has granted a concession in terms to improve the likelihood of collection of all principal and modified interest owed.
- Non-accrual loans and leases have been charged down to the estimated fair value of the collateral less estimated selling costs, or reserved for expected loss upon workout.
- Within the performing loans and leases, TCF classifies customers within regulatory classification guidelines. Loans and leases that are "classified" are loans or leases that management has concerns regarding the ability of the borrowers to meet existing loan or lease terms and conditions, but may never become non-accrual or result in a loss.

Past Due Loans and Leases Over 60-day delinquent loans and leases by type, excluding non-accrual loans and leases, were as follows. Delinquent balances are determined based on the contractual terms of the loan or lease. See Note 7. Allowance for Loan and Lease Losses and Credit Quality Information of Notes to Consolidated Financial Statements for further information.

(Dollars in thousands)	60 Days or More Delinquent and Accruing					Percentage of Period-end Loans and Leases ⁽¹⁾				
	At December 31,					At December 31,				
	2018	2017	2016	2015	2014	2018	2017	2016	2015	2014
Consumer real estate:										
First mortgage lien	\$ 4,557	\$ 4,666	\$ 8,725	\$ 11,565	\$ 13,370	0.19%	0.25%	0.40%	0.46%	0.49%
Junior lien	1,213	1,268	1,404	1,519	2,091	0.04	0.04	0.05	0.05	0.08
Total consumer real estate	5,770	5,934	10,129	13,084	15,461	0.11	0.13	0.21	0.25	0.30
Commercial	1	1	—	1	—	—	—	—	—	—
Leasing and equipment finance	10,638	6,389	4,523	2,292	2,549	0.23	0.14	0.10	0.06	0.07
Inventory finance	310	208	55	118	75	0.01	0.01	—	0.01	—
Auto finance	11,657	9,077	6,102	3,573	4,263	0.59	0.28	0.23	0.14	0.22
Other	28	9	20	20	—	0.14	0.04	0.10	0.10	—
Subtotal	28,404	21,618	20,829	19,088	22,348	0.15	0.11	0.12	0.11	0.14
Portfolios acquired with deteriorated credit quality	178	1,561	—	1	88	4.65	13.18	—	0.43	0.03
Total	\$ 28,582	\$ 23,179	\$ 20,829	\$ 19,089	\$ 22,436	0.15	0.12	0.12	0.11	0.14

(1) Excludes non-accrual loans and leases

Loan Modifications TDR loans were as follows:

(Dollars in thousands)	At December 31,				
	2018	2017	2016	2015	2014
Accruing TDR Loans:					
Consumer real estate	\$ 80,739	\$ 88,092	\$ 98,606	\$ 106,787	\$ 111,933
Commercial	4,174	12,249	20,304	24,731	80,375
Leasing and equipment finance	8,491	10,263	4,802	2,904	924
Inventory finance	—	—	—	51	527
Auto finance	5,054	3,464	2,323	799	—
Other	1	3	6	11	89
Total	\$ 98,459	\$ 114,071	\$ 126,041	\$ 135,283	\$ 193,848
Non-accrual TDR Loans:					
Consumer real estate	\$ 16,192	\$ 34,282	\$ 71,961	\$ 79,055	\$ 87,685
Commercial	3,946	83	2,170	7,016	11,265
Leasing and equipment finance	1,754	1,413	1,350	641	1,953
Inventory finance	453	476	357	172	37
Auto finance	6,362	5,351	5,504	8,440	3,676
Other	—	1	—	—	—
Total	\$ 28,707	\$ 41,606	\$ 81,342	\$ 95,324	\$ 104,616
Total TDR loans:					
Consumer real estate	\$ 96,931	\$ 122,374	\$ 170,567	\$ 185,842	\$ 199,618
Commercial	8,120	12,332	22,474	31,747	91,640
Leasing and equipment finance	10,245	11,676	6,152	3,545	2,877
Inventory finance	453	476	357	223	564
Auto finance	11,416	8,815	7,827	9,239	3,676
Other	1	4	6	11	89
Total	\$ 127,166	\$ 155,677	\$ 207,383	\$ 230,607	\$ 298,464
Over 60-day delinquency as a percentage of total accruing TDR loans	0.51%	0.36%	1.19%	1.54%	1.39%

Total TDR loans were \$127.2 million at December 31, 2018, compared with \$155.7 million at December 31, 2017. Accruing TDR loans were \$98.5 million at December 31, 2018, compared with \$114.1 million at December 31, 2017. The decrease in accruing TDR loans was primarily due to decreases in commercial and consumer real estate accruing TDR loans driven by payments received outpacing additions. Non-accrual TDR loans were \$28.7 million at December 31, 2018, compared with \$41.6 million at December 31, 2017. The decrease in non-accrual TDR loans was primarily due to a decrease in consumer real estate non-accrual TDR loans driven by the non-accrual loan sale in the third quarter of 2018, partially offset by an increase in commercial non-accrual TDR loans.

Loan modifications to borrowers who have not been granted concessions are not considered TDR loans and therefore are not included in the table above. TDR loans are no longer disclosed as TDR loans in the calendar years after modification if the loans were modified to an interest rate equal to or greater than the yields of new loan originations with comparable risk at the time of restructuring and if the loan is performing based on the restructured terms; however, these loans are still considered impaired and follow TCF's impaired loan reserve policies.

TCF modifies loans through reductions in interest rates, extension of payment dates, term extensions or term extensions with a reduction of contractual payments, but generally not through reductions of principal.

TCF typically reduces a consumer real estate customer's contractual payments by reducing the interest rate by an amount appropriate for the borrower's financial condition. Loans discharged in Chapter 7 bankruptcy where the borrower did not reaffirm the debt are reported as non-accrual TDR loans upon discharge as a result of the removal of the borrower's personal liability on the loan. These loans may return to accrual status when TCF expects full repayment of the remaining pre-discharged contractual principal and interest. At December 31, 2018, 83.3% of total consumer real estate TDR loans were accruing and TCF recognized more than 61% of the original contractual interest due on accruing consumer real estate TDR loans in 2018 by modifying the loans to qualified customers instead of foreclosing on the property. At December 31, 2018, collection of principal and interest under the modified terms was reasonably assured on all accruing consumer real estate TDR loans. TDR loans for the remaining classes of financing receivables were not material at December 31, 2018.

See Note 7. Allowance for Loan and Lease Losses and Credit Quality Information of Notes to Consolidated Financial Statements for further information regarding TCF's loan modifications.

Non-performing Assets Non-performing assets, consisting of non-accrual loans and leases and other real estate owned, were as follows:

(Dollars in thousands)	At December 31,				
	2018	2017	2016	2015	2014
Non-accrual loans and leases:					
Consumer real estate	\$ 58,765	\$ 83,224	\$ 152,471	\$ 168,269	\$ 173,271
Commercial	15,025	6,785	5,919	10,325	25,035
Leasing and equipment finance	15,264	17,089	10,880	11,262	12,670
Inventory finance	8,283	4,116	5,134	1,098	2,082
Auto finance	8,578	7,366	7,038	9,509	3,676
Other	3	2	3	3	—
Total non-accrual loans and leases	105,918	118,582	181,445	200,466	216,734
Other real estate owned:					
Consumer real estate	13,519	17,907	34,070	42,912	44,932
Commercial real estate	3,884	318	12,727	7,070	20,718
Total other real estate owned	17,403	18,225	46,797	49,982	65,650
Total non-performing assets	\$ 123,321	\$ 136,807	\$ 228,242	\$ 250,448	\$ 282,384
Non-accrual loans and leases as a percentage of total loans and leases	0.56%	0.62%	1.02%	1.15%	1.32%
Non-performing assets as a percentage of total loans and leases and other real estate owned	0.65	0.72	1.28	1.43	1.71
Allowance for loan and lease losses as a percentage of non-accrual loans and leases	148.65	144.24	88.33	77.85	75.75

Non-performing assets were \$123.3 million at December 31, 2018, compared with \$136.8 million at December 31, 2017. The decrease was primarily due to the \$34.7 million sale of consumer real estate non-accrual loans in the third quarter of 2018, partially offset by increases in commercial and inventory finance non-accrual loans. See Note 2. Summary of Significant Accounting Policies and Note 7. Allowance for Loan and Lease Losses and Credit Quality Information of Notes to Consolidated Financial Statements for further information.

Loans and leases are generally placed on non-accrual status when the collection of interest or principal is 90 days or more past due unless, in the case of commercial loans, they are well secured and in process of collection. Delinquent consumer real estate junior lien loans are also placed on non-accrual status when there is evidence that the related third-party first lien mortgage may be 90 days or more past due, or foreclosure, charge-off or collection action has been initiated. TDR loans are placed on non-accrual status prior to the past due thresholds outlined above if repayment under the modified terms is not likely after performing a well-documented credit analysis. Loans on non-accrual status are generally reported as non-accrual loans until there is sustained repayment performance for six consecutive months, with the exception of loans not reaffirmed upon discharge under Chapter 7 bankruptcy, which remain on non-accrual status until a well-documented credit analysis indicates full repayment of the remaining pre-discharged contractual principal and interest is likely. For purposes of this disclosure, purchased credit impaired loans have been excluded.

Most of TCF's non-accrual loans and past due loans are secured by real estate. Given the nature of these assets and the related mortgage foreclosure, property sale and, if applicable, mortgage insurance claims processes, it can take 18 months or longer for a loan to migrate from initial delinquency to final disposition. This resolution process generally takes much longer for loans secured by real estate than for unsecured loans or loans secured by other property primarily due to state real estate foreclosure laws.

Changes in the amount of non-accrual loans and leases were as follows:

At or For the Year Ended December 31, 2018							
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total
Balance, beginning of period	\$ 83,224	\$ 6,785	\$ 17,089	\$ 4,116	\$ 7,366	\$ 2	\$ 118,582
Additions	54,922	19,037	30,170	21,714	12,492	101	138,436
Charge-offs	(7,119)	(3,521)	(7,702)	(3,504)	(2,609)	(76)	(24,531)
Transfers to other assets	(17,666)	—	(8,581)	(6,014)	(1,912)	—	(34,173)
Return to accrual status	(6,289)	—	(2,502)	(2,188)	—	—	(10,979)
Payments received	(12,265)	(9,836)	(12,797)	(5,779)	(6,759)	(24)	(47,460)
Sales	(35,786)	—	—	—	—	—	(35,786)
Other, net	(256)	2,560	(413)	(62)	—	—	1,829
Balance, end of period	\$ 58,765	\$ 15,025	\$ 15,264	\$ 8,283	\$ 8,578	\$ 3	\$ 105,918

At or For the Year Ended December 31, 2017							
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total
Balance, beginning of period	\$ 152,471	\$ 5,919	\$ 10,880	\$ 5,134	\$ 7,038	\$ 3	\$ 181,445
Additions	64,540	16,726	28,779	9,950	9,730	81	129,806
(Charge-offs) recoveries	(7,313)	(5,428)	(8,175)	(1,588)	(2,281)	2	(24,783)
Transfers to other assets	(26,830)	(100)	(5,951)	(1,858)	(1,776)	—	(36,515)
Return to accrual status	(8,111)	—	(292)	(3,011)	—	—	(11,414)
Payments received	(20,576)	(6,088)	(8,152)	(4,539)	(5,345)	(84)	(44,784)
Sales	(72,448)	(4,284)	—	—	—	—	(76,732)
Other, net	1,491	40	—	28	—	—	1,559
Balance, end of period	\$ 83,224	\$ 6,785	\$ 17,089	\$ 4,116	\$ 7,366	\$ 2	\$ 118,582

Loan and Lease Credit Classifications TCF assesses the risk of its loan and lease portfolio utilizing numerous risk characteristics as outlined in the previous sections. Loan and lease credit classifications are an additional characteristic monitored in the overall credit risk process. Loan and lease credit classifications are derived from standard regulatory rating definitions, which include: non-classified (pass and special mention) and classified (substandard and doubtful). Classified loans and leases have well-defined weaknesses, but may never result in a loss.

Loans and leases by portfolio and regulatory classification were as follows:

(In thousands)	At December 31, 2018				
	Non-classified		Classified		Total
	Pass	Special Mention	Substandard	Doubtful	
Consumer real estate	\$ 5,338,036	\$ 7,353	\$ 64,951	\$ —	\$ 5,410,340
Commercial	3,753,229	42,315	55,759	—	3,851,303
Leasing and equipment finance	4,621,229	42,236	36,275	—	4,699,740
Inventory finance	2,931,221	111,804	64,331	—	3,107,356
Auto finance	1,960,580	1,302	20,395	—	1,982,277
Other	21,264	—	31	—	21,295
Total loans and leases	\$ 18,625,559	\$ 205,010	\$ 241,742	\$ —	\$ 19,072,311

(In thousands)	At December 31, 2017				
	Non-classified		Classified		Total
	Pass	Special Mention	Substandard	Doubtful	
Consumer real estate	\$ 4,706,493	\$ 22,075	\$ 91,128	\$ —	\$ 4,819,696
Commercial	3,452,837	42,729	65,627	—	3,561,193
Leasing and equipment finance	4,681,488	40,252	39,921	—	4,761,661
Inventory finance	2,553,028	116,312	70,414	—	2,739,754
Auto finance	3,180,807	551	18,281	—	3,199,639
Other	22,507	—	10	—	22,517
Total loans and leases	\$ 18,597,160	\$ 221,919	\$ 285,381	\$ —	\$ 19,104,460

Total classified loans and leases were \$241.7 million at December 31, 2018, compared with \$285.4 million at December 31, 2017. The decrease was primarily due to the \$34.7 million sale of consumer real estate non-accrual loans in the third quarter of 2018 and decreases in classified commercial and inventory finance loans.

Allowance for Loan and Lease Losses The determination of the allowance for loan and lease losses is a critical accounting estimate. TCF's evaluation of incurred losses is based on historical loss rates multiplied by the respective portfolio's loss emergence period. Factors utilized in the determination of the amount of the allowance include historical trends in loss rates, a portfolio's overall risk characteristics, changes in its character or size, risk rating migration, delinquencies, collateral values, economic outlook and prevailing economic conditions. The various factors used in the methodologies are reviewed on a periodic basis.

The Company considers the allowance for loan and lease losses of \$157.4 million appropriate to cover losses incurred in the loan and lease portfolios at December 31, 2018. However, no assurance can be given that TCF will not, in any particular period, sustain loan and lease losses that are sizable in relation to the amount reserved or will not require significant changes in the balance of the allowance for loan and lease losses due to subsequent evaluations of the loan and lease portfolios, in light of factors then prevailing, including economic conditions, information obtained during TCF's ongoing credit review process or regulatory requirements. Among other factors, an economic slowdown, increasing levels of unemployment, a decline in collateral values and/or rising interest rates may have an adverse impact on the current adequacy of the allowance for loan and lease losses by increasing credit risk and the risk of potential loss.

The total allowance for loan and lease losses is expected to absorb losses from any segment of the portfolio. The allocation of TCF's allowance for loan and lease losses disclosed in the following table is subject to change based on changes in the criteria used to evaluate the allowance and is not necessarily indicative of the trend of future losses in any particular portfolio.

In conjunction with Note 7. Allowance for Loan and Lease Losses and Credit Quality Information of Notes to Consolidated Financial Statements, detailed information regarding TCF's allowance for loan and lease losses was as follows:

(Dollars in thousands)	Credit Loss Reserves					Credit Loss Reserves as a Percentage of Portfolio				
	At December 31,					At December 31,				
	2018	2017	2016	2015	2014	2018	2017	2016	2015	2014
Consumer real estate:										
First mortgage lien	\$ 21,436	\$ 26,698	\$ 33,828	\$ 36,888	\$ 55,319	0.88%	1.36%	1.48%	1.41%	1.76%
Junior lien	23,430	20,470	25,620	31,104	30,042	0.79	0.72	0.92	1.10	1.18
Consumer real estate	44,866	47,168	59,448	67,992	85,361	0.83	0.98	1.17	1.24	1.50
Commercial:										
Commercial real estate	22,877	24,842	22,785	22,215	24,616	0.79	0.90	0.86	0.86	0.94
Commercial business	18,305	12,353	9,910	7,970	6,751	1.94	1.53	1.52	1.44	1.27
Total commercial	41,182	37,195	32,695	30,185	31,367	1.07	1.04	0.99	0.96	0.99
Leasing and equipment finance										
Leasing and equipment finance	23,791	22,528	21,350	19,018	18,446	0.51	0.47	0.49	0.47	0.49
Inventory finance	12,456	13,233	13,932	11,128	10,020	0.40	0.48	0.56	0.52	0.53
Auto finance	34,329	50,225	32,310	26,486	18,230	1.73	1.57	1.22	1.00	0.95
Other	822	692	534	1,245	745	3.86	3.07	2.84	6.45	3.09
Total allowance for loan and lease losses	157,446	171,041	160,269	156,054	164,169	0.83	0.90	0.90	0.90	1.00
Other credit loss reserves:										
Reserves for unfunded commitments	1,429	1,479	1,115	1,044	943	N.A.	N.A.	N.A.	N.A.	N.A.
Total credit loss reserves	\$ 158,875	\$ 172,520	\$ 161,384	\$ 157,098	\$ 165,112	0.83	0.90	0.90	0.90	1.01

N.A. Not Applicable

Reconciliations of changes in the allowance for loan and lease losses were as follows:

(Dollars in thousands)	Year Ended December 31,				
	2018	2017	2016	2015	2014
Balance, beginning of period	\$ 171,041	\$ 160,269	\$ 156,054	\$ 164,169	\$ 252,230
Charge-offs:					
Consumer real estate:					
First mortgage lien	(3,585)	(6,077)	(10,413)	(19,448)	(43,632)
Junior lien	(3,544)	(5,784)	(8,211)	(14,239)	(19,494)
Total consumer real estate	(7,129)	(11,861)	(18,624)	(33,687)	(63,126)
Commercial:					
Commercial real estate	—	(3,608)	(752)	(5,225)	(8,646)
Commercial business	(3,585)	(1,823)	(1)	(24)	(11)
Total commercial	(3,585)	(5,431)	(753)	(5,249)	(8,657)
Leasing and equipment finance	(9,695)	(10,816)	(7,738)	(7,631)	(7,316)
Inventory finance	(6,928)	(3,014)	(2,623)	(2,501)	(1,653)
Auto finance	(49,833)	(41,101)	(26,994)	(18,386)	(11,856)
Other	(7,558)	(6,869)	(7,353)	(7,093)	(8,359)
Total charge-offs	(84,728)	(79,092)	(64,085)	(74,547)	(100,967)
Recoveries:					
Consumer real estate:					
First mortgage lien	5,679	6,231	1,206	1,578	1,513
Junior lien	6,072	14,550	5,859	5,850	5,354
Total consumer real estate	11,751	20,781	7,065	7,428	6,867
Commercial:					
Commercial real estate	182	776	308	2,032	754
Commercial business	46	57	65	1,737	2,133
Total commercial	228	833	373	3,769	2,887
Leasing and equipment finance	2,252	2,065	2,386	2,792	3,705
Inventory finance	736	838	816	1,019	826
Auto finance	11,289	6,625	3,853	2,971	1,491
Other	3,447	3,510	4,357	5,034	5,860
Total recoveries	29,703	34,652	18,850	23,013	21,636
Net charge-offs	(55,025)	(44,440)	(45,235)	(51,534)	(79,331)
Provision for credit losses	46,768	68,443	65,874	52,944	95,737
Other ⁽¹⁾	(5,338)	(13,231)	(16,424)	(9,525)	(104,467)
Balance, end of period	\$ 157,446	\$ 171,041	\$ 160,269	\$ 156,054	\$ 164,169
Net charge-offs as a percentage of average loans and leases	0.29%	0.24%	0.26%	0.30%	0.49%

(1) Primarily includes the transfer of the allowance for loan and lease losses to loans and leases held for sale.

Net loan and lease charge-offs for 2018 were \$55.0 million, or 0.29% of average loans and leases, compared with \$44.4 million, or 0.24% of average loans and leases, for 2017 and \$45.2 million, or 0.26% of average loans and leases, for 2016. The increase in net loan and lease charge-offs in 2018 was primarily due to a decrease in recoveries in the consumer real estate portfolio and increased net charge-offs in the auto finance and inventory finance portfolios, partially offset by lower charge-offs in the consumer real estate portfolio. The decrease in net loan and lease charge-offs in 2017 was primarily due to the recovery of \$13.3 million on previous charge-offs related to the consumer real estate non-accrual loans that were sold in the first and third quarters of 2017, partially offset by increased net charge-offs in the auto finance, commercial, and leasing and equipment finance portfolios.

Liquidity Management TCF manages its liquidity to ensure that its funding needs are met both promptly and in a cost-effective manner. Asset liquidity arises from liquid assets that can be sold or pledged as collateral, amortization, prepayment or maturity of assets and from the ability of TCF to sell loans. Liability liquidity results from the ability of TCF to maintain a diverse set of funding sources to promptly meet funding requirements.

ALCO and the Finance Committee of TCF Financial's Board of Directors have adopted a Liquidity Management Policy for TCF Bank to direct management of the Company's liquidity risk and a Holding Company Investment and Liquidity Management Policy, which establishes a minimum target amount of cash or liquid investments TCF Financial will hold. See "Item 7A. Quantitative and Qualitative Disclosures about Market Risk" for further information.

TCF Bank had \$208.4 million of net liquidity qualifying interest-bearing deposits at the Federal Reserve Bank at December 31, 2018, compared with \$242.6 million at December 31, 2017. Certain debt securities held to maturity and debt securities available for sale provide the ability to liquidate or pledge unencumbered securities as needed. At December 31, 2018, the balance of these securities was \$2.6 billion, of which \$1.6 million was pledged as collateral to secure certain deposits and borrowings.

TCF Financial had net liquidity qualifying cash of \$90.4 million at December 31, 2018, compared with \$79.8 million at December 31, 2017.

Deposits are the primary source of TCF's funds for use in lending and for other general business purposes. In addition to deposits, TCF receives funds from loan and lease repayments, loan sales and borrowings. Borrowings may be used to compensate for reductions in normal sources of funds, such as deposit inflows at less than projected levels, net deposit outflows or to fund balance sheet growth. TCF primarily borrows from the Federal Home Loan Bank (the "FHLB") of Des Moines. TCF had \$1.2 billion of additional borrowing capacity at the FHLB of Des Moines at December 31, 2018, as well as access to the Federal Reserve Discount Window. In addition, TCF maintains a diversified set of unsecured and uncommitted funding sources, including access to overnight federal funds purchased lines, brokered deposits and capital markets. Lending activities, such as loan originations, loan purchases and equipment purchases for lease financing, are the primary uses of TCF's funds.

TCF Commercial Finance Canada, Inc. ("TCFCFC") maintains a \$20.0 million Canadian dollar-denominated line of credit facility with a counterparty, which is guaranteed by TCF Bank. TCFCFC had no outstanding borrowings under the line of credit with the counterparty at December 31, 2018 and 2017.

Deposits Deposits were \$18.9 billion at December 31, 2018, compared with \$18.3 billion at December 31, 2017.

Non-interest bearing checking accounts represented 20.7% of total deposits at December 31, 2018, compared with 20.0% of total deposits at December 31, 2017. TCF's weighted-average interest rate for deposits, including non-interest bearing deposits, was 0.58% for 2018 compared with 0.38% for 2017.

Certificates of deposit were \$4.8 billion at December 31, 2018, compared with \$5.0 billion at December 31, 2017. The maturities of certificates of deposit with denominations equal to or greater than \$100,000 at December 31, 2018 were as follows:

(In thousands)	
Three months or less	\$ 549,273
Over three through six months	258,607
Over six through 12 months	1,013,156
Over 12 months	407,739
Total	\$ 2,228,775

Borrowings Borrowings were \$1.4 billion at December 31, 2018, compared with \$1.2 billion at December 31, 2017. TCF primarily borrows from the FHLB of Des Moines.

See Note 12. Short-term Borrowings and Note 13. Long-term Borrowings of Notes to Consolidated Financial Statements and "Consolidated Financial Condition Analysis — Liquidity Management" in this Management's Discussion and Analysis for further information regarding TCF's borrowings.

Contractual Obligations and Commitments As discussed further in Note 8. Premises and Equipment, Net; Note 10. Investments in Affordable Housing Limited Liability Entities; Note 11. Deposits; Note 13. Long-term Borrowings and Note 19. Financial Instruments with Off-Balance Sheet Risk of Notes to Consolidated Financial Statements, TCF has certain obligations and commitments to make future payments under contracts.

At December 31, 2018, the aggregate contractual obligations and commitments were as follows:

(In thousands)	Payments Due by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Contractual Obligations:					
Certificates of deposit	\$ 4,790,680	\$ 3,891,081	\$ 872,625	\$ 11,220	\$ 15,754
Long-term borrowings	1,453,637	41,672	1,145,214	115,625	151,126
Contractual interest payments ⁽¹⁾	202,661	117,745	59,693	17,075	8,148
Annual rental commitments under non-cancelable operating leases	123,909	26,309	42,304	22,848	32,448
Investments in affordable housing limited liability entities	57,815	23,697	33,615	133	370
Campus marketing agreement	23,302	2,742	5,484	5,484	9,592
Liabilities related to acquisition and portfolio purchase	6,703	1,000	4,853	850	—
Total	\$ 6,658,707	\$ 4,104,246	\$ 2,163,788	\$ 173,235	\$ 217,438

(1) Includes accrued interest and future contractual interest obligations on borrowings and time deposits.

(In thousands)	Amount of Commitment - Expiration by Period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Commitments:					
Commitments to extend credit:					
Consumer real estate and other	\$ 1,627,960	\$ 37,920	\$ 17,993	\$ 10,090	\$ 1,561,957
Commercial	1,127,368	152,593	694,439	233,953	46,383
Leasing and equipment finance	153,339	153,339	—	—	—
Total commitments to extend credit	2,908,667	343,852	712,432	244,043	1,608,340
Standby letters of credit and guarantees on industrial revenue bonds	20,662	19,621	482	559	—
Total	\$ 2,929,329	\$ 363,473	\$ 712,914	\$ 244,602	\$ 1,608,340

Unrecognized tax benefits, projected benefit obligations, demand deposits with indeterminate maturities and discretionary credit facilities that do not obligate the Company to lend have been excluded from the contractual obligations table above.

TCF's campus marketing agreement consists of fixed and minimum obligations for exclusive marketing rights and naming rights with one university. TCF is obligated to make annual payments for the exclusive marketing rights through 2023, with a renewal option to extend the terms through 2029. TCF is obligated to make annual payments for the exclusive naming rights through 2030 and TCF has the option to extend the terms through 2040 upon making a renewal option payment.

Liabilities related to acquisition and portfolio purchase consist of liabilities related to TCF's acquisition of EFLC and a leasing and equipment finance loan and lease portfolio purchase in 2017. See Note 9. Goodwill and Other Intangible Assets for further information.

Capital Management TCF is committed to managing capital to maintain protection for stockholders, depositors and creditors. TCF employs a variety of capital management tools to achieve its capital goals, including, but not limited to, dividends, public offerings of preferred and common stock, common stock repurchases, redemption of preferred stock and the issuance or redemption of subordinated debt and other capital instruments. TCF maintains a Capital Planning and Dividend Policy which applies to TCF Financial and incorporates TCF Bank's Capital Planning and Dividend Policy. These policies ensure that capital strategy actions, including the addition of new capital, if needed, common stock repurchases, redemption of preferred stock or the declaration of preferred stock, common stock and bank dividends are prudent, efficient and provide value to TCF's stockholders, while ensuring that past and prospective earnings retention is consistent with TCF's capital needs for growth, as well as asset quality and overall financial condition. TCF and TCF Bank manage their capital levels to exceed all regulatory capital requirements, which were achieved at December 31, 2018 and 2017. See Note 16. Regulatory Capital Requirements of Notes to Consolidated Financial Statements for further information.

Equity Total equity was \$2.6 billion, or 10.8% of total assets, at December 31, 2018, compared with \$2.7 billion, or 11.7%, at December 31, 2017.

Preferred Stock Preferred stock was \$169.3 million at December 31, 2018, compared with \$265.8 million at December 31, 2017. The decrease was due to the redemption of all 4,000,000 shares of the outstanding 6.45% Series B non-cumulative perpetual preferred stock on March 1, 2018. See Note 15. Equity of Notes to Consolidated Financial Statements for further information regarding TCF's preferred stock.

Treasury Stock and Other Treasury stock and other was \$252.2 million at December 31, 2018, compared with \$40.8 million at December 31, 2017. The increase was primarily due to repurchases of TCF common stock. See Note 15. Equity of Notes to Consolidated Financial Statements for further information.

Common Stock Dividends Dividends to common stockholders on a per share basis were 15.0 cents for each quarter of 2018, compared with 7.5 cents for each quarter of 2017. TCF's common stock dividend payout ratio was 34.5% for 2018, compared with 20.8% for 2017. TCF Financial's primary funding sources for dividends are earnings and dividends received from TCF Bank.

Common Stockholders' Equity Total common stockholders' equity was \$2.4 billion, or 9.99% of total assets, at December 31, 2018, compared with \$2.4 billion, or 10.42%, at December 31, 2017. Tangible common equity was \$2.2 billion, or 9.32% of total tangible assets, at December 31, 2018, compared with \$2.2 billion, or 9.72%, at December 31, 2017. Book value per common share was \$14.45 at December 31, 2018, compared with \$13.96 at December 31, 2017. Tangible book value per common share was \$13.38 at December 31, 2018, compared with \$12.92 at December 31, 2017. See "Consolidated Financial Condition Analysis — Non-GAAP Financial Measures" in this Management's Discussion and Analysis for further information.

Non-GAAP Financial Measures This report contains the following financial measures that are not recognized under generally accepted accounting principles in the United States ("GAAP") (i.e. non-GAAP): tangible book value per common share, adjusted ROACE, ROATCE, adjusted ROATCE, adjusted efficiency ratio and tangible common equity to tangible assets. The adjusted ROACE, adjusted ROATCE and adjusted efficiency ratios are adjusted for the settlement with the CFPB and the OCC of \$32.0 million, including related expenses. Management uses these non-GAAP financial measures internally to measure performance and believes that these non-GAAP financial measures provide meaningful information to investors that will permit them to assess the ability of the Company's capital levels to withstand unexpected market or economic conditions and to assess the performance of the Company in relation to other banking institutions on the same basis as that applied by management, analysts and banking regulators.

These non-GAAP financial measures are not defined by GAAP and other entities may calculate them differently than TCF does. Non-GAAP financial measures have inherent limitations and are not required to be uniformly applied. Although these non-GAAP financial measures are frequently used by stakeholders in the evaluation of a company, they have limitations as analytical tools and should not be considered in isolation or as a substitute for analyses of results as reported under GAAP. The following tables provide a reconciliation of each non-GAAP financial measure to the most directly comparable GAAP financial measure.

The computations of adjusted ROACE, ROATCE and adjusted ROATCE were as follows:

(Dollars in thousands)		For the Year Ended December 31,				
		2018	2017	2016	2015	2014
Net income available to common stockholders	(a)	\$ 289,289	\$ 242,954	\$ 192,736	\$ 177,735	\$ 154,799
Plus: Goodwill impairment		—	73,041	—	—	—
Plus: Other intangibles amortization and impairment ⁽¹⁾		3,426	2,354	1,388	1,562	1,686
Less: Income tax expense attributable to other intangibles amortization and impairment		801	1,050	493	562	624
Adjusted net income available to common stockholders	(b)	\$ 291,914	\$ 317,299	\$ 193,631	\$ 178,735	\$ 155,861
Net income available to common stockholders adjusted for CFPB/OCC settlement:						
Net income available to common stockholders		\$ 289,289	\$ 242,954	\$ 192,736	\$ 177,735	\$ 154,799
Plus: CFPB/OCC settlement adjustment		32,000	—	—	—	—
Less: Income tax expense attributable to CFPB/OCC settlement adjustment		6,491	—	—	—	—
Net income available to common stockholders adjusted for CFPB/OCC settlement	(c)	314,798	242,954	192,736	177,735	154,799
Plus: Goodwill impairment		—	73,041	—	—	—
Plus: Other intangibles amortization and impairment ⁽¹⁾		3,426	2,354	1,388	1,562	1,686
Less: Income tax expense attributable to other intangibles amortization and impairment		801	1,050	493	562	624
Adjusted net income available to common stockholders adjusted for CFPB/OCC settlement	(d)	\$ 317,423	\$ 317,299	\$ 193,631	\$ 178,735	\$ 155,861
Average balances:						
Total equity		\$ 2,530,502	\$ 2,535,938	\$ 2,394,701	\$ 2,217,204	\$ 2,058,442
Less: Non-controlling interest in subsidiaries		24,323	22,514	21,525	19,514	17,014
Total TCF Financial Corporation stockholders' equity		2,506,179	2,513,424	2,373,176	2,197,690	2,041,428
Less: Preferred stock		176,971	264,474	263,240	263,240	263,240
Average total common stockholders' equity	(e)	2,329,208	2,248,950	2,109,936	1,934,450	1,778,188
Less:						
Goodwill, net		154,757	219,144	225,640	225,640	225,640
Other intangibles, net ⁽¹⁾		22,162	12,807	2,414	3,913	5,498
Average tangible common stockholders' equity	(f)	\$ 2,152,289	\$ 2,016,999	\$ 1,881,882	\$ 1,704,897	\$ 1,547,050
Average total common stockholders' equity adjusted for CFPB/OCC settlement:						
Average total common stockholders' equity		\$ 2,329,208	\$ 2,248,950	\$ 2,109,936	\$ 1,934,450	\$ 1,778,188
Plus: CFPB/OCC settlement adjustment to average total common stockholders' equity		1,048	—	—	—	—
Average total common stockholders' equity adjusted for CFPB/OCC settlement	(g)	2,330,256	2,248,950	2,109,936	1,934,450	1,778,188
Less:						
Goodwill, net		154,757	219,144	225,640	225,640	225,640
Other intangibles, net ⁽¹⁾		22,162	12,807	2,414	3,913	5,498
Adjusted average tangible common stockholders' equity	(h)	\$ 2,153,337	\$ 2,016,999	\$ 1,881,882	\$ 1,704,897	\$ 1,547,050
ROACE	(a) / (e)	12.42%	10.80%	9.13%	9.19%	8.71%
Adjusted ROACE	(c) / (g)	13.51	10.80	9.13	9.19	8.71
ROATCE	(b) / (f)	13.56	15.73	10.29	10.48	10.08
Adjusted ROATCE	(d) / (h)	14.74	15.73	10.29	10.48	10.08

(1) Includes non-mortgage servicing assets.

The computation of the adjusted efficiency ratio was as follows:

		For the Year Ended December 31,				
(Dollars in thousands)		2018	2017	2016	2015	2014
Non-interest expense	(a)	\$ 1,014,400	\$ 1,059,934	\$ 909,887	\$ 894,747	\$ 871,777
Less: CFPB/OCC settlement adjustment		32,000	—	—	—	—
Adjusted non-interest expense	(b)	\$ 982,400	\$ 1,059,934	\$ 909,887	\$ 894,747	\$ 871,777
Net interest income		\$ 992,007	\$ 925,238	\$ 848,106	\$ 820,388	\$ 815,629
Non-interest income		470,885	448,299	465,900	441,998	433,267
Total revenue	(c)	\$ 1,462,892	\$ 1,373,537	\$ 1,314,006	\$ 1,262,386	\$ 1,248,896
Efficiency ratio	(a) / (c)	69.34%	77.17%	69.25%	70.88%	69.80%
Adjusted efficiency ratio	(b) / (c)	67.15	77.17	69.25	70.88	69.80

The computations of the tangible common equity to tangible assets and tangible book value per common share were as follows:

		At December 31,				
(Dollars in thousands, except per share data)		2018	2017	2016	2015	2014
Total equity		\$ 2,556,260	\$ 2,680,584	\$ 2,444,645	\$ 2,306,917	\$ 2,135,364
Less: Non-controlling interest in subsidiaries		18,459	17,827	17,162	16,001	13,715
Total TCF Financial Corporation stockholders' equity		2,537,801	2,662,757	2,427,483	2,290,916	2,121,649
Less: Preferred stock		169,302	265,821	263,240	263,240	263,240
Total common stockholders' equity	(d)	2,368,499	2,396,936	2,164,243	2,027,676	1,858,409
Less:						
Goodwill, net		154,757	154,757	225,640	225,640	225,640
Other intangibles, net ⁽¹⁾		20,518	23,687	1,738	3,126	4,641
Tangible common stockholders' equity	(e)	\$ 2,193,224	\$ 2,218,492	\$ 1,936,865	\$ 1,798,910	\$ 1,628,128
Total assets	(f)	\$ 23,699,612	\$ 23,002,159	\$ 21,441,326	\$ 20,689,609	\$ 19,393,656
Less:						
Goodwill, net		154,757	154,757	225,640	225,640	225,640
Other intangibles, net ⁽¹⁾		20,518	23,687	1,738	3,126	4,641
Tangible assets	(g)	\$ 23,524,337	\$ 22,823,715	\$ 21,213,948	\$ 20,460,843	\$ 19,163,375
Common stock shares outstanding	(h)	163,923,227	171,669,419	170,991,940	169,844,464	167,461,002
Common equity to assets	(d) / (f)	9.99%	10.42%	10.09%	9.80%	9.58%
Tangible common equity to tangible assets	(e) / (g)	9.32	9.72	9.13	8.79	8.50
Book value per common share	(d) / (h)	\$ 14.45	\$ 13.96	\$ 12.66	\$ 11.94	\$ 11.10
Tangible book value per common share	(e) / (h)	13.38	12.92	11.33	10.59	9.72

(1) Includes non-mortgage servicing assets.

Critical Accounting Estimates

TCF's accounting policies are fundamental to the understanding of its financial condition and results of operations. Some of these policies require the use of estimates and assumptions that may affect the value of TCF's assets or liabilities and results of operations. The accounting policy for the allowance for loan and lease losses is critical because it requires management to make challenging, subjective and complex judgments about matters that are inherently uncertain and because materially different amounts would be reported if different estimates or assumptions were used. See Note 2. Summary of Significant Accounting Policies of Notes to Consolidated Financial Statements for further discussion of the accounting policy for the allowance for loan and lease losses.

Recent Accounting Developments

For a description of new accounting standards issued, but not yet adopted by the Company, see Note 2. Summary of Significant Accounting Policies of Notes to Consolidated Financial Statements.

Forward-looking Information

Any statements contained in this Annual Report on Form 10-K regarding the outlook for the Company's businesses and their respective markets, such as projections of future performance, targets, guidance, statements of the Company's plans and objectives, forecasts of market trends and other matters are forward-looking statements based on the Company's assumptions and beliefs. Such statements may be identified by such words or phrases as "will likely result," "are expected to," "will continue," "outlook," "will benefit," "is anticipated," "estimate," "project," "management believes" or similar expressions. These forward-looking statements are subject to certain risks and uncertainties that could cause actual results to differ materially from those discussed in such statements and no assurance can be given that the results in any forward-looking statement will be achieved. For these statements, TCF claims the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. Any forward-looking statement speaks only as of the date on which it is made and we disclaim any obligation to subsequently revise any forward-looking statement to reflect events or circumstances after such date or to reflect the occurrence of anticipated or unanticipated events.

Certain factors could cause the Company's future results to differ materially from those expressed or implied in any forward-looking statements contained herein. These factors include the factors discussed in Part I, Item 1A of this Annual Report on Form 10-K under the heading "Risk Factors", the factors discussed below and any other cautionary statements, written or oral, which may be made or referred to in connection with any such forward-looking statements. Since it is not possible to foresee all such factors, these factors should not be considered as complete or exhaustive: deterioration in general economic, political and banking industry conditions; cyber-security breaches, hacking, denial of service, security breaches, loss or theft of information, or other cyber-attacks that disrupt TCF's business operations or damage its reputation; fluctuation in interest rates that result in decreases in the value of assets or a mismatch between yields earned on TCF's interest-earning assets and the rates paid on its deposits and borrowings; lack of access to liquidity; inability to pay and receive dividends; adverse effects related to competition from traditional competitors, non-bank providers of financial services and new technologies; soundness of other financial institutions and other counterparty risk, including the risk of default, operational disruptions, security breaches, or diminished availability of counterparties who satisfy our credit quality requirements; adverse developments affecting TCF's branches, including its supermarket branches; risks related to developing new products, markets or lines of business; changes in the allowance for loan and lease losses dictated by new market conditions, regulatory requirements or accounting standards; new consumer protection and supervisory requirements or regulatory reform related to capital, leverage, liquidity or risk management; adverse changes in monetary, fiscal or tax policies; heightened regulatory practices or requirements related to enterprise risk management, the Bank Secrecy Act and anti-money laundering compliance activity; deficiencies in TCF's compliance programs or risk mitigation frameworks; the effect of any negative publicity or reputational damage; technological or operational difficulties; failure to keep pace with technological change, including with respect to customer demands or system upgrades; risks related to TCF's loan sales activity; dependence on accurate and complete information from customers and counterparties; the failure to attract and retain key employees; inability to successfully execute on TCF's growth strategy through acquisitions or expanding existing business relationships; changes in accounting standards or interpretations of existing standards; adverse federal, state or foreign tax assessments; litigation or government enforcement actions; ineffective internal controls; and the effects of man-made and natural disasters, any of which may negatively affect our operations and/or our customers.

This report also contains forward-looking statements regarding TCF's outlook or expectations with respect to the planned merger with Chemical. Examples of forward-looking statements include, but are not limited to, statements regarding the outlook and expectations of TCF and Chemical with respect to their planned merger, the strategic benefits and financial benefits of the merger, including the expected impact of the transaction on the combined company's future financial performance (including anticipated accretion to earnings per share, the tangible book value earn-back period and other operating and return metrics), and the timing of the closing of the transaction. Such risks, uncertainties and assumptions, include, among others, the following:

- the failure to obtain necessary regulatory approvals when expected or at all (and the risk that such approvals may result in the imposition of conditions that could adversely affect the combined company or the expected benefits of the transaction);
- the failure of either TCF or Chemical to obtain shareholder approval, or to satisfy any of the other closing conditions to the transaction on a timely basis or at all;
- the occurrence of any event, change or other circumstances that could give rise to the right of one or both of the parties to terminate the merger agreement;
- the possibility that the anticipated benefits of the transaction, including anticipated cost savings and strategic gains, are not realized when expected or at all, including as a result of the impact of, or problems arising from, the integration of the two companies or as a result of the strength of the economy, competitive factors in the areas where TCF and Chemical do business, or as a result of other unexpected factors or events;
- the impact of purchase accounting with respect to the transaction, or any change in the assumptions used regarding the assets purchased and liabilities assumed to determine their fair value;
- diversion of management's attention from ongoing business operations and opportunities;
- potential adverse reactions or changes to business or employee relationships, including those resulting from the announcement or completion of the transaction;
- the ability of either company to effectuate share repurchases and the prices at which such repurchases may be effectuated;
- the outcome of any legal proceedings that may be instituted against TCF or Chemical;
- the integration of the businesses and operations of TCF and Chemical, which may take longer than anticipated or be more costly than anticipated or have unanticipated adverse results relating to TCF's or Chemical's existing businesses;
- business disruptions following the merger; and
- other factors that may affect future results of TCF and Chemical including changes in asset quality and credit risk; the inability to sustain revenue and earnings growth; changes in interest rates and capital markets; inflation; customer borrowing, repayment, investment and deposit practices; the impact, extent and timing of technological changes; capital management activities; and other actions of the Federal Reserve Board and legislative and regulatory actions and reforms.

Additional factors that could cause results to differ materially from those described above can be found in the risk factors described in Part I, Item 1A of this Annual Report on Form 10-K under the heading "Risk Factors" and Chemical's Annual Report on Form 10-K filed with the SEC for the year ended December 31, 2017. Annualized, pro forma, projected and estimated numbers are used for illustrative purpose only, are not forecasts and may not reflect actual results. TCF and Chemical disclaim any obligation to update or revise any forward-looking statements contained in this communication, which speak only as of the date hereof, whether as a result of new information, future events or otherwise, except as required by law.

Important Additional Information and Where to Find It

In connection with the proposed merger, Chemical will file with the SEC a Registration Statement on Form S-4 that will include the Joint Proxy Statement of TCF and Chemical and a Prospectus of Chemical, as well as other relevant documents regarding the proposed transaction. A definitive Joint Proxy Statement/Prospectus will also be sent to TCF and Chemical shareholders. INVESTORS ARE URGED TO READ THE REGISTRATION STATEMENT AND THE JOINT PROXY STATEMENT/PROSPECTUS REGARDING THE MERGER WHEN IT BECOMES AVAILABLE AND ANY OTHER RELEVANT DOCUMENTS FILED WITH THE SEC, AS WELL AS ANY AMENDMENTS OR SUPPLEMENTS TO THOSE DOCUMENTS, BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION.

This Annual Report on Form 10-K does not constitute an offer to sell or the solicitation of an offer to buy any securities or a solicitation of any vote or approval, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of such jurisdiction.

A free copy of the Joint Proxy Statement/Prospectus once available, as well as other filings containing information about TCF and Chemical, may be obtained at the SEC's Internet site (<http://www.sec.gov>). You will also be able to obtain these documents, free of charge, from TCF by accessing TCF's website at <http://www.tcfbank.com> (which website is not incorporated herein by reference) or from Chemical by accessing Chemical's website at <http://www.chemicalbank.com> (which website is not incorporated herein by reference). Copies of the Joint Proxy Statement/Prospectus once available can also be obtained, free of charge, by directing a request to TCF Investor Relations at Investor Relations, TCF Financial Corporation, 200 Lake Street East, EXO-02C, Wayzata, MN 55391 by calling (952) 745-2760 or by sending an e-mail to investor@tcfbank.com, or to Chemical Investor Relations at Investor Relations, Chemical Financial Corporation, Chemical Financial Corporation, 333 W. Fort Street, Suite 1800, Detroit, MI 48226, Dennis L. Klaeser (800) 867-9757 or by sending an e-mail to dennis.klaeser@ChemicalBank.com.

Participants in Solicitation

TCF and Chemical and certain of their respective directors and executive officers may be deemed to be participants in the solicitation of proxies from TCF and Chemical shareholders in respect of the transaction described in the Joint Proxy Statement/Prospectus. Information regarding TCF's directors and executive officers is contained in this Annual Report on Form 10-K for the year ended December 31, 2018, its Proxy Statement on Schedule 14A, dated March 14, 2018, and certain of its Current Reports on Form 8-K, which are filed with the SEC. Information regarding Chemical's directors and executive officers is contained in Chemical's Annual Report on Form 10-K for the year ended December 31, 2017, its Proxy Statement on Schedule 14A, dated March 16, 2018, and certain of its Current Reports on Form 8-K, which are filed with the SEC. Additional information regarding the interests of those participants and other persons who may be deemed participants in the transaction may be obtained by reading the Joint Proxy Statement/Prospectus regarding the proposed merger when it becomes available.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

TCF's results of operations depend, to a large degree, on its net interest income and its ability to manage interest rate risk. Although TCF manages other risks in the normal course of business, such as credit risk, liquidity risk and foreign currency risk, the Company considers interest rate risk to be one of its more significant market risks.

Interest Rate Risk

TCF's ALCO and the Finance Committee of TCF Financial's Board of Directors have established interest rate risk policy limits. Interest rate risk is defined as the exposure of net interest income and fair value of financial instruments (interest-earning assets, deposits and borrowings) to movements in interest rates. Since TCF does not hold a trading portfolio, the Company is not exposed to market risk from trading activities. As such, the major sources of the Company's interest rate risk are timing differences in the maturity and repricing characteristics of assets and liabilities, changes in the shape of the yield curve, changes in consumer behavior and changes in relationships between rate indices (basis risk). Management measures these risks and their impact in various ways, including through the use of simulation and valuation analyses. The interest rate scenarios may include gradual or rapid changes in interest rates, spread narrowing and widening, yield curve twists and changes in assumptions about consumer behavior in various interest rate scenarios. A mismatch between maturities, interest rate sensitivities and prepayment characteristics of assets and liabilities results in interest rate risk. TCF, like most financial institutions, has material interest rate risk exposure to changes in both short- and long-term interest rates, as well as variable interest rate indices (e.g., the prime rate or London Interbank Offered Rate).

TCF's ALCO is responsible for reviewing the Company's interest rate sensitivity position and establishing policies to monitor and limit exposure to interest rate risk. ALCO manages TCF's interest rate risk based on interest rate expectations and other factors. The principal objective of TCF in managing its assets and liabilities is to provide maximum levels of net interest income and facilitate the funding needs of the Company, while maintaining acceptable levels of interest rate risk and liquidity risk.

ALCO primarily uses two interest rate risk tools with policy limits to evaluate TCF's interest rate risk: net interest income simulation and economic value of equity ("EVE") analysis. In addition, the interest rate gap is reviewed periodically to monitor asset and liability repricing over various time periods.

Management utilizes net interest income simulation models to estimate the near-term effects of changing interest rates on its net interest income. Net interest income simulation involves forecasting net interest income under a variety of scenarios, including the level of interest rates, the shape of the yield curve and the spreads between market interest rates. Management exercises its best judgment in making assumptions regarding events that management can influence, such as non-contractual deposit repricings and events outside management's control, including consumer behavior on loan and deposit activity and the effect that competition has on both loan and deposit pricing. These assumptions are subjective and, as a result, net interest income simulation results will differ from actual results due to the timing, magnitude and frequency of interest rate changes and changes in market conditions, consumer behavior and management strategies, among other factors. TCF performs various sensitivity analyses on new loan spreads, prepayment rates, basis risk and deposit assumptions.

The following table presents changes in TCF's net interest income over a twelve month period if short- and long-term interest rates were to sustain an immediate change. The impact of planned changes to interest-earning assets and new business activities is factored into the simulation model.

(Dollars in millions)	Impact on Net Interest Income	
	December 31, 2018	
Immediate change in interest rates:		
+200 basis points	\$ 63.9	6.2%
+100 basis points	36.5	3.5
-100 basis points	(71.8)	(7.0)

As of December 31, 2018, approximately 65% of TCF's loan and lease balances were expected to reprice, amortize or prepay in the next 12 months and approximately 59% of TCF's deposit balances were low or no cost deposits. TCF believes that the mix of assets repricing compared with low or no cost deposits positions TCF well for rising interest rates. Currently our interest rate risk profile is such that we project net interest income will benefit from a rising rate environment, as our assets reprice faster and to a greater degree than our liabilities. In a declining interest rate environment, our assets would reprice downward to a greater degree than our liabilities. Since 2016, management has taken steps to manage this interest rate risk position. While management continues to take action to advance TCF toward being less asset sensitive, the risk of lower net interest income as a result of a declining interest rate environment remains. Since deposit costs are already at a low level, management believes that lower interest rates are unlikely to impact our low or no cost deposits to the same degree as TCF's interest rate sensitive assets.

Management also uses EVE and interest rate gap analyses to measure risk in the balance sheet that might not be taken into account in the net interest income simulation analysis. Net interest income simulation highlights exposure over a relatively short time period, while EVE analysis incorporates all cash flows over the estimated remaining life of all balance sheet positions. The valuation of the balance sheet, at a point in time, is defined as the discounted present value of asset cash flows minus the discounted present value of liability cash flows. EVE analysis addresses only the current balance sheet and does not incorporate the planned changes to interest-earning assets that are used in the net interest income simulation model. As with the net interest income simulation model, EVE analysis is based on key assumptions about the timing and variability of balance sheet cash flows and does not take into account any potential responses by management to anticipated changes in interest rates.

Interest rate gap is primarily the difference between interest-earning assets and interest-bearing liabilities repricing within a given period and represents the net asset or liability sensitivity at a point in time. An interest rate gap measure could be significantly affected by external factors such as loan prepayments, early withdrawals of deposits, changes in the correlation of various interest-bearing instruments, competition, or a rise or decline in interest rates.

Credit Risk

Credit risk is defined as the risk to current or anticipated earnings or capital arising from an obligor's failures to meet the terms of any contract with the Company or otherwise fails to perform as agreed, such as the failure of customers and counterparties to meet their contractual obligations, as well as contingent exposures from unfunded loan commitments and letters of credit.

TCF's Enterprise Risk Management Committee meets at least quarterly and is responsible for monitoring the loan and lease portfolio composition and risk tolerance within the various segments of the portfolio. The Enterprise Risk Management Committee and the Board of Directors have adopted a Risk Appetite Statement to manage the Company's credit risk by setting (i) a desired balance between asset classes, (ii) concentration limits based on loan type, business line and geographic region and (iii) maximum tolerances for credit performance. To manage credit risk arising from lending and leasing activities, management has adopted and maintains underwriting policies and procedures and periodically reviews the appropriateness of these policies and procedures. Customers and guarantors or recourse providers are evaluated as part of initial underwriting processes and through periodic reviews. For consumer loans, credit scoring models are used to help determine eligibility for credit and terms of credit. These models are periodically reviewed to verify that they are predictive of borrower performance. Limits are established on the exposure to a single customer (including affiliates) and on concentrations for certain categories of customers. Loan and lease credit approval levels are established so that larger credit exposures receive managerial review at the appropriate level through the credit committees.

Management continuously monitors asset quality in order to manage the Company's credit risk and to determine the appropriateness of valuation allowances, including, in the case of commercial loans, inventory finance loans and equipment finance loans and leases, a risk rating methodology under which a rating of one through nine is assigned to each loan or lease. The rating reflects management's assessment of the potential impact on repayment of the customer's financial and operational condition. Asset quality is monitored separately based on the type or category of loan or lease. The rating process allows management to better define the Company's loan and lease portfolio risk profile. Management also uses various risk models to estimate probable impact on payment performance under various scenarios, both expected and unexpected.

The Company also has credit risk in its debt securities available for sale portfolio related to obligations of states and political subdivisions. The Company maintains a set of underwriting criteria and regularly monitors credit performance under the direction and supervision of the TCF Bank Credit Committee to manage this risk. The remainder of the debt securities available for sale portfolio and the debt securities held to maturity portfolio consist primarily of fixed-rate mortgage-backed securities issued and guaranteed by the FNMA and the FHLMC, and therefore credit risk is minimal. All investment related counterparties and transaction limits are reviewed and approved annually by both ALCO and the TCF Bank Credit Committee.

Liquidity Risk

Liquidity risk is defined as the risk to earnings or capital arising from the Company's inability to meet its obligations when they come due without incurring unacceptable losses.

ALCO and the Finance Committee of TCF Financial's Board of Directors have adopted a Holding Company Investment and Liquidity Management Policy, which establishes a minimum target amount of cash or liquid investments TCF Financial will hold. TCF Financial's primary source of cash flow is capital distributions from TCF Bank. TCF Bank may be required to receive regulatory approval prior to making any such distributions in the future and such distributions may be restricted by its federal banking regulators. TCF Bank's ability to make any such distributions will also depend on its earnings and ability to meet minimum regulatory capital requirements in effect during future periods. See "Item 1. Business - Regulation - Restrictions on Distributions", Note 16. Regulatory Capital Requirements and Note 25. Parent Company Financial Information of Notes to Consolidated Financial Statements for further information.

ALCO and the Finance Committee of TCF Financial's Board of Directors have adopted a Liquidity Management Policy for TCF Bank to direct management of the Company's liquidity risk. The objective of the Liquidity Management Policy is to ensure that TCF Bank meets its cash and collateral obligations promptly, in a cost-effective manner and with the highest degree of reliability. The maintenance of adequate levels of asset and liability liquidity will provide TCF with the ability to meet both expected and unexpected cash flows and collateral needs. Key liquidity ratios, asset liquidity levels and the amount available from funding sources are reported to ALCO on a monthly basis. TCF Bank's Liquidity Management Policy defines liquidity stress scenarios and establishes asset liquidity target ranges based on those stress scenarios that are deemed appropriate for its risk profile.

TCF's asset liquidity may be held in the form of on-balance sheet cash invested with the Federal Reserve Bank or other highly liquid marketable securities that are not pledged and can be sold or pledged to various counterparties under established agreements. TCF's liability liquidity is sourced primarily through deposits and other secured sources of funding. See "Item 7. Management's Discussion and Analysis - Consolidated Income Statement Analysis - Liquidity Management" for further information.

Foreign Currency Risk

The Company is also exposed to foreign currency risk as changes in the exchange rate of the Canadian dollar may impact the Company's investment in TCFFCF. TCF enters into forward foreign exchange contracts in order to minimize the risk of changes in foreign exchange rates on its investment in and loans to TCFFCF. The values of forward foreign exchange contracts vary over their contractual lives as the related currency exchange rates fluctuate. TCF may also experience realized and unrealized gains or losses on forward foreign exchange contracts as a result of changes in foreign exchange rates. See Note 2. Summary of Significant Accounting Policies and Note 20. Derivative Instruments of Notes to Consolidated Financial Statements for further information.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm



To the Stockholders and Board of Directors
TCF Financial Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated statements of financial condition of TCF Financial Corporation and subsidiaries (the Company) as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 26, 2019 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

KPMG LLP

We have served as the Company's auditor since 1991.

Minneapolis, Minnesota
February 26, 2019

TCF FINANCIAL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Financial Condition

(Dollars in thousands, except per share data)	At December 31,	
	2018	2017
Assets:		
Cash and due from banks	\$ 587,057	\$ 621,782
Investments	91,654	82,644
Debt securities held to maturity	148,852	161,576
Debt securities available for sale	2,470,065	1,709,018
Loans and leases held for sale	90,664	134,862
Loans and leases:		
Consumer real estate:		
First mortgage lien	2,444,380	1,959,387
Junior lien	2,965,960	2,860,309
Total consumer real estate	5,410,340	4,819,696
Commercial	3,851,303	3,561,193
Leasing and equipment finance	4,699,740	4,761,661
Inventory finance	3,107,356	2,739,754
Auto finance	1,982,277	3,199,639
Other	21,295	22,517
Total loans and leases	19,072,311	19,104,460
Allowance for loan and lease losses	(157,446)	(171,041)
Net loans and leases	18,914,865	18,933,419
Premises and equipment, net	427,534	421,549
Goodwill, net	154,757	154,757
Other assets	814,164	782,552
Total assets	\$ 23,699,612	\$ 23,002,159
Liabilities and Equity:		
Deposits:		
Checking	\$ 6,381,327	\$ 6,300,127
Savings	6,122,257	5,287,606
Money market	1,609,422	1,764,998
Certificates of deposit	4,790,680	4,982,271
Total deposits	18,903,686	18,335,002
Long-term borrowings	1,449,472	1,249,449
Accrued expenses and other liabilities	790,194	737,124
Total liabilities	21,143,352	20,321,575
Equity:		
Preferred stock, par value \$0.01 per share, 30,000,000 shares authorized; 7,000 and 4,007,000 shares issued	169,302	265,821
Common stock, par value \$0.01 per share, 280,000,000 shares authorized; 173,584,846 and 172,158,449 shares issued	1,736	1,722
Additional paid-in capital	885,089	877,217
Retained earnings, subject to certain restrictions	1,766,994	1,577,311
Accumulated other comprehensive income (loss)	(33,138)	(18,517)
Treasury stock at cost, 9,661,619 and 489,030 shares and other	(252,182)	(40,797)
Total TCF Financial Corporation stockholders' equity	2,537,801	2,662,757
Non-controlling interest in subsidiaries	18,459	17,827
Total equity	2,556,260	2,680,584
Total liabilities and equity	\$ 23,699,612	\$ 23,002,159

See accompanying notes to consolidated financial statements.

TCF FINANCIAL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Income

(Dollars in thousands, except per share data)	Year Ended December 31,		
	2018	2017	2016
Interest income:			
Loans and leases	\$ 1,065,137	\$ 954,246	\$ 850,546
Debt securities available for sale	54,574	33,278	26,573
Debt securities held to maturity	3,970	4,436	4,649
Loans held for sale and other	18,583	27,097	48,962
Total interest income	1,142,264	1,019,057	930,730
Interest expense:			
Deposits	107,113	66,012	61,788
Borrowings	43,144	27,807	20,836
Total interest expense	150,257	93,819	82,624
Net interest income	992,007	925,238	848,106
Provision for credit losses	46,768	68,443	65,874
Net interest income after provision for credit losses	945,239	856,795	782,232
Non-interest income:			
Leasing and equipment finance	185,107	145,039	119,166
Fees and service charges	132,201	131,887	137,664
Card revenue	58,864	55,732	54,882
ATM revenue	19,690	19,624	20,445
Gains on sales of loans, net	33,498	42,787	85,259
Servicing fee income	27,334	41,347	40,182
Gains (losses) on debt securities, net	348	237	(581)
Other	13,843	11,646	8,883
Total non-interest income	470,885	448,299	465,900
Non-interest expense:			
Compensation and employee benefits	497,063	482,512	475,964
Occupancy and equipment	165,812	156,909	149,980
Operating lease depreciation	73,829	55,901	40,359
Foreclosed real estate and repossessed assets, net	17,050	17,756	13,187
Other	260,646	346,856	230,397
Total non-interest expense	1,014,400	1,059,934	909,887
Income before income tax expense (benefit)	401,724	245,160	338,245
Income tax expense (benefit)	86,096	(33,624)	116,528
Income after income tax expense (benefit)	315,628	278,784	221,717
Income attributable to non-controlling interest	11,270	10,147	9,593
Net income attributable to TCF Financial Corporation	304,358	268,637	212,124
Preferred stock dividends	11,588	19,904	19,388
Impact of preferred stock redemption	3,481	5,779	—
Net income available to common stockholders	\$ 289,289	\$ 242,954	\$ 192,736
Earnings per common share:			
Basic	\$ 1.75	\$ 1.44	\$ 1.15
Diluted	1.74	1.44	1.15
Weighted-average common shares outstanding:			
Basic	165,585,493	168,679,501	167,219,964
Diluted	166,561,705	169,089,244	167,807,451

See accompanying notes to consolidated financial statements.

TCF FINANCIAL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Comprehensive Income

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Net income attributable to TCF Financial Corporation	\$ 304,358	\$ 268,637	\$ 212,124
Other comprehensive income (loss), net of tax:			
Net unrealized gains (losses) on debt securities available for sale and interest-only strips	(11,669)	16,454	(18,894)
Net unrealized gains (losses) on net investment hedges	10,450	(2,746)	(756)
Foreign currency translation adjustment	(13,368)	4,921	1,300
Recognized postretirement prior service cost	(34)	(29)	(29)
Total other comprehensive income (loss), net of tax	(14,621)	18,600	(18,379)
Comprehensive income	\$ 289,737	\$ 287,237	\$ 193,745

See accompanying notes to consolidated financial statements.

TCF FINANCIAL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Equity

(Dollars in thousands)	TCF Financial Corporation										
	Number of Shares Issued		Preferred Stock	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock and Other	Total	Non-controlling Interest	Total Equity
	Preferred	Common									
Balance, December 31, 2015	4,006,900	169,887,030	\$ 263,240	\$ 1,699	\$ 851,836	\$ 1,240,347	\$ (15,346)	\$ (50,860)	\$ 2,290,916	\$ 16,001	\$ 2,306,917
Net income	—	—	—	—	—	212,124	—	—	212,124	9,593	221,717
Other comprehensive income (loss), net of tax	—	—	—	—	—	—	(18,379)	—	(18,379)	—	(18,379)
Net investment by (distribution to) non-controlling interest	—	—	—	—	—	—	—	—	—	(8,432)	(8,432)
Dividends on 7.50% Series A Preferred Stock	—	—	—	—	—	(12,938)	—	—	(12,938)	—	(12,938)
Dividends on 6.45% Series B Preferred Stock	—	—	—	—	—	(6,450)	—	—	(6,450)	—	(6,450)
Dividends on common stock of \$0.30 per common share	—	—	—	—	—	(50,182)	—	—	(50,182)	—	(50,182)
Common shares purchased by TCF employee benefit plans	—	511,420	—	5	5,833	—	—	—	5,838	—	5,838
Stock compensation plans, net of tax	—	636,056	—	6	6,548	—	—	—	6,554	—	6,554
Change in shares held in trust for deferred compensation plans, at cost	—	—	—	—	(1,441)	—	—	1,441	—	—	—
Balance, December 31, 2016	4,006,900	171,034,506	263,240	1,710	862,776	1,382,901	(33,725)	(49,419)	2,427,483	17,162	2,444,645
Change in accounting principle	—	—	—	—	1,319	(1,319)	—	—	—	—	—
Balance, January 1, 2017	4,006,900	171,034,506	263,240	1,710	864,095	1,381,582	(33,725)	(49,419)	2,427,483	17,162	2,444,645
Reclassification of stranded tax effects from AOCI to retained earnings	—	—	—	—	—	3,392	(3,392)	—	—	—	—
Net income	—	—	—	—	—	268,637	—	—	268,637	10,147	278,784
Other comprehensive income (loss), net of tax	—	—	—	—	—	—	18,600	—	18,600	—	18,600
Net investment by (distribution to) non-controlling interest	—	—	—	—	—	—	—	—	—	(9,482)	(9,482)
Public offering of Series C Preferred Stock	7,000	—	169,302	—	—	—	—	—	169,302	—	169,302
Redemption of Series A Preferred Stock	(6,900)	—	(166,721)	—	—	(5,779)	—	—	(172,500)	—	(172,500)
Repurchase of 446,464 shares of common stock	—	—	—	—	—	—	—	(9,163)	(9,163)	—	(9,163)
Dividends on 7.50% Series A Preferred Stock	—	—	—	—	—	(11,320)	—	—	(11,320)	—	(11,320)
Dividends on 6.45% Series B Preferred Stock	—	—	—	—	—	(6,450)	—	—	(6,450)	—	(6,450)
Dividends on 5.70% Series C Preferred Stock	—	—	—	—	—	(2,134)	—	—	(2,134)	—	(2,134)
Dividends on common stock of \$0.30 per common share	—	—	—	—	—	(50,617)	—	—	(50,617)	—	(50,617)
Common shares purchased by TCF employee benefit plans	—	1,381,448	—	14	23,240	—	—	—	23,254	—	23,254
Stock compensation plans, net of tax	—	(257,505)	—	(2)	7,667	—	—	—	7,665	—	7,665
Change in shares held in trust for deferred compensation plans, at cost	—	—	—	—	(17,785)	—	—	17,785	—	—	—
Balance, December 31, 2017	4,007,000	172,158,449	\$ 265,821	\$ 1,722	\$ 877,217	\$ 1,577,311	\$ (18,517)	\$ (40,797)	\$ 2,662,757	\$ 17,827	\$ 2,680,584

See accompanying notes to consolidated financial statements.

TCF FINANCIAL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Equity, Continued

(Dollars in thousands)	TCF Financial Corporation										
	Number of Shares Issued		Preferred Stock	Common Stock	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock and Other	Total	Non-controlling Interest	Total Equity
	Preferred	Common									
Balance, December 31, 2017	4,007,000	172,158,449	\$ 265,821	\$ 1,722	\$ 877,217	\$ 1,577,311	\$ (18,517)	\$ (40,797)	\$ 2,662,757	\$ 17,827	\$ 2,680,584
Change in accounting principle	—	—	—	—	—	(116)	—	—	(116)	—	(116)
Balance, January 1, 2018	4,007,000	172,158,449	265,821	1,722	877,217	1,577,195	(18,517)	(40,797)	2,662,641	17,827	2,680,468
Net income	—	—	—	—	—	304,358	—	—	304,358	11,270	315,628
Other comprehensive income (loss), net of tax	—	—	—	—	—	—	(14,621)	—	(14,621)	—	(14,621)
Net investment by (distribution to) non-controlling interest	—	—	—	—	—	—	—	—	—	(10,638)	(10,638)
Redemption of Series B Preferred Stock	(4,000,000)	—	(96,519)	—	—	(3,481)	—	—	(100,000)	—	(100,000)
Repurchases of 9,188,589 shares of common stock	—	—	—	—	—	—	—	(212,929)	(212,929)	—	(212,929)
Dividends on 6.45% Series B Preferred Stock	—	—	—	—	—	(1,613)	—	—	(1,613)	—	(1,613)
Dividends on 5.70% Series C Preferred Stock	—	—	—	—	—	(9,975)	—	—	(9,975)	—	(9,975)
Dividends on common stock of \$0.60 per common share	—	—	—	—	—	(99,490)	—	—	(99,490)	—	(99,490)
Common stock warrants exercised	—	1,088,918	—	11	(11)	—	—	—	—	—	—
Common shares purchased by TCF employee benefit plans	—	34,627	—	—	715	—	—	—	715	—	715
Stock compensation plans, net of tax	—	302,852	—	3	8,334	—	—	378	8,715	—	8,715
Change in shares held in trust for deferred compensation plans, at cost	—	—	—	—	(1,166)	—	—	1,166	—	—	—
Balance, December 31, 2018	7,000	173,584,846	\$ 169,302	\$ 1,736	\$ 885,089	\$ 1,766,994	\$ (33,138)	\$ (252,182)	\$ 2,537,801	\$ 18,459	\$ 2,556,260

See accompanying notes to consolidated financial statements.

TCF FINANCIAL CORPORATION AND SUBSIDIARIES
Consolidated Statements of Cash Flows

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Cash flows from operating activities:			
Net income	\$ 315,628	\$ 278,784	\$ 221,717
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Provision for credit losses	46,768	68,443	65,874
Depreciation and amortization	222,602	206,567	182,226
Impairment of goodwill and other intangible assets	—	73,409	—
Provision (benefit) for deferred income taxes	58,986	(53,729)	32,966
Proceeds from sales of loans and leases held for sale	372,354	280,640	1,044,282
Originations of loans and leases held for sale, net of repayments	(375,622)	(430,121)	(1,207,227)
Gains on sales of assets, net	(39,881)	(51,965)	(97,383)
Net change in other assets and accrued expenses and other liabilities	(2,121)	(96,380)	71,495
Other, net	(41,949)	(36,196)	(24,667)
Net cash provided by (used in) operating activities	556,765	239,452	289,283
Cash flows from investing activities:			
Proceeds from sales of debt securities	254,146	—	—
Proceeds from maturities of and principal collected on debt securities	185,029	137,544	145,782
Purchases of debt securities	(1,232,618)	(354,608)	(692,996)
Redemption of Federal Home Loan Bank stock	269,002	246,002	156,967
Purchases of Federal Home Loan Bank stock	(278,000)	(254,000)	(161,080)
Proceeds from sales of loans and leases	903,606	1,618,791	2,830,807
Principal collected on loans and leases, net of loan and lease originations and purchases	172,849	(1,808,603)	(2,200,776)
Acquisition of Equipment Financing & Leasing Corporation, net of cash acquired	—	(8,120)	—
Purchases of lease equipment	(1,230,094)	(1,038,208)	(1,197,281)
Proceeds from sales of assets	88,942	63,875	76,885
Purchases of premises and equipment	(56,091)	(48,428)	(34,513)
Other, net	20,935	26,103	23,002
Net cash provided by (used in) investing activities	(902,294)	(1,419,652)	(1,053,203)
Cash flows from financing activities:			
Net change in deposits	549,157	1,094,612	518,468
Net change in short-term borrowings	160	(4,747)	(1,192)
Proceeds from long-term borrowings	9,380,950	9,990,967	5,582,983
Payments on long-term borrowings	(9,182,536)	(9,816,286)	(5,542,831)
Payments on liabilities related to acquisition and portfolio purchase	(2,000)	(3,000)	—
Redemption of Series B preferred stock	(100,000)	—	—
Net proceeds from public offering of Series C preferred stock	—	169,302	—
Redemption of Series A preferred stock	—	(172,500)	—
Repurchases of common stock	(212,929)	(9,163)	—
Common shares sold to TCF employee benefit plans	715	23,254	5,838
Dividends paid on preferred stock	(11,588)	(19,904)	(19,388)
Dividends paid on common stock	(99,490)	(50,617)	(50,182)
Stock compensation tax (expense) benefit	—	—	(377)
Exercise of stock options	(997)	(57)	(701)
Net investment by (distribution to) non-controlling interest	(10,638)	(9,482)	(8,432)
Net cash provided by (used in) financing activities	310,804	1,192,379	484,186
Net change in cash and due from banks	(34,725)	12,179	(279,734)
Cash and due from banks at beginning of period	621,782	609,603	889,337
Cash and due from banks at end of period	\$ 587,057	\$ 621,782	\$ 609,603
Supplemental disclosures of cash flow information:			
Cash paid (received) for:			
Interest on deposits and borrowings	\$ 139,026	\$ 86,411	\$ 78,930
Income taxes, net	(26,308)	62,115	23,064
Transfer of loans and leases to other assets	105,247	100,608	107,768
Transfer of loans and leases from held for investment to held for sale, net	848,941	1,320,210	2,739,126

See accompanying notes to consolidated financial statements.

TCF FINANCIAL CORPORATION AND SUBSIDIARIES

Notes to Consolidated Financial Statements

Note 1. Basis of Presentation

TCF Financial Corporation (together with its direct and indirect subsidiaries, "we," "us," "our," "TCF" or the "Company"), a Delaware corporation, is a national bank holding company based in Wayzata, Minnesota. References herein to "TCF Financial" or the "Holding Company" refer to TCF Financial Corporation on an unconsolidated basis. Its principal subsidiary, TCF National Bank ("TCF Bank"), is headquartered in Sioux Falls, South Dakota. TCF Bank operates bank branches in Illinois, Minnesota, Michigan, Colorado, Wisconsin, Arizona and South Dakota (TCF's "primary banking markets"), providing an exceptional customer experience driven by convenience through multiple points of contact, including digital banking, phone banking, a branch presence with select locations open at least six days a week and with extended hours, and access to automated teller machine ("ATM") networks. Through its direct subsidiaries, TCF Bank provides a full range of consumer-facing and commercial services, including consumer banking services in 47 states, commercial banking services in 42 states, commercial leasing and equipment financing in all 50 states and, to a limited extent, in foreign countries and commercial inventory financing in all 50 states and Canada and, to a limited extent, in other foreign countries.

The accompanying consolidated financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP"). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. These estimates are based on information available to management at the time the estimates are made. Actual results could differ from those estimates. All significant intercompany accounts and transactions have been eliminated in consolidation. Certain reclassifications have been made to prior period financial statements to conform to the current period presentation.

Effective April 1, 2017, the Company executed its strategic shift from an originate-to-sell and originate-to-hold model to an entirely originate-to-hold model for its auto finance business and effective December 1, 2017, the Company discontinued auto finance loan originations. The determination was based on management's review of strategic alternatives and the financial outlook of the auto finance loan origination business compared with alternative uses of capital. TCF's subsidiary, Gateway One Lending & Finance, LLC ("Gateway One"), continues to service existing auto loans on its balance sheet and those that are serviced for others. The decision to discontinue auto finance loan originations resulted in a goodwill impairment charge of \$73.0 million, an other intangible assets impairment charge of \$0.4 million and approximately \$14.8 million of expenses related to severance, other asset impairments and lease termination expenses in 2017.

Note 2. Summary of Significant Accounting Policies

Allowance for Loan and Lease Losses TCF's reserving methodology used to determine the appropriate level of the allowance for loan and lease losses contains critical accounting estimates. The allowance for loan and lease losses is maintained at a level believed to be appropriate to provide for probable loan and lease losses incurred in the portfolio as of the balance sheet date, including known or anticipated problem loans and leases, as well as for loans and leases which are not currently known to require specific allowances. Loans classified as troubled debt restructuring ("TDR") loans are considered impaired loans, along with non-accrual commercial, equipment finance and inventory finance loans. TCF individually evaluates impairment on all impaired loans and all non-accrual leases and other consumer real estate, commercial and auto finance loans specifically identified for evaluation. All other loans and leases are evaluated collectively for impairment.

Loan impairment on consumer real estate TDR loans is a key component of the allowance for loan and lease losses. Impairment is generally based on the present value of the expected future cash flows discounted at the loan's initial effective interest rate, unless the loans are collateral dependent, in which case loan impairment is based on the fair value of the collateral less estimated selling costs.

Impairment on commercial loans, inventory finance loans and leasing and equipment finance loans and leases is generally based on the present value of the expected future cash flows discounted at the initial effective interest rate of the loan or lease, unless the loan or lease is collateral dependent, in which case impairment is based on the fair value of collateral less estimated selling costs; however, if payment or satisfaction of the loan or lease is dependent on the operation, rather than the sale of the collateral, the impairment does not include estimated selling costs.

Impairment on auto finance loans is generally based on the fair value of collateral less estimated selling costs. The impairment for all other loans and leases is evaluated collectively by various characteristics. The collective evaluation of incurred losses in these portfolios is based on their historical loss rates multiplied by the respective loss emergence period. Factors utilized in the determination of the amount of the allowance include historical trends in loss rates, a portfolio's overall risk characteristics, changes in its character or size, risk rating migration, delinquencies, collateral values, economic outlook and prevailing economic conditions. The various factors used in the methodologies are reviewed on a periodic basis.

Loans and leases are charged off to the extent they are deemed to be uncollectible. Charge-offs are utilized in the historical data in calculating the allowance for loan and lease losses. Consumer real estate loans are charged off to the estimated fair value of the underlying collateral, less estimated selling costs, no later than 150 days past due. Additional review of the fair value, less estimated costs to sell, compared with the recorded value occurs upon foreclosure and additional charge-offs are recorded if necessary. Commercial loans, leasing and equipment finance loans and leases and inventory finance loans that are considered collateral dependent are charged off to estimated fair value, less estimated selling costs when it becomes probable, based on current information and events, that all principal and interest amounts will not be collectible in accordance with their contractual terms. Auto finance loans will be charged off in full no later than 120 days past due, unless repossession is reasonably assured and in process, in which case the loan would be charged off to the fair value of the collateral, less estimated selling costs. Consumer real estate and auto finance loans in bankruptcy status may be charged down to the fair value of the collateral, less estimated selling costs, within 60 days past due based on specific criteria. Deposit account overdrafts are reported in other loans. Net losses on uncollectible overdrafts are reported as net charge-offs in the allowance for loan and lease losses within 60 days from the date of overdraft. Loans that are not collateral dependent are charged off when deemed uncollectible based on specific facts and circumstances.

The amount of the allowance for loan and lease losses significantly depends on management's estimates of variables affecting valuation, appraisals of collateral, evaluations of performance and status and the amounts and timing of future cash flows expected to be received. Such estimates, appraisals, evaluations and cash flows may be subject to frequent adjustments due to changing economic prospects of borrowers, lessees or properties. These estimates are reviewed quarterly and adjustments, if necessary, are recorded in the provision for credit losses in the periods in which they become known. See Note 7. Allowance for Loan and Lease Losses and Credit Quality Information for further information on the allowance for loan and lease losses.

Debt Securities Held to Maturity Debt securities held to maturity are carried at cost and adjusted for amortization of premiums or accretion of discounts using a level yield method; however, transfers of debt securities available for sale to debt securities held to maturity are made at fair value at the date of transfer. The unrealized holding gain or loss at the date of each transfer is retained in accumulated other comprehensive income (loss) and in the carrying value of the held to maturity debt security. Such amounts are then amortized over the remaining life of the transferred debt security as an adjustment of the yield on those debt securities. TCF evaluates debt securities held to maturity for other than temporary impairment on a quarterly basis. Declines in value considered other than temporary, if any, would be recorded in non-interest income within gains (losses) on debt securities, net. See Note 5. Debt Securities Available for Sale and Debt Securities Held to Maturity for further information on debt securities held to maturity.

Debt Securities Available for Sale Debt securities available for sale are carried at fair value with the unrealized gains or losses net of related deferred income taxes reported within accumulated other comprehensive income (loss). The cost of debt securities sold is determined on a specific identification basis and gains or losses on sales of debt securities available for sale are recognized on trade dates. Discounts and premiums on debt securities available for sale are amortized using a level yield method over the expected life of the debt security, or to the earliest call date for premiums on debt securities with call features. TCF evaluates debt securities available for sale for other than temporary impairment on a quarterly basis. Declines in value considered other than temporary, if any, would be recorded in non-interest income within gains (losses) on debt securities, net. See Note 5. Debt Securities Available for Sale and Debt Securities Held to Maturity for further information on debt securities available for sale.

Loans and Leases Held for Sale Loans and leases designated as held for sale are generally carried at the lower of cost or fair value. Any amount by which cost exceeds fair value is initially recorded as a valuation allowance and subsequently recorded in the gain or loss on sale when sold. Certain other loans held for sale are recorded at fair value under the elected fair value option. From time to time, management identifies and designates, primarily consumer real estate, loans held in the loan portfolios for sale. These loans are transferred to loans and leases held for sale at the lower of cost or fair value at the time of transfer net of any associated allowance for loan and lease losses.

Loans and Leases Loans and leases are reported at historical cost including net direct fees and costs associated with originating and acquiring loans and leases. The net direct fees and costs for sales-type leases are offset against revenues recorded at the commencement of sales-type leases. Discounts and premiums on acquired loans, net direct fees and costs, unearned discounts and finance charges, and unearned lease income are amortized to interest income using methods that approximate a level yield over the estimated remaining lives of the loans and leases. Net direct fees and costs on all lines of credit are amortized on a straight line basis over the contractual life of the line of credit and adjusted for payoffs. Net deferred fees and costs on consumer real estate lines of credit are amortized to fees and service charges. See Note 6. Loans and Leases for further information on loans and leases.

TCF acquires loans and leases through business combinations and purchases of loan and lease portfolios. These loans and leases are recorded at fair value at the acquisition date and the fair value discount or premium is recognized as an adjustment to yield over the remaining life of each loan or lease. Credit discounts are included in the determination of fair value; therefore, an allowance for loan and lease losses is not recorded at the acquisition date. Purchased loans are evaluated at the acquisition date and classified as purchased loans or purchased credit impaired ("PCI") loans. Loans are considered PCI loans if it is probable at the acquisition date that all contractually required payments will not be collected. Upon acquisition, the acquired PCI loans are recorded at fair value without a corresponding allowance for loan losses as the non-accretable discount is adequate to absorb expected remaining credit losses. The excess of expected cash flows to be collected over the initial fair value of the acquired portfolios is referred to as the accretable yield and is accreted into interest income over the estimated life of the acquired portfolios using the effective yield method. The accretable yield is affected by changes in interest rate indices for variable-rate acquired portfolios, changes in prepayment assumptions and changes in the expected principal and interest payments over the estimated life of the loan. These acquired loans are classified as accruing and interest income continues to be recognized unless expected credit losses exceed the non-accretable discount. If subsequent to acquisition there is credit deterioration in excess of the acquisition date credit discount for PCI loans or purchased loans and leases, an additional allowance for loan and lease losses is established.

Non-accrual Loans and Leases Loans and leases are generally placed on non-accrual status when the collection of interest or principal is 90 days or more past due, unless, in the case of commercial loans, they are well secured and in the process of collection. Delinquent consumer real estate junior lien loans are placed on non-accrual status when there is evidence that the related third-party first lien mortgage may be 90 days or more past due, or foreclosure, charge-off or collection action has been initiated. TDR loans are placed on non-accrual status prior to the past due thresholds outlined above if repayment under the modified terms is not likely after performing a well-documented credit analysis.

Loans on non-accrual status are generally reported as non-accrual loans until there is sustained repayment performance for six consecutive months, with the exception of loans not reaffirmed upon discharge under Chapter 7 bankruptcy, which remain on non-accrual status until a well-documented credit analysis indicates full repayment of the remaining pre-discharged contractual principal and interest is likely. Income on these loans is recognized on a cash basis when there is sustained repayment performance for nine or 12 consecutive months based on the credit evaluation and the loan is not more than 60 days delinquent.

Generally, when a loan or lease is placed on non-accrual status, uncollected interest accrued in prior years is charged off against the allowance for loan and lease losses and interest accrued in the current year is reversed against interest income. For non-accrual leases that have been discounted with third-party financial institutions on a non-recourse basis, the related liability is also placed on non-accrual status. Interest payments received on loans and leases in non-accrual status are generally applied to principal unless the remaining principal balance has been determined to be fully collectible, in which case interest income is recognized on a cash basis.

See Note 7. Allowance for Loan and Lease Losses and Credit Quality Information for further information on non-accrual loans and leases.

Lease Financing TCF provides various types of commercial lease financing that are classified for accounting purposes as direct financing, sales-type or operating leases. Leases that transfer substantially all of the benefits and risks of ownership to the lessee are classified as direct financing or sales-type leases and are included in loans and leases. Direct financing and sales-type leases are carried at the combined present value of future minimum lease payments and lease residual values. The determination of lease classification requires various judgments and estimates by management including the fair value of the equipment at lease inception, useful life of the equipment under lease, estimate of the lease residual value and collectability of minimum lease payments.

Sales-type leases generate dealer profit, which is recognized at lease inception by recording lease revenue net of lease cost. Lease revenue consists of the present value of the future minimum lease payments. Lease cost consists of the leased equipment's book value, less the present value of its residual. Interest income on direct financing and sales-type leases is recognized using methods that approximate a level yield over the fixed, non-cancelable term of the lease. TCF receives pro rata rent payments for the interim period until the lease contract commences and the fixed, non-cancelable lease term begins. TCF recognizes these interim payments in the month they are earned and records the income in interest income. Management has policies and procedures in place for the determination of lease classification and review of the related judgments and estimates for all lease financings.

Some lease financings include a residual value component, which represents the estimated fair value of the leased equipment at the expiration of the initial term of the transaction. The estimation of residual values involves judgment regarding product and technology changes, customer behavior, shifts in supply and demand and other economic assumptions. TCF reviews residual assumptions in the portfolio at least annually and records impairment, if necessary, which is charged to non-interest expense in the periods in which it becomes known. TCF may sell minimum lease payments primarily as a credit risk reduction tool to third-party financial institutions at fixed rates on a non-recourse basis with its underlying equipment as collateral. For those transactions that achieve sale treatment, the related lease cash flow stream and the non-recourse financing are derecognized. For those transactions that do not achieve sale treatment, the underlying lease remains on TCF's Consolidated Statements of Financial Condition and non-recourse debt is recorded in the amount of the proceeds received. TCF retains servicing of these leases and bills, collects and remits funds to the third-party financial institution. Upon default by the lessee, the third-party financial institutions may take control of the underlying collateral which TCF would otherwise retain as residual value.

Leases that do not transfer substantially all benefits and risks of ownership to the lessee are classified as operating leases. Such leased equipment and related initial direct costs are included in other assets and depreciated on a straight-line basis over the term of the lease to its estimated salvage value. Depreciation expense on the leased equipment is recorded in non-interest expense. Operating lease rental income is recognized when it is due and is recorded as a component of leasing and equipment finance non-interest income. An allowance for lease losses is not provided on operating leases.

Premises and Equipment Premises and equipment, including leasehold improvements, are carried at cost and are depreciated or amortized on a straight-line basis over the estimated useful lives of owned assets, over the lease term for capitalized leases and over the estimated useful life of the related asset or the lease term, whichever is shorter, for leasehold improvements. Maintenance and repairs are charged to expense as incurred. Rent expense for leased land with facilities is recognized in occupancy and equipment expense. Rent expense for leases with free rent periods or scheduled rent increases is recognized on a straight-line basis over the lease term. See Note 8. Premises and Equipment, Net for further information on premises and equipment.

Other Real Estate Owned and Repossessed and Returned Assets Assets acquired through foreclosure, repossession or returned to TCF are initially recorded at the lower of the loan or lease carrying amount or fair value of the collateral less estimated selling costs at the time of transfer to real estate owned or repossessed and returned assets. The fair value of other real estate owned is based on independent appraisals, real estate brokers' price opinions or automated valuation methods, less estimated selling costs. The fair value of repossessed and returned assets is based on available pricing guides, auction results or price opinions, less estimated selling costs. Any carrying amount in excess of the fair value less estimated selling costs is charged off to the allowance for loan and lease losses upon transfer. Subsequently, if the fair value of an asset, less the estimated costs to sell, declines to less than the carrying amount of the asset, the shortfall is recognized in the period in which it becomes known and is included in foreclosed real estate and repossessed assets, net expense. Operating expenses of properties and recoveries on sales of other real estate owned are also recorded in non-interest expense within foreclosed real estate and repossessed assets, net expense. Operating revenue from foreclosed property is included in other non-interest income. See Note 7. Allowance for Loan and Lease Losses and Credit Quality Information for further information on other real estate owned and repossessed and returned assets.

Investments in Affordable Housing Limited Liability Entities TCF has investments in affordable housing limited liability entities that either operate qualified affordable housing projects or invest in other limited liability entities formed to operate affordable housing projects, which TCF generally accounts for under the proportional amortization method. However, depending on circumstances, the effective yield, equity or cost methods may be utilized. The amount of the investments, along with any unfunded equity contributions that are unconditional and legally binding, are recorded in other assets. A liability for the unfunded equity contributions is recorded at fair value in accrued expenses and other liabilities. The tax credits and amortization of the investments are recorded as a component of income tax expense (benefit). See Note 10. Investments in Affordable Housing Limited Liability Entities for further information on investments in affordable housing limited liability entities.

Interest-only Strips TCF sells loans with or without interest-only strips to third party financial institutions. For those transactions that achieve sale treatment, the underlying loans are removed from TCF's Consolidated Statements of Financial Condition. The Company may receive as part of the sale consideration an interest in the future cash flows of borrower loan payments, known as an interest-only strip. The interest-only strip is recorded at fair value in other assets with the unrealized gains or losses net of deferred income taxes reported within accumulated other comprehensive income (loss). The fair value of the interest-only strip represents the present value of future cash flows expected to be received by TCF. After initial recording of the interest-only strip, the accretable yield is measured as the difference between the initial investment, or fair value, and the cash flows expected to be collected. The accretable yield is amortized into interest income over the life of the interest-only strip using the effective yield method. The expected cash flows are evaluated quarterly to determine if they have changed from previous projections. Declines in the value of interest-only strips that are considered other than temporary are recorded in other non-interest expense. See Note 6. Loans and Leases for further information on interest-only strips.

Goodwill and Other Intangible Assets All assets and liabilities acquired in purchase acquisitions, including other intangibles, are initially recorded at fair value. Goodwill is recorded when the purchase price of an acquisition is greater than the fair value of net assets, including identifiable intangible assets. Goodwill is not amortized, but assessed for impairment on at least an annual basis at the reporting unit level. Interim impairment analysis may be required if events occur or circumstances change that would more likely than not reduce a reporting unit's fair value below its carrying amount. Other intangible assets are amortized on a straight-line basis or accelerated method over their estimated useful lives and are subject to impairment if events or circumstances indicate a possible inability to realize their carrying amounts.

When testing for goodwill impairment, TCF has the option to perform a qualitative assessment of goodwill. TCF may also elect to perform a quantitative test without first performing a qualitative analysis. If the qualitative assessment is performed and TCF concludes it is more likely than not that a reporting unit's fair value is less than its carrying amount, a quantitative analysis is performed. Quantitative valuation methodologies primarily include a discounted cash flow analysis in determining the fair value of reporting units. If the fair value is less than the carrying amount, additional analysis is required to measure the amount of impairment. Impairment losses, if any, are recorded as a charge to non-interest expense and an adjustment to the carrying value of goodwill.

Other intangible assets are reviewed for impairment whenever events or changes in circumstances indicate their carrying amount may not be recoverable. Impairment is indicated if the sum of the undiscounted estimated future net cash flows is less than the carrying value of the intangible asset. Impairment losses, if any, permanently reduce the carrying value of the other intangible assets.

See Note 9. Goodwill and Other Intangible Assets for further information on goodwill and other intangible assets.

Derivative Instruments All derivative instruments are recognized at fair value within other assets or accrued expenses and other liabilities. The Company's derivative instruments may be subject to master netting arrangements and collateral arrangements and qualify for offset in the Consolidated Statements of Financial Condition. A master netting arrangement with a counterparty creates a right of offset for amounts due to and from that same counterparty that is enforceable in the event of a default or bankruptcy. The Company's policy is to recognize amounts subject to master netting arrangements and collateral arrangements on a net basis in the Consolidated Statements of Financial Condition. The value of derivative instruments will vary over their contractual terms as the related underlying rates fluctuate. The accounting for changes in the fair value of a derivative instrument depends on whether or not the contract has been designated and qualifies as a hedge. To qualify as a hedge, a contract must be highly effective at reducing the risk associated with the exposure being hedged. In addition, for a contract to be designated as a hedge, the risk management objective and strategy must be documented at inception. Hedge documentation must also identify the hedging instrument, the asset or liability and type of risk to be hedged and how the effectiveness of the contract is assessed prospectively and retrospectively. To assess effectiveness, TCF uses statistical methods such as regression analysis. A contract that has been, and is expected to continue to be effective at offsetting changes in fair values or the net investment, must be assessed and documented at least quarterly. If it is determined that a contract is not highly effective at hedging the designated exposure, hedge accounting is discontinued.

Upon origination of a derivative instrument, the contract is designated either as a hedge of the exposure to changes in the fair value of an asset or liability due to changes in market risk ("fair value hedge"), a hedge of the volatility of an investment in foreign operations driven by changes in foreign currency exchange rates ("net investment hedge") or is not designated as a hedge.

Fair Value Hedges TCF Bank entered into an interest rate swap agreement related to its contemporaneously issued subordinated debt, which settles through a central clearing house. The swap was designated as a fair value hedge and effectively converts the fixed interest rate to a floating rate based on the three-month London InterBank Offered Rate ("LIBOR") plus a fixed number of basis points on the \$150.0 million notional amount through February 27, 2025, the maturity date of the subordinated debt.

The interest rate swap substantially offsets the change in fair value of the hedged underlying subordinated debt that is attributable to the changes in market risk. The gains and losses related to changes in the fair value of the interest rate swap, as well as the offsetting changes in fair value of the hedged debt, are recorded in interest expense - borrowings effective January 1, 2018 and were previously recorded in other non-interest income.

Net Investment Hedges Forward foreign exchange contracts, which generally settle within 34 days, are used to manage the foreign exchange risk associated with the Company's net investment in TCF Commercial Finance Canada, Inc. ("TCFCFC"), a wholly-owned indirect Canadian subsidiary of TCF Bank. Changes in net investment hedges recorded within other comprehensive income (loss) are subsequently reclassified to non-interest expense during the period in which the foreign investment is substantially liquidated or when other elements of the currency translation adjustment are reclassified to income.

Derivatives Not Designated as Hedges TCF executes interest rate contracts with commercial banking customers to facilitate their respective risk management strategies. Those interest rate contracts are simultaneously hedged with offsetting interest rate contracts that TCF executes with a third party and generally settles through a central clearing house, minimizing TCF's net risk exposure. As the interest rate contracts do not meet hedge accounting requirements, changes in the fair value of both the customer contracts and the offsetting contracts are recorded in other non-interest income. These contracts have original fixed maturity dates ranging from three to 11 years.

Certain of TCF's forward foreign exchange contracts are not designated as hedges and are generally settled within 34 days. Changes in the fair value of these forward foreign exchange contracts are recorded in other non-interest expense.

TCF enters into interest rate lock commitments in conjunction with the sale of certain consumer real estate loans. These interest rate lock commitments are agreements to extend credit under certain specified terms and conditions at fixed rates with original lock expirations generally within three months. They are not designated as hedges and accordingly, changes in the valuation of these commitments are recorded in gains on sales of loans, net.

During the second quarter of 2012, TCF sold its Visa[®] Class B stock. In conjunction with the sale, TCF and the purchaser entered into a derivative transaction whereby TCF may receive or be required to make cash payments whenever the conversion ratio of the Visa Class B stock into Visa Class A stock is adjusted. The fair value of this derivative has been determined using estimated future cash flows using probability weighted scenarios for multiple estimates of Visa's aggregate exposure to covered litigation matters, which include consideration of amounts funded by Visa into its escrow account for the covered litigation matters. Changes, if any, in the valuation of this swap agreement, which has no determinable maturity date, are recorded in other non-interest expense.

See Note 20. Derivative Instruments for further information on derivative instruments.

Income Taxes Income taxes are accounted for using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis carrying amounts. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recorded in income tax expense (benefit) in the period in which the enactment date occurs. If current period income tax rates change, the impact on the annual effective income tax rate is applied year to date in the period of enactment.

The determination of current and deferred income taxes is based on analyses of many factors, including interpretation of income tax laws, the evaluation of uncertain tax positions, differences between the tax and financial reporting bases of assets and liabilities (temporary differences), estimates of amounts due or owed, the timing of reversals of temporary differences and current financial accounting standards. Additionally, there can be no assurance that estimates and interpretations used in determining income tax assets or liabilities will not be challenged by taxing authorities. Actual results could differ significantly from the estimates and tax law interpretations used in determining the current and deferred income tax assets and liabilities.

In the preparation of income tax returns, tax positions are taken based on interpretation of income tax laws for which the outcome is uncertain. At each balance sheet date, management reviews and evaluates the status of uncertain tax positions and makes estimates of amounts ultimately due or owed. The benefits of tax positions are recorded in income tax expense (benefit) net of the estimates of ultimate amounts due or owed, including any applicable interest and penalties. Changes in the estimated amounts due or owed may result from closing of the statute of limitations on tax returns, new legislation, clarification of existing legislation through government pronouncements, judicial action and through the examination process. TCF's policy is to record interest and penalties, if any, related to unrecognized tax benefits in income tax expense (benefit).

See Note 14. Income Taxes for further information on income taxes.

Stock-based Compensation The fair value of restricted stock, stock options and restricted stock units is determined on the date of grant and amortized to compensation and employee benefits expense, with a corresponding increase to additional paid-in capital, over the longer of the service period or performance period, but in no event beyond an employee's retirement date or date of employment termination. For performance-based restricted stock or stock units, TCF estimates the degree to which performance conditions will be met to determine the number of shares or units that will vest and the related expense. Compensation and employee benefits expense is adjusted in the period such estimates change. Non-forfeitable dividends, if any, paid on shares of restricted stock are recorded to retained earnings for shares that are expected to vest and to compensation and employee benefits expense for shares that are not expected to vest.

Income tax benefits (detriments) related to stock compensation, where the fair value on vesting or exercise of the award is greater than (less than) the grant date value less any proceeds on exercise, are recognized in income tax expense (benefit).

See Note 17. Stock Compensation for further information on stock-based compensation.

Earnings Per Common Share TCF's restricted stock awards that pay non-forfeitable common stock dividends meet the criteria of a participating security. Accordingly, earnings per share is calculated using the two-class method under which earnings are allocated to both common shares and participating securities.

All shares of restricted stock are deducted from weighted-average shares outstanding for the computation of basic earnings per common share. Shares of performance-based restricted stock and restricted stock units are included in the calculation of diluted earnings per common share using the treasury stock method at the beginning of the quarter in which the performance goals have been achieved. All other shares of restricted stock, which vest over specified time periods, stock options and warrants are included in the calculation of diluted earnings per common share using the treasury stock method. See Note 22. Earnings Per Common Share for further information on earnings per share.

Recently Adopted Accounting Pronouncements

Effective January 1, 2018, the Company adopted Accounting Standards Update ("ASU") No. 2018-14: *Compensation - Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20): Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans*, which eliminates, adds and modifies certain annual disclosure requirements for employers that sponsor defined benefit pension and/or other postretirement benefit plans. The adoption of this ASU was on a retrospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2017-12: *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*, which expands hedge accounting for nonfinancial and financial risk components and amends measurement methodologies to more closely align hedge accounting with a company's risk management activities. The ASU decreases the complexity of preparing and understanding hedge results through measurement and reporting of hedge ineffectiveness. In addition, disclosures have been enhanced and the presentation of hedged results changed to align the effects of the hedging instrument and the hedged item. The adoption of this ASU was on a modified retrospective basis and resulted in the Company recording a cumulative effect reduction to the opening balance of retained earnings of \$116 thousand.

Effective January 1, 2018, the Company adopted ASU No. 2017-09: *Compensation - Stock Compensation (Topic 718): Scope of Modification Accounting*, which provides guidance about which changes to the terms and conditions of a share-based payment award requires an entity to apply modification accounting in Topic 718. The adoption of this ASU was on a prospective basis and will be applicable to an award modified on or after January 1, 2018. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2017-07: *Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*, which changes how employers that sponsor defined benefit pension and/or other postretirement benefit plans present the net periodic benefit cost in the income statement. Under the new guidance, employers present the service cost component of the net periodic benefit cost in the same income statement line item as other employee compensation costs arising from services rendered during the period. Only the service cost component is eligible for capitalization in assets. The other components of net periodic benefit cost are presented separately from the line item that includes service cost and outside of any subtotal of operating income. In addition, disclosure of the line items used to present the other components of net periodic benefit cost is required if the components are not presented separately in the income statement. The adoption of this ASU was on a modified retrospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2017-05: *Other Income - Gains and Losses from the Derecognition of Nonfinancial Assets (Subtopic 610-20): Clarifying the Scope of Asset Derecognition Guidance and Accounting for Partial Sales of Nonfinancial Assets*, which provides guidance for recognizing gains and losses from the transfer of nonfinancial assets in contracts with non-customers. The ASU also clarifies that Accounting Standards Codification 610-20 applies to the derecognition of nonfinancial assets and in substance nonfinancial assets unless other specific guidance applies or the sale is to a customer. The guidance does not apply to the derecognition of businesses, nonprofit activities, financial assets, including equity method investments, or to revenue contracts with customers. The adoption of this ASU was on a modified retrospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*, which clarifies the definition of a business with the objective of adding guidance to assist companies with evaluating whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. The ASU provides a more robust framework to use in determining when a set of assets and activities is a business. The adoption of this ASU was on a prospective basis. TCF will evaluate future transactions to determine if they should be accounted for as acquisitions (or disposals) of assets or businesses.

Effective January 1, 2018, the Company adopted ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, which requires entities to show changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. As a result, entities no longer present transfers between cash and cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. The adoption of this ASU was on a retrospective basis. The adoption of this guidance did not have an impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2016-17, *Consolidation (Topic 810): Interests Held through Related Parties That Are under Common Control*, which changes the way in which a single decision maker considers indirect interests when performing the primary beneficiary analysis under the variable interest model. Under the amended guidance, indirect interests held by a related party would be considered on a proportional basis. The adoption of this ASU was on a retrospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2016-16, *Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory*, which requires the income tax effects of intercompany sales and transfers of assets, other than inventory, to be recognized in the period the transaction occurs. The adoption of this ASU was on a modified retrospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*, which addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice in how certain types of cash receipts and cash payments are presented in the statement of cash flows. The adoption of this ASU was on a retrospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2016-04, *Liabilities - Extinguishments of Liabilities (Subtopic 405-20): Recognition of Breakage for Certain Prepaid Stored-Value Products*, which requires issuers of prepaid stored-value products redeemable for goods, services or cash at third-party merchants to derecognize liabilities related to those products for breakage. The adoption of this ASU was on a modified retrospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted ASU No. 2016-01, *Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities* and ASU No. 2018-03, *Technical Corrections and Improvements to Financial Instruments - Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities*, which amend the classification and measurement of investments in equity securities, simplify the impairment analysis of equity investments without readily determinable fair values, require separate presentation of certain fair value changes for financial liabilities measured at fair value and eliminate certain disclosure requirements associated with the fair value of financial instruments. The adoption of these ASUs was on a prospective basis. The adoption of this guidance did not have a material impact on our consolidated financial statements.

Effective January 1, 2018, the Company adopted the following ASUs using the modified retrospective method with no cumulative-effect adjustment to opening retained earnings: ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*; ASU No. 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date*; ASU No. 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*; ASU No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing*; ASU No. 2016-12, *Revenue from Contracts with Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients*; ASU No. 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers*; ASU No. 2017-13, *Revenue Recognition (Topic 605), Revenue from Contracts with Customers (Topic 606), Leases (Topic 840), and Leases (Topic 842): Amendments to SEC Paragraphs* and ASU No. 2017-14, *Income Statement - Reporting Comprehensive Income (Topic 220), Revenue Recognition (Topic 605), and Revenue from Contracts with Customers (Topic 606)*.

TCF derives a majority of its revenue from loans and leases, as well as any related servicing fee revenue, which are not within the scope of these ASUs. These ASUs are applicable to most of the fees and service charges, card and ATM revenue earned by TCF, as well as the gains on sales of certain non-financial assets. However, the recognition of these revenue streams does not change in a significant manner as a result of the adoption of these ASUs. The majority of this revenue is both charged to the customer and earned either at a point in time or on a transactional basis. As a result, the revenue expected to be recognized in any future year related to remaining performance obligations, contracts where revenue is recognized when invoiced and contracts with variable consideration related to undelivered performance obligations are not material. In addition, receivables related to fees and service charges and the related bad debt expense are not material. There are no material contract assets, contract liabilities or deferred contract costs recorded in the Company's Consolidated Statements of Financial Condition. As a significant majority of the Company's revenue streams are not included in the scope of these ASUs and the recognition of revenue for the revenue streams within the scope of these ASUs are not significantly changed, the adoption of this guidance did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements

In November 2018, the Financial Accounting Standards Board (the "FASB") issued ASU No. 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606*, which makes targeted improvements to the accounting for collaborative arrangements in response to questions raised as a result of the issuance of ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)*. The adoption of this ASU will be required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2020. Early adoption is allowed. The adoption of this guidance will not have a material impact on our consolidated financial statements.

In October 2018, the FASB issued ASU No. 2018-17, *Consolidation (Topic 810): Targeted Improvements to Related Party Guidance for Variable Interest Entities*, which provides an elective exemption to private companies from applying variable interest entities ("VIE") guidance to all entities under common control if certain criteria are met. In addition, this ASU contains an amendment applicable to all entities which amends how a decision maker or service provider determines whether its fee is a variable interest in a VIE when a related party under common control also has an interest in the VIE. The adoption of this ASU will be required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2020. Early adoption is allowed. The adoption of this guidance will not have a material impact on our consolidated financial statements.

In October 2018, the FASB issued ASU No. 2018-16, *Derivatives and Hedging (Topic 815): Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes*, which permits the use of the OIS Rate based on SOFR as a U.S. benchmark interest rate for hedge accounting purposes under Topic 815 in addition to the interest rates on direct Treasury obligations of the U.S. government, the LIBOR swap rate, the OIS Rate based on the Fed Funds Effective Rate and the Securities Industry and Financial Markets Association Municipal Swap Rate. The adoption of this ASU will be required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2019. Prospective application is required for qualifying new or redesignated hedging relationships entered into on or after the date of adoption. Early adoption is allowed. The adoption of this guidance will not have a material impact on our consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (a consensus of the FASB Emerging Issues Task Force)*, which requires the decision to capitalize or expense implementation costs incurred in a cloud computing arrangement (i.e. a hosting arrangement) that is a service contract to follow the internal-use software guidance in Accounting Standards Codification ("ASC") 350-40. TCF's policy has been to expense these costs as incurred. The adoption of this ASU will be required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2020. Both retrospective and prospective application are allowed. Early adoption is allowed. Management has elected to early adopt this ASU beginning with the quarter ending March 31, 2019 on a prospective basis. The adoption of this guidance will not have a material impact on our consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement*, which eliminates, adds and modifies certain disclosure requirements for fair value measurements. The adoption of this ASU will be required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2020. Certain of the amendments require prospective application, while the remainder require retrospective application. Early adoption is allowed either for the entire standard or only the provisions that eliminate or modify the requirements. Management is currently evaluating the potential impact of this guidance on our consolidated financial statements.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation - Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting*, which simplifies the accounting for share-based payments to nonemployees by aligning it more consistently with the accounting for share-based payments to employees. The new guidance in ASC 718 supersedes the guidance in ASC 505-50. The adoption of this ASU will be required on a modified retrospective basis with a cumulative effect adjustment required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2019. Early adoption is allowed. The adoption of this guidance will not have a material impact on our consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which changes the impairment model for most financial assets, including trade and other receivables, held to maturity debt securities, loans and purchased financial assets with credit deterioration. The ASU requires the use of a current expected credit loss ("CECL") approach to determine the allowance for credit losses for loans and held to maturity debt securities. CECL requires loss estimates for the remaining estimated life of the asset using historical loss data as well as reasonable and supportable forecasts based on current economic conditions. In November 2018, the FASB issued ASU No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments - Credit Losses*, which clarifies that receivables arising from operating leases are not within the scope of Subtopic 326-20 and should be accounted for in accordance with Topic 842. The adoption of these ASUs will be required on a modified retrospective basis with a cumulative effect adjustment required beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2020. Early adoption is allowed. Management is currently evaluating the potential impact of this guidance on our consolidated financial statements. CECL represents a significant change in GAAP and may result in a material impact to our consolidated financial statements. The impact of these ASUs will depend on the composition of TCF's portfolios and general economic conditions at the date of adoption. Additionally, there are several implementation questions which could affect the adoption impact once resolved. TCF has established a governance structure to implement these ASUs and is developing the methodologies and models to be used upon adoption. Management will begin to test the new methodologies and models in 2019.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*, which, along with other amendments, requires lessees to recognize most leases on their balance sheet. Lessor accounting is largely unchanged. The ASU requires both quantitative and qualitative disclosure regarding key information about leasing arrangements from both lessees and lessors. In September 2017, the FASB issued ASU No. 2017-13, *Revenue Recognition (Topic 605), Revenue from Contracts with Customers (Topic 606), Leases (Topic 840) and Leases (Topic 842): Amendments to SEC Paragraphs*, which rescinds certain SEC Observer comments and staff announcements from the lease guidance and incorporates SEC staff announcements on the effect of a change in tax law on leveraged leases from ASC 840 into ASC 842. In January 2018, the FASB issued ASU No. 2018-01, *Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842*, which amends the new lease guidance to add an optional transition practical expedient that permits an entity to continue applying its current accounting policy for land easements that exist or expire before Topic 842's effective date. In July 2018, the FASB issued ASU No. 2018-10, *Codification Improvements to Topic 842, Leases*, which makes narrow scope improvements to the standard for specific issues. In July 2018, the FASB also issued ASU No. 2018-11, *Leases (Topic 842): Targeted Improvements*, which provides an optional transition method allowing the standard to be applied at the adoption date and provides a practical expedient related to separating components of a contract for lessors. In December 2018, the FASB issued ASU No. 2018-20, *Leases (Topic 842): Narrow-Scope Improvements for Lessors*, which allows lessors to elect to account for all sales taxes as lessee costs, instead of determining whether they are lessee or lessor costs in each individual jurisdiction. It requires lessor costs paid by lessees directly to third parties to be excluded from revenue and requires lessors to account for costs excluded from the consideration of a contract that are paid by the lessor as revenue. It also requires certain variable payments to be allocated (rather than recognized) to lease and nonlease components when changes occur in the facts and circumstances on which the variable payments are based. The adoption of these ASUs will be required on a modified retrospective basis beginning with TCF's Quarterly Report on Form 10-Q for the quarter ending March 31, 2019. Early adoption is allowed. Management has evaluated and will elect the practical expedients and optional transition method, which allow for existing leases to be accounted for consistent with current guidance and the new guidance applied at the adoption date. Management has evaluated TCF's leasing contracts and activities and developed the methodologies and processes to estimate and account for the right-of-use assets and lease liabilities based on the present value of future lease payments. TCF adopted this guidance on January 1, 2019 by recording right-of-use assets and lease liabilities totaling \$91.9 million and \$112.8 million, respectively. While the increase to consolidated total assets resulting from the right-of-use assets recorded will increase TCF's risk-weighted assets, management does not expect the impact to capital ratios to be material. The adoption of this guidance is not expected to result in a material change to lessee expense recognition. The changes to lessor accounting, as well as changes in customer behavior driven by the adoption of these ASUs, could materially impact the results of TCF's lessor subsidiaries. Management expects earlier recognition of expense due to a narrower definition of initial direct costs and the timing of revenue recognition to be impacted for certain leases, resulting in more revenue being deferred over the lease term.

Note 3. Cash and Due from Banks

At December 31, 2018 and 2017, TCF Bank was required by Federal Reserve regulations to maintain reserves of \$106.2 million and \$107.0 million, respectively, in cash on hand or at the Federal Reserve Bank.

TCF maintains cash balances that are restricted as to their use in accordance with certain obligations. Cash payments received on loans serviced for third parties are generally held in separate accounts until remitted. TCF may also retain cash balances for collateral on certain borrowings, forward foreign exchange contracts, interest rate contracts and other contracts. TCF maintained restricted cash totaling \$38.3 million and \$36.5 million at December 31, 2018 and 2017, respectively.

TCF had cash held in interest-bearing accounts of \$307.8 million and \$324.2 million at December 31, 2018 and 2017, respectively.

Note 4. Investments

Investments were as follows:

(In thousands)	At December 31,	
	2018	2017
Federal Home Loan Bank stock, at cost	\$ 54,019	\$ 45,021
Federal Reserve Bank stock, at cost	37,635	37,623
Total investments	\$ 91,654	\$ 82,644

The investments in Federal Home Loan Bank ("FHLB") stock are required investments related to TCF's membership in and current borrowings from the FHLB of Des Moines. TCF's investments in the FHLB of Des Moines could be adversely impacted by the financial operations of the Federal Home Loan Banks and actions of their regulator, the Federal Housing Finance Agency. The amount of Federal Reserve Bank stock that TCF Bank is required to hold is based on TCF Bank's capital structure. TCF periodically evaluates investments for other than temporary impairment. There was no impairment of these investments in 2018, 2017 and 2016.

The yield on these investments, which have no stated contractual maturity, was 4.34% and 2.96% at December 31, 2018 and 2017, respectively.

Note 5. Debt Securities Available for Sale and Debt Securities Held to Maturity

Debt securities were as follows:

(In thousands)	At December 31,							
	2018				2017			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Debt securities available for sale:								
Mortgage-backed securities:								
U.S. Government sponsored enterprises and federal agencies	\$ 1,930,696	\$ 9,222	\$ 26,728	\$ 1,913,190	\$ 908,189	\$ 308	\$ 13,812	\$ 894,685
Other	4	—	—	4	6	—	—	6
Obligations of states and political subdivisions	566,304	46	9,479	556,871	810,159	7,967	3,799	814,327
Total debt securities available for sale	\$ 2,497,004	\$ 9,268	\$ 36,207	\$ 2,470,065	\$ 1,718,354	\$ 8,275	\$ 17,611	\$ 1,709,018
Debt securities held to maturity:								
Mortgage-backed securities:								
U.S. Government sponsored enterprises and federal agencies	\$ 146,052	\$ 1,460	\$ 1,045	\$ 146,467	\$ 158,776	\$ 4,462	\$ 412	\$ 162,826
Other securities	2,800	—	—	2,800	2,800	—	—	2,800
Total debt securities held to maturity	\$ 148,852	\$ 1,460	\$ 1,045	\$ 149,267	\$ 161,576	\$ 4,462	\$ 412	\$ 165,626

At December 31, 2018 and 2017, mortgage-backed debt securities with a carrying value of \$1.6 million and \$0.9 million, respectively, were pledged as collateral to secure certain deposits and borrowings.

We have assessed each debt security with unrealized losses included in the table above for credit impairment. As part of that assessment we evaluated and concluded that it is more likely than not that we will not be required to and do not intend to sell any of the debt securities prior to recovery of the amortized cost. Unrealized losses on debt securities available for sale and debt securities held to maturity were due to changes in interest rates.

Net gains (losses) on debt securities were \$348 thousand, \$237 thousand and \$(581) thousand for 2018, 2017 and 2016, respectively. During 2018, TCF sold \$251.3 million of debt securities available for sale. There were no sales of debt securities available for sale in 2017 and 2016. There were no impairment charges recognized on debt securities available for sale in 2018, 2017 and 2016 and no impairment charges recognized on debt securities held to maturity in 2018 and 2017. The net gains on debt securities in 2018 and 2017 were primarily related to recoveries on previously impaired debt securities held to maturity and included net gains of \$127 thousand on the sale of debt securities available for sale in 2018. The net loss on debt securities in 2016 was primarily due to impairment charges of \$716 thousand recognized on debt securities held to maturity.

Gross unrealized losses and fair value of debt securities available for sale and debt securities held to maturity aggregated by investment category and the length of time the securities were in a continuous loss position were as follows:

(In thousands)	At December 31, 2018					
	Less than 12 months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Debt securities available for sale:						
Mortgage-backed securities:						
U.S. Government sponsored enterprises and federal agencies	\$ 102,709	\$ 184	\$ 838,482	\$ 26,544	\$ 941,191	\$ 26,728
Obligations of states and political subdivisions	3,620	—	526,817	9,479	530,437	9,479
Total debt securities available for sale	\$ 106,329	\$ 184	\$ 1,365,299	\$ 36,023	\$ 1,471,628	\$ 36,207

Debt securities held to maturity:						
Mortgage-backed securities:						
U.S. Government sponsored enterprises and federal agencies	\$ 3,074	\$ 14	\$ 31,738	\$ 1,031	\$ 34,812	\$ 1,045
Total debt securities held to maturity	\$ 3,074	\$ 14	\$ 31,738	\$ 1,031	\$ 34,812	\$ 1,045

(In thousands)	At December 31, 2017					
	Less than 12 months		12 months or more		Total	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
Debt securities available for sale:						
Mortgage-backed securities:						
U.S. Government sponsored enterprises and federal agencies	\$ 406,298	\$ 2,686	\$ 428,585	\$ 11,126	\$ 834,883	\$ 13,812
Obligations of states and political subdivisions	103,759	486	207,516	3,313	311,275	3,799
Total debt securities available for sale	\$ 510,057	\$ 3,172	\$ 636,101	\$ 14,439	\$ 1,146,158	\$ 17,611

Debt securities held to maturity:						
Mortgage-backed securities:						
U.S. Government sponsored enterprises and federal agencies	\$ 13,309	\$ 132	\$ 11,470	\$ 280	\$ 24,779	\$ 412
Total debt securities held to maturity	\$ 13,309	\$ 132	\$ 11,470	\$ 280	\$ 24,779	\$ 412

The amortized cost and fair value of debt securities available for sale and debt securities held to maturity by final contractual maturity were as follows. The final contractual maturities do not consider possible prepayments and therefore expected maturities may differ because borrowers may have the right to prepay.

(In thousands)	At December 31,			
	2018		2017	
	Amortized Cost	Fair Value	Amortized Cost	Fair Value
Debt securities available for sale:				
Due in one year or less	\$ —	\$ —	\$ 6	\$ 6
Due in 1-5 years	24,464	24,375	15,178	15,312
Due in 5-10 years	509,832	503,768	514,336	517,867
Due after 10 years	1,962,708	1,941,922	1,188,834	1,175,833
Total debt securities available for sale	\$ 2,497,004	\$ 2,470,065	\$ 1,718,354	\$ 1,709,018
Debt securities held to maturity:				
Due in one year or less	\$ —	\$ —	\$ 1,000	\$ 1,000
Due in 1-5 years	2,400	2,400	1,400	1,400
Due in 5-10 years	430	432	400	400
Due after 10 years	146,022	146,435	158,776	162,826
Total debt securities held to maturity	\$ 148,852	\$ 149,267	\$ 161,576	\$ 165,626

Interest income attributable to debt securities available for sale was as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Taxable interest income	\$ 37,436	\$ 18,382	\$ 16,238
Tax-exempt interest income	17,138	14,896	10,335
Total interest income	\$ 54,574	\$ 33,278	\$ 26,573

Note 6. Loans and Leases

Loans and leases were as follows:

(In thousands)	At December 31,	
	2018	2017
Consumer real estate:		
First mortgage lien	\$ 2,444,380	\$ 1,959,387
Junior lien	2,965,960	2,860,309
Total consumer real estate	5,410,340	4,819,696
Commercial:		
Commercial real estate:		
Permanent	2,510,583	2,385,752
Construction and development	397,564	365,533
Total commercial real estate	2,908,147	2,751,285
Commercial business	943,156	809,908
Total commercial	3,851,303	3,561,193
Leasing and equipment finance	4,699,740	4,761,661
Inventory finance	3,107,356	2,739,754
Auto finance	1,982,277	3,199,639
Other	21,295	22,517
Total loans and leases⁽¹⁾	\$ 19,072,311	\$ 19,104,460

(1) Loans and leases are reported at historical cost including net direct fees and costs associated with originating and acquiring loans and leases, lease residuals, unearned income and unamortized purchase premiums and discounts. The aggregate amount of these loan and lease adjustments was \$(2.2) million and \$33.3 million at December 31, 2018 and 2017, respectively.

Loan Sales During 2018, 2017 and 2016, TCF sold \$1.0 billion, \$1.3 billion and \$1.6 billion, respectively, of consumer real estate loans, received cash of \$1.1 billion, \$1.4 billion and \$1.7 billion, respectively, and recognized net gains of \$33.5 million, \$37.3 million and \$50.4 million, respectively. Related to these sales, TCF retained interest-only strips of \$4.8 million, \$3.4 million and \$16.9 million during 2018, 2017 and 2016, respectively. Included in consumer real estate loans sold in 2018 and 2017 were \$34.7 million and \$71.2 million, respectively, of non-accrual loans, which were sold servicing released. TCF generally retains servicing on loans sold.

During 2018, TCF did not sell any auto finance loans. During 2017 and 2016, TCF sold \$424.7 million and \$2.1 billion, respectively, of auto finance loans, received cash of \$431.9 million and \$2.1 billion, respectively, and recognized net gains of \$5.5 million and \$34.8 million, respectively. Related to the sales during 2016, TCF retained interest-only strips of \$5.7 million. Included in auto finance loans sold in 2016 were amounts related to the completion of securitizations. The auto finance securitizations qualify for sale accounting and were executed by transferring the recorded investment to trusts. TCF transferred auto finance loans of \$1.4 billion, with servicing retained, to trusts, received cash of \$1.5 billion, recorded a securitization receivable of \$18.6 million and recognized net gains of \$12.5 million. These trusts are considered VIEs due to their limited capitalization and special purpose nature. TCF has concluded it is not the primary beneficiary of the trusts and therefore, they are not consolidated.

No servicing assets or liabilities related to consumer real estate or auto finance loans were recorded within TCF's Consolidated Statements of Financial Condition at December 31, 2018 and 2017, as the contractual servicing fees are adequate to compensate TCF for its servicing responsibilities based on the amount demanded by the marketplace.

Total interest-only strips and the contractual liabilities related to loan sales were as follows:

(In thousands)	At December 31,	
	2018	2017
Interest-only strips attributable to:		
Consumer real estate loan sales	\$ 15,316	\$ 16,440
Auto finance loan sales	1,519	4,946
Total interest-only strips	\$ 16,835	\$ 21,386
Contractual liabilities attributable to:		
Consumer real estate loan sales	\$ 1,321	\$ 1,234

TCF recorded impairment charges on the consumer real estate interest-only strips of \$0.3 million, \$1.1 million and \$0.8 million in 2018, 2017 and 2016, respectively. TCF recorded impairment charges on the auto finance interest-only strips of \$0.4 million, \$0.5 million and \$2.4 million in 2018, 2017 and 2016, respectively.

TCF's agreements to sell consumer real estate and auto loans typically contain certain representations, warranties and covenants regarding the loans sold or securitized. These representations, warranties and covenants generally relate to, among other things, the ownership of the loan, the validity, priority and perfection of the lien securing the loan, accuracy of information supplied to the buyer or investor, the loan's compliance with the criteria set forth in the agreement, the manner in which the loans will be serviced, payment delinquency and compliance with applicable laws and regulations. These agreements generally require the repurchase of loans or indemnification in the event TCF breaches these representations, warranties or covenants and such breaches are not cured. In addition, some agreements contain a requirement to repurchase loans as a result of early payoffs by the borrower, early payment default of the borrower or the failure to obtain valid title. For repurchases related to auto finance loans, TCF typically has contractual agreements with the automobile dealerships that originated the loans requiring the dealers to reimburse TCF for the cost of such repurchases. Losses related to repurchases pursuant to such representations, warranties and covenants were immaterial for 2018, 2017 and 2016.

Leasing and Equipment Finance Portfolio The leasing and equipment finance portfolio consisted of \$2.5 billion of leases and \$2.2 billion of loans at December 31, 2018 and \$2.5 billion of leases and \$2.3 billion of loans at December 31, 2017.

Future minimum lease payments receivable for direct financing, sales-type and operating leases at December 31, 2018 were as follows:

(In thousands)	
2019	\$ 986,449
2020	739,766
2021	520,985
2022	301,757
2023	145,156
Thereafter	57,194
Total	\$ 2,751,307

Acquired Loans and Leases TCF acquires loans and leases through business combinations and purchases of loan and lease portfolios. TCF purchased loans and leases at fair value of \$1.0 billion and \$771.3 million during 2018 and 2017, respectively. No PCI loans were acquired during 2018. Included in loans and leases acquired during 2017 were \$14.0 million of leasing and equipment finance PCI loans that TCF acquired on September 29, 2017. On the acquisition date, the leasing and equipment finance PCI loans had contractually required payments receivable of \$24.0 million, expected cash flows of \$16.6 million and a fair value (initial carrying amount) of \$14.0 million. The \$7.4 million difference between the contractually required payments receivable and the expected cash flows represented the non-accretable difference. The \$2.6 million difference between the expected cash flows and fair value represented the initial accretable yield. At December 31, 2018 and 2017, the outstanding contractual balance of these PCI loans was \$7.0 million and \$16.4 million, respectively.

The changes in accretable yield and carrying value of all PCI loans were as follows:

(In thousands)	At or For the Year Ended December 31,			
	2018		2017	
	Accretable Yield	Carrying Amount	Accretable Yield	Carrying Amount
Balance, beginning of period	\$ 1,051	\$ 11,844	\$ —	\$ 17
Additions due to acquisitions of loans	—	—	2,635	13,951
Accretion	(215)	215	(25)	25
Reclassifications from non-accretable difference	370	(356)	312	—
Payments received	(245)	(7,886)	(1,871)	(2,149)
Balance, end of period	\$ 961	\$ 3,817	\$ 1,051	\$ 11,844

Note 7. Allowance for Loan and Lease Losses and Credit Quality Information

The rollforwards of the allowance for loan and lease losses were as follows:

At or For the Year Ended December 31, 2018							
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total
Balance, beginning of period	\$ 47,168	\$ 37,195	\$ 22,528	\$ 13,233	\$ 50,225	\$ 692	\$ 171,041
Charge-offs	(7,129)	(3,585)	(9,695)	(6,928)	(49,833)	(7,558)	(84,728)
Recoveries	11,751	228	2,252	736	11,289	3,447	29,703
Net (charge-offs) recoveries	4,622	(3,357)	(7,443)	(6,192)	(38,544)	(4,111)	(55,025)
Provision for credit losses	(2,038)	7,344	8,960	5,613	22,648	4,241	46,768
Other ⁽¹⁾	(4,886)	—	(254)	(198)	—	—	(5,338)
Balance, end of period	\$ 44,866	\$ 41,182	\$ 23,791	\$ 12,456	\$ 34,329	\$ 822	\$ 157,446

At or For the Year Ended December 31, 2017							
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total
Balance, beginning of period	\$ 59,448	\$ 32,695	\$ 21,350	\$ 13,932	\$ 32,310	\$ 534	\$ 160,269
Charge-offs	(11,861)	(5,431)	(10,816)	(3,014)	(41,101)	(6,869)	(79,092)
Recoveries	20,781	833	2,065	838	6,625	3,510	34,652
Net (charge-offs) recoveries	8,920	(4,598)	(8,751)	(2,176)	(34,476)	(3,359)	(44,440)
Provision for credit losses	(12,318)	9,098	10,067	1,367	56,712	3,517	68,443
Other ⁽¹⁾	(8,882)	—	(138)	110	(4,321)	—	(13,231)
Balance, end of period	\$ 47,168	\$ 37,195	\$ 22,528	\$ 13,233	\$ 50,225	\$ 692	\$ 171,041

At or For the Year Ended December 31, 2016							
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total
Balance, beginning of period	\$ 67,992	\$ 30,185	\$ 19,018	\$ 11,128	\$ 26,486	\$ 1,245	\$ 156,054
Charge-offs	(18,624)	(753)	(7,738)	(2,623)	(26,994)	(7,353)	(64,085)
Recoveries	7,065	373	2,386	816	3,853	4,357	18,850
Net (charge-offs) recoveries	(11,559)	(380)	(5,352)	(1,807)	(23,141)	(2,996)	(45,235)
Provision for credit losses	9,304	2,890	7,706	4,540	39,149	2,285	65,874
Other ⁽¹⁾	(6,289)	—	(22)	71	(10,184)	—	(16,424)
Balance, end of period	\$ 59,448	\$ 32,695	\$ 21,350	\$ 13,932	\$ 32,310	\$ 534	\$ 160,269

(1) Primarily includes the transfer of the allowance for loan and lease losses to loans and leases held for sale.

The allowance for loan and lease losses and loans and leases outstanding by type of allowance methodology were as follows:

		At December 31, 2018						
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total	
Allowance for loan and lease losses:								
Collectively evaluated for impairment	\$ 22,134	\$ 36,411	\$ 20,108	\$ 11,621	\$ 34,157	\$ 822	\$ 125,253	
Individually evaluated for impairment	22,732	4,771	3,683	835	172	—	32,193	
Total	\$ 44,866	\$ 41,182	\$ 23,791	\$ 12,456	\$ 34,329	\$ 822	\$ 157,446	
Loans and leases outstanding:								
Collectively evaluated for impairment	\$ 5,295,817	\$ 3,815,422	\$ 4,672,168	\$ 3,099,073	\$ 1,968,645	\$ 21,291	\$ 18,872,416	
Individually evaluated for impairment	114,523	35,881	23,755	8,283	13,632	4	196,078	
Loans acquired with deteriorated credit quality	—	—	3,817	—	—	—	3,817	
Total	\$ 5,410,340	\$ 3,851,303	\$ 4,699,740	\$ 3,107,356	\$ 1,982,277	\$ 21,295	\$ 19,072,311	

		At December 31, 2017						
(In thousands)	Consumer Real Estate	Commercial	Leasing and Equipment Finance	Inventory Finance	Auto Finance	Other	Total	
Allowance for loan and lease losses:								
Collectively evaluated for impairment	\$ 28,851	\$ 35,635	\$ 19,083	\$ 12,945	\$ 49,900	\$ 691	\$ 147,105	
Individually evaluated for impairment	18,317	1,560	3,445	288	325	1	23,936	
Total	\$ 47,168	\$ 37,195	\$ 22,528	\$ 13,233	\$ 50,225	\$ 692	\$ 171,041	
Loans and leases outstanding:								
Collectively evaluated for impairment	\$ 4,675,626	\$ 3,524,864	\$ 4,721,905	\$ 2,735,638	\$ 3,188,810	\$ 22,513	\$ 18,869,356	
Individually evaluated for impairment	144,070	36,329	27,912	4,116	10,829	4	223,260	
Loans acquired with deteriorated credit quality	—	—	11,844	—	—	—	11,844	
Total	\$ 4,819,696	\$ 3,561,193	\$ 4,761,661	\$ 2,739,754	\$ 3,199,639	\$ 22,517	\$ 19,104,460	

Accruing and Non-accrual Loans and Leases TCF's key credit quality indicator is the receivable's payment performance status, defined as accruing or non-accruing. Non-accrual loans and leases are those which management believes have a higher risk of loss. Delinquent balances are determined based on the contractual terms of the loan or lease. Loans and leases that are over 60 days delinquent have a higher potential to become non-accrual and generally are a leading indicator for future charge-off trends. TCF's accruing and non-accrual loans and leases were as follows:

At December 31, 2018						
(In thousands)	Current-59 Days Delinquent and Accruing	60-89 Days Delinquent and Accruing	90 Days or More Delinquent and Accruing	Total Accruing	Non-accrual	Total
Consumer real estate:						
First mortgage lien	\$ 2,403,391	\$ 3,281	\$ 1,276	\$ 2,407,948	\$ 36,432	\$ 2,444,380
Junior lien	2,942,414	1,213	—	2,943,627	22,333	2,965,960
Total consumer real estate	5,345,805	4,494	1,276	5,351,575	58,765	5,410,340
Commercial:						
Commercial real estate	2,903,629	—	—	2,903,629	4,518	2,908,147
Commercial business	932,648	1	—	932,649	10,507	943,156
Total commercial	3,836,277	1	—	3,836,278	15,025	3,851,303
Leasing and equipment finance	4,670,021	7,996	2,642	4,680,659	15,264	4,695,923
Inventory finance	3,098,763	310	—	3,099,073	8,283	3,107,356
Auto finance	1,962,042	8,326	3,331	1,973,699	8,578	1,982,277
Other	21,264	11	17	21,292	3	21,295
Subtotal	18,934,172	21,138	7,266	18,962,576	105,918	19,068,494
Portfolios acquired with deteriorated credit quality	3,639	—	178	3,817	—	3,817
Total	\$ 18,937,811	\$ 21,138	\$ 7,444	\$ 18,966,393	\$ 105,918	\$ 19,072,311

At December 31, 2017						
(In thousands)	Current-59 Days Delinquent and Accruing	60-89 Days Delinquent and Accruing	90 Days or More Delinquent and Accruing	Total Accruing	Non-accrual	Total
Consumer real estate:						
First mortgage lien	\$ 1,892,771	\$ 4,073	\$ 593	\$ 1,897,437	\$ 61,950	\$ 1,959,387
Junior lien	2,837,767	1,268	—	2,839,035	21,274	2,860,309
Total consumer real estate	4,730,538	5,341	593	4,736,472	83,224	4,819,696
Commercial:						
Commercial real estate	2,744,500	—	—	2,744,500	6,785	2,751,285
Commercial business	809,907	1	—	809,908	—	809,908
Total commercial	3,554,407	1	—	3,554,408	6,785	3,561,193
Leasing and equipment finance	4,726,339	4,272	2,117	4,732,728	17,089	4,749,817
Inventory finance	2,735,430	191	17	2,735,638	4,116	2,739,754
Auto finance	3,183,196	6,078	2,999	3,192,273	7,366	3,199,639
Other	22,506	3	6	22,515	2	22,517
Subtotal	18,952,416	15,886	5,732	18,974,034	118,582	19,092,616
Portfolios acquired with deteriorated credit quality	10,283	361	1,200	11,844	—	11,844
Total	\$ 18,962,699	\$ 16,247	\$ 6,932	\$ 18,985,878	\$ 118,582	\$ 19,104,460

Interest income recognized on loans and leases in non-accrual status and contractual interest that would have been recorded had the loans and leases performed in accordance with their original contractual terms were as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Contractual interest due on non-accrual loans and leases	\$ 10,921	\$ 15,009	\$ 20,604
Interest income recognized on non-accrual loans and leases	1,351	2,982	4,152
Unrecognized interest income	\$ 9,570	\$ 12,027	\$ 16,452

Consumer real estate loans to customers currently involved in ongoing Chapter 7 or Chapter 13 bankruptcy proceedings which have not yet been discharged, dismissed or completed were as follows:

(In thousands)	At December 31,	
	2018	2017
Consumer real estate loans to customers in bankruptcy:		
0-59 days delinquent and accruing	\$ 3,306	\$ 7,324
Non-accrual	9,046	10,552
Total consumer real estate loans to customers in bankruptcy	\$ 12,352	\$ 17,876

Loan Modifications for Borrowers with Financial Difficulties Included within loans and leases in the previous accruing and non-accrual loans and leases tables are certain loans that have been modified in order to maximize collection of loan balances. If, for economic or legal reasons related to the customer's financial difficulties, TCF grants a concession, the modified loan is classified as a TDR loan. When a loan is modified as a TDR, principal balances are generally not forgiven. All loans classified as TDR loans are considered to be impaired. For purposes of this disclosure, PCI loans have been excluded.

TDR loans were as follows:

(In thousands)	At December 31,					
	2018			2017		
	Accruing TDR Loans	Non-accrual TDR Loans	Total TDR Loans	Accruing TDR Loans	Non-accrual TDR Loans	Total TDR Loans
Consumer real estate	\$ 80,739	\$ 16,192	\$ 96,931	\$ 88,092	\$ 34,282	\$ 122,374
Commercial	4,174	3,946	8,120	12,249	83	12,332
Leasing and equipment finance	8,491	1,754	10,245	10,263	1,413	11,676
Inventory finance	—	453	453	—	476	476
Auto finance	5,054	6,362	11,416	3,464	5,351	8,815
Other	1	—	1	3	1	4
Total	\$ 98,459	\$ 28,707	\$ 127,166	\$ 114,071	\$ 41,606	\$ 155,677

Consumer real estate TDR loans generally remain on accruing status following modification if they are less than 90 days past due and payment in full under the modified terms of the loan is expected based on a current credit evaluation and historical payment performance. Of the non-accrual TDR balance at December 31, 2018, \$7.8 million, or 48.2%, were loans discharged in Chapter 7 bankruptcy that were not reaffirmed by the borrower, of which 56.5% were current. Of the non-accrual TDR balance at December 31, 2017, \$22.3 million, or 65.0%, were loans discharged in Chapter 7 bankruptcy that were not reaffirmed by the borrower, of which 70.0% were current. All eligible loans are re-aged to current delinquency status upon modification.

The allowance on accruing consumer real estate TDR loans was \$15.5 million, or 19.2% of the outstanding balance, at December 31, 2018 and \$17.1 million, or 19.4% of the outstanding balance, at December 31, 2017. At December 31, 2018 and 2017, 0.3% and 0.5%, respectively, of accruing consumer real estate TDR loans were 60 days or more delinquent. The allowance on accruing TDRs and the percentage of accruing TDR loans that were 60 days or more delinquent were not material for the remaining classes of finance receivables at December 31, 2018 and 2017.

Unfunded commitments to consumer real estate loans classified as TDRs were \$0.6 million and \$0.4 million at December 31, 2018 and 2017, respectively. There were no unfunded commitments to commercial loans classified as TDRs at December 31, 2018 and \$0.5 million at December 31, 2017. At December 31, 2018 and 2017, no additional funds were committed to leasing and equipment finance, inventory finance or auto finance loans classified as TDRs.

Loan modifications to troubled borrowers are no longer disclosed as TDR loans in the calendar years after modification if the loans were modified to an interest rate equal to or greater than the yields of new loan originations with comparable risk at the time of restructuring and if the loan is performing based on the restructured terms; however, these loans are still considered impaired and follow TCF's impaired loan reserve policies.

Interest income on TDR loans is recognized based on the restructured terms. Unrecognized interest represents the financial impact of TDR loans and is the difference between interest income recognized on accruing TDR loans and the contractual interest that would have been recorded had the loans performed in accordance with their original contractual terms. The following table summarizes the financial effects of consumer real estate accruing TDR loans. The financial effects of TDR loans for the remaining classes of finance receivables were not material for 2018, 2017 and 2016.

(In thousands)	Contractual Interest Due	Interest Income	Unrecognized Interest
Year ended December 31, 2018:			
Consumer real estate:			
First mortgage lien	\$ 4,161	\$ 2,473	\$ 1,688
Junior lien	1,642	1,122	520
Total consumer real estate	\$ 5,803	\$ 3,595	\$ 2,208
Year ended December 31, 2017:			
Consumer real estate:			
First mortgage lien	\$ 4,522	\$ 2,707	\$ 1,815
Junior lien	1,923	1,327	596
Total consumer real estate	\$ 6,445	\$ 4,034	\$ 2,411
Year ended December 31, 2016:			
Consumer real estate:			
First mortgage lien	\$ 4,722	\$ 2,765	\$ 1,957
Junior lien	2,325	1,632	693
Total consumer real estate	\$ 7,047	\$ 4,397	\$ 2,650

TCF considers a loan to have defaulted when under the modified terms it becomes 90 or more days delinquent, has been transferred to non-accrual status, has been charged down or has been transferred to other real estate owned or repossessed and returned assets. The following table summarizes the TDR loans that defaulted during the periods presented that were modified during the respective reporting period or within one year of the beginning of the respective reporting period.

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Defaulted TDR loan balances modified during the applicable period:⁽¹⁾			
Consumer real estate:			
First mortgage lien	\$ 3,514	\$ 3,081	\$ 8,193
Junior lien	302	579	1,630
Total consumer real estate	3,816	3,660	9,823
Commercial business	4,697	—	—
Leasing and equipment finance	—	555	—
Auto finance	1,436	1,169	1,693
Defaulted TDR loans modified during the applicable period	\$ 9,949	\$ 5,384	\$ 11,516

(1) The loan balances presented are not materially different than the pre-modification loan balances as TCF's loan modifications generally do not forgive principal amounts.

Impaired Loans TCF considers impaired loans to include non-accrual commercial loans, non-accrual equipment finance loans and non-accrual inventory finance loans, as well as all TDR loans. For purposes of this disclosure, PCI loans have been excluded. Non-accrual impaired loans, including non-accrual TDR loans, are included in non-accrual loans and leases within the previous tables. Accruing TDR loans have been disclosed by delinquency status within the previous tables of accruing and non-accrual loans and leases. In the following table, the loan balance of impaired loans represents the amount recorded within loans and leases on the Consolidated Statements of Financial Condition, whereas the unpaid contractual balance represents the balances legally owed by the borrowers.

Information on impaired loans was as follows:

(In thousands)	At December 31,					
	2018			2017		
	Unpaid Contractual Balance	Loan Balance	Related Allowance Recorded	Unpaid Contractual Balance	Loan Balance	Related Allowance Recorded
Impaired loans with an allowance recorded:						
Consumer real estate:						
First mortgage lien	\$ 64,529	\$ 61,744	\$ 16,848	\$ 91,624	\$ 80,802	\$ 13,792
Junior lien	25,861	24,264	5,656	32,327	29,544	4,165
Total consumer real estate	90,390	86,008	22,504	123,951	110,346	17,957
Commercial:						
Commercial real estate	4,905	4,474	1,108	6,810	6,702	1,000
Commercial business	12,317	9,192	3,663	7,841	7,841	560
Total commercial	17,222	13,666	4,771	14,651	14,543	1,560
Leasing and equipment finance	15,763	15,763	1,856	17,105	17,105	1,345
Inventory finance	7,364	7,371	835	1,296	1,298	288
Auto finance	917	646	81	1,333	1,016	243
Other	2	1	—	3	4	1
Total impaired loans with an allowance recorded	131,658	123,455	30,047	158,339	144,312	21,394
Impaired loans without an allowance recorded:						
Consumer real estate:						
First mortgage lien	11,829	9,586	—	12,898	10,445	—
Junior lien	10,427	1,337	—	17,697	1,583	—
Total consumer real estate	22,256	10,923	—	30,595	12,028	—
Commercial real estate	4,275	4,208	—	4,552	4,491	—
Commercial business	1,328	1,325	—	—	—	—
Total commercial	5,603	5,533	—	4,552	4,491	—
Inventory finance	911	912	—	2,810	2,818	—
Auto finance	15,071	10,770	—	10,566	7,799	—
Other	329	—	—	331	—	—
Total impaired loans without an allowance recorded	44,170	28,138	—	48,854	27,136	—
Total impaired loans	\$ 175,828	\$ 151,593	\$ 30,047	\$ 207,193	\$ 171,448	\$ 21,394

The average loan balances of impaired loans and interest income recognized on impaired loans were as follows:

(In thousands)	Year Ended December 31,					
	2018		2017		2016	
	Average Loan Balance	Interest Income Recognized	Average Loan Balance	Interest Income Recognized	Average Loan Balance	Interest Income Recognized
Impaired loans with an allowance recorded:						
Consumer real estate:						
First mortgage lien	\$ 71,273	\$ 2,172	\$ 92,702	\$ 2,748	\$ 114,164	\$ 3,597
Junior lien	26,904	1,090	40,477	1,488	54,888	2,606
Total consumer real estate	98,177	3,262	133,179	4,236	169,052	6,203
Commercial:						
Commercial real estate	5,588	—	8,388	16	5,186	353
Commercial business	8,517	130	3,927	97	15	—
Total commercial	14,105	130	12,315	113	5,201	353
Leasing and equipment finance	16,433	82	13,502	58	8,579	40
Inventory finance	4,335	70	2,831	192	2,619	56
Auto finance	831	—	3,218	—	6,741	112
Other	3	—	5	—	9	—
Total impaired loans with an allowance recorded	133,884	3,544	165,050	4,599	192,201	6,764
Impaired loans without an allowance recorded:						
Consumer real estate:						
First mortgage lien	10,016	689	11,560	921	7,951	449
Junior lien	1,460	182	1,733	438	1,201	672
Total consumer real estate	11,476	871	13,293	1,359	9,152	1,121
Commercial:						
Commercial real estate	4,350	231	10,136	709	23,468	743
Commercial business	662	1	177	4	1,970	—
Total commercial	5,012	232	10,313	713	25,438	743
Inventory finance	1,865	172	1,794	196	523	95
Auto finance	9,284	302	5,102	209	1,792	—
Total impaired loans without an allowance recorded	27,637	1,577	30,502	2,477	36,905	1,959
Total impaired loans	\$ 161,521	\$ 5,121	\$ 195,552	\$ 7,076	\$ 229,106	\$ 8,723

Other Real Estate Owned and Repossessed and Returned Assets Other real estate owned and repossessed and returned assets were as follows:

(In thousands)	At December 31,	
	2018	2017
Other real estate owned	\$ 17,403	\$ 18,225
Repossessed and returned assets	14,574	12,630
Consumer real estate loans in process of foreclosure	15,540	22,622

Other real estate owned and repossessed and returned assets were written down \$3.4 million, \$6.2 million and \$8.3 million in 2018, 2017 and 2016, respectively.

Note 8. Premises and Equipment, Net

Premises and equipment, net were as follows:

(In thousands)	At December 31,	
	2018	2017
Land	\$ 144,754	\$ 146,688
Office buildings	268,495	272,428
Leasehold improvements	51,868	48,543
Furniture, equipment and computer software	404,743	363,445
Premises and equipment leased under capital leases	3,180	—
Subtotal	873,040	831,104
Less: Accumulated depreciation and amortization	445,506	409,555
Premises and equipment, net	\$ 427,534	\$ 421,549

Depreciation and amortization expense related to premises and equipment was \$48.6 million, \$45.9 million and \$44.9 million for 2018, 2017 and 2016, respectively. TCF leases certain premises and equipment under operating leases. Lease expense was \$38.0 million, \$36.4 million and \$36.5 million for 2018, 2017 and 2016, respectively. Sublease income was \$1.0 million for 2018, 2017 and 2016, respectively.

At December 31, 2018, the total future minimum rental payments for operating leases of premises and equipment were as follows:

(In thousands)	
2019	\$ 26,309
2020	25,160
2021	17,144
2022	12,258
2023	10,590
Thereafter	32,448
Total	\$ 123,909

Note 9. Goodwill and Other Intangible Assets

Goodwill, net was as follows:

(In thousands)	At December 31,	
	2018	2017
Goodwill related to consumer banking segment	\$ 141,245	\$ 141,245
Goodwill related to wholesale banking segment	13,512	13,512
Goodwill, net	\$ 154,757	\$ 154,757

Included in goodwill at December 31, 2018 and 2017 was accumulated impairment losses resulting from the impairment charge of \$73.0 million in 2017 related to the acquisition of Gateway One as a result of the Company's decision to discontinue auto finance loan originations effective December 1, 2017. Goodwill related to Gateway One was fully impaired at December 31, 2017. There was no impairment of goodwill in 2018 and 2016.

Other intangible assets, net were as follows:

(In thousands)	At December 31,							
	2018				2017			
	Gross Amount	Accumulated Amortization	Impairment	Net Amount	Gross Amount	Accumulated Amortization	Impairment	Net Amount
Program agreement	\$ 14,700	\$ 408	\$ —	\$ 14,292	\$ 14,700	\$ 49	\$ —	\$ 14,651
Non-compete agreement	9,250	3,643	—	5,607	9,000	1,081	—	7,919
Customer base intangibles	2,000	1,950	—	50	3,330	2,630	368	332
Deposit base intangibles	3,049	2,502	—	547	3,049	2,289	—	760
Total	\$ 28,999	\$ 8,503	\$ —	\$ 20,496	\$ 30,079	\$ 6,049	\$ 368	\$ 23,662

There was no impairment of other intangible assets in 2018 and 2016. There was an impairment charge of \$0.4 million in 2017 related to the customer base intangible asset attributable to Gateway One as a result of the Company's decision to discontinue auto finance loan originations effective December 1, 2017. The Gateway One customer base intangible asset was fully impaired at December 31, 2017 and written off in 2018.

Amortization expense for intangible assets was \$3.4 million, \$2.0 million and \$1.4 million for 2018, 2017 and 2016, respectively. Amortization expense for intangible assets is estimated to be \$3.1 million for 2019, \$2.7 million for 2020, \$2.7 million for 2021, \$1.6 million for 2022 and \$1.3 million for 2023.

On June 16, 2017, TCF Bank acquired 100% of the outstanding shares of Equipment Financing & Leasing Corporation ("EFLC"). TCF Bank paid \$9.0 million in cash upon closing, recorded a liability of \$5.9 million to be paid within three years and assumed \$64.2 million of EFLC's debt that was subsequently paid off. Assets acquired consisted of \$46.4 million of operating lease equipment, \$5.9 million of direct financing leases, \$21.3 million of intangible assets, \$2.2 million related to goodwill and approximately \$3.3 million of cash, other assets and other liabilities, net. The weighted-average amortization periods of the acquired program agreement, non-compete agreement and customer base intangibles were 15 years, five years and three years, respectively. The intangible assets are amortized on an accelerated method over their estimated useful lives.

On December 15, 2017, TCF Bank acquired the assets of Rubicon Mortgage Advisors, LLC. TCF recorded an intangible asset of \$3.0 million related to a non-compete agreement as part of the acquisition. The weighted-average amortization period of the acquired non-compete agreement was four years. The intangible asset is amortized on a straight-line basis over its estimated useful life.

Note 10. Investments in Affordable Housing Limited Liability Entities

Investments in affordable housing limited liability entities and unfunded commitments were as follows:

(In thousands)	At December 31,	
	2018	2017
Investments in affordable housing limited liability entities	\$ 90,871	\$ 82,399
Accrued expenses and other liabilities - unfunded commitments	56,167	48,973

Amortization expense with respect to TCF's investments in affordable housing limited liability entities was \$9.9 million, \$9.6 million and \$4.8 million for 2018, 2017 and 2016, respectively, offset by tax credits and other benefits of \$11.6 million, \$12.5 million and \$7.1 million, respectively. At December 31, 2018, the expected payments for unfunded affordable housing commitments will be payable in 2019 through 2033.

Investments in affordable housing limited liability entities are considered VIEs because TCF, as a limited partner, lacks the power to direct the activities that most significantly impact the entities' economic performance. TCF has concluded it is not the primary beneficiary of the investments in affordable housing limited liability entities and therefore, they are not consolidated. At December 31, 2018 and 2017, the carrying amount of the VIE investments was \$90.9 million and \$81.9 million, respectively. The maximum exposure to loss on the VIE investments was \$91.1 million and \$81.9 million at December 31, 2018 and 2017, respectively. The maximum exposure to loss on the VIE investments is limited to the carrying amount of the investments and the potential recapture of any recognized tax credits. TCF believes the likelihood of the tax credits being recaptured is remote, as a loss would require the managing entity to fail to meet certain government compliance requirements. Further, certain of TCF's investments in affordable housing limited liability entities include guaranteed minimum returns which are backed by an investment grade credit-rated company, which reduces the risk of loss.

Note 11. Deposits

Deposits were as follows:

(Dollars in thousands)	At December 31,			
	2018		2017	
	Amount	Year-to-Date Weighted-average Rate	Amount	Year-to-Date Weighted-average Rate
Checking:				
Non-interest bearing	\$ 3,921,710	—%	\$ 3,671,915	—%
Interest bearing	2,459,617	0.03	2,628,212	0.01
Total checking	6,381,327	0.01	6,300,127	0.01
Savings	6,122,257	0.36	5,287,606	0.09
Money market	1,609,422	0.75	1,764,998	0.47
Certificates of deposit	4,790,680	1.53	4,982,271	1.14
Total deposits	\$ 18,903,686	0.58	\$ 18,335,002	0.38

Annual maturities for certificates of deposit at December 31, 2018 were as follows:

(In thousands)	
2019	\$ 3,891,081
2020	857,528
2021	15,097
2022	6,878
2023	4,342
Thereafter	15,754
Total	\$ 4,790,680

The aggregate amount of certificates of deposit with balances equal to or greater than the Federal Deposit Insurance Corporation insurance limit of \$250,000 was \$782.4 million and \$735.7 million at December 31, 2018 and 2017, respectively.

Note 12. Short-term Borrowings

Selected information for short-term borrowings (borrowings with an original maturity of less than one year) was as follows:

(Dollars in thousands)	At December 31,					
	2018		2017		2016	
	Amount	Rate	Amount	Rate	Amount	Rate
Period-end balance:						
Securities sold under repurchase agreements	\$ —	—%	\$ —	—%	\$ 2,159	0.10%
Line of Credit - TCF Commercial Finance Canada, Inc.	—	—	—	—	2,232	1.75
Total	\$ —	—	\$ —	—	\$ 4,391	0.94
Average daily balances for the period ended:						
Federal funds purchased	\$ 156	1.91%	\$ 142	1.30%	\$ 156	0.71%
Securities sold under repurchase agreements	1,977	2.22	3,730	0.78	5,235	0.41
Line of Credit - TCF Commercial Finance Canada, Inc.	1,155	2.64	1,395	1.92	1,660	1.75
Total	\$ 3,288	2.35	\$ 5,267	1.10	\$ 7,051	0.73
Maximum month-end balances for the period ended:						
Securities sold under repurchase agreements	\$ —	N.A.	\$ 2,868	N.A.	\$ 3,391	N.A.
Line of Credit - TCF Commercial Finance Canada, Inc.	8,565	N.A.	6,171	N.A.	5,907	N.A.

N.A. Not Applicable

Securities sold under short-term repurchase agreements are related to TCF Bank's Repurchase Investment Sweep Agreement product and are collateralized by mortgage-backed securities.

Note 13. Long-term Borrowings

Long-term borrowings were as follows:

(Dollars in thousands)	Stated Maturity	At December 31,					
		2018			2017		
		Amount	Stated Rate		Amount	Stated Rate	
Federal Home Loan Bank advances	2019	\$ —	—%		\$ 600,000	1.40% - 1.75%	
	2020	1,100,000	2.55% - 2.79		275,000	1.76 - 1.78	
Subtotal		1,100,000			875,000		
Subordinated bank notes	2022	109,095	6.25		108,867	6.25	
	2025	148,461	4.60		148,252	4.60	
Hedge-related basis adjustment ⁽¹⁾		(4,165)			(2,157)		
Subtotal		253,391			254,962		
Discounted lease rentals	2018	—	—		52,347	2.55 - 7.95	
	2019	41,605	2.53 - 6.00		34,978	2.53 - 6.00	
	2020	28,258	2.64 - 6.50		19,736	2.64 - 6.50	
	2021	16,781	2.88 - 5.82		10,077	2.88 - 5.00	
	2022	5,765	3.04 - 5.95		2,349	3.04 - 5.43	
	2023	567	4.89 - 6.07		—	—	
Subtotal		92,976			119,487		
Capital lease obligation	2019	67	3.73		—	—	
	2020	86	3.73		—	—	
	2021	89	3.73		—	—	
	2022	93	3.73		—	—	
	2023	105	3.73		—	—	
	2024 - 2038	2,665	3.73		—	—	
Subtotal		3,105			—		
Total long-term borrowings		\$ 1,449,472			\$ 1,249,449		

(1) Related to subordinated bank notes with a stated maturity of 2025.

At December 31, 2018, TCF Bank had pledged loans secured by consumer and commercial real estate and FHLB stock with an aggregate carrying value of \$4.3 billion as collateral for FHLB advances. At December 31, 2018, \$1.1 billion of the FHLB advances outstanding were prepayable at TCF's option.

Note 14. Income Taxes

Applicable income taxes in the Consolidated Statements of Income were as follows:

(In thousands)	Current	Deferred	Total
Year Ended December 31, 2018:			
Federal	\$ 9,424	\$ 54,858	\$ 64,282
State	13,251	3,722	16,973
Foreign	4,435	406	4,841
Total	\$ 27,110	\$ 58,986	\$ 86,096
Year Ended December 31, 2017:			
Federal	\$ 14,384	\$ (62,913)	\$ (48,529)
State	237	9,340	9,577
Foreign	5,484	(156)	5,328
Total	\$ 20,105	\$ (53,729)	\$ (33,624)
Year Ended December 31, 2016:			
Federal	\$ 66,810	\$ 28,629	\$ 95,439
State	11,402	4,425	15,827
Foreign	5,350	(88)	5,262
Total	\$ 83,562	\$ 32,966	\$ 116,528

Reconciliations to TCF's effective income tax rates from the statutory federal income tax rates were as follows:

	Year Ended December 31,		
	2018	2017	2016
Federal income tax rate	21.00%	35.00 %	35.00%
Increase (decrease) resulting from:			
State income tax, net of federal tax	3.34	3.92	3.04
Tax-exempt income	(1.64)	(3.86)	(2.07)
Stock compensation	(0.64)	(1.15)	—
Non-controlling interest tax effect	(0.59)	(1.45)	(0.99)
Investments in affordable housing limited liability entities	(0.34)	(0.89)	(0.24)
Foreign tax effects	0.26	(0.67)	(0.50)
Tax Reform effects, net	(0.26)	(53.29)	—
Nondeductible goodwill impairment effect	—	10.43	—
State tax settlements, net of federal tax	—	(1.38)	0.19
Other, net	0.30	(0.38)	0.02
Effective income tax rate	21.43%	(13.72)%	34.45%

As a result of the Tax Cuts and Jobs Act, enacted on December 22, 2017 ("Tax Reform"), TCF recorded a reasonable estimate of a net tax benefit of \$130.7 million in its consolidated financial statements for 2017, primarily resulting from the re-measurement of the Company's estimated net deferred tax liability. Certain of these amounts were provisional in nature, as all the information necessary to record more precise amounts was not available, prepared or analyzed for 2017. TCF recorded an additional net tax benefit of \$1.1 million in the second quarter of 2018 for the finalization of the provisional amounts recorded in 2017.

TCF has determined the effects of its global intangible low taxed income and its foreign derived intangible income to be immaterial. These effects will be included in income tax expense (benefit) in the period in which they are paid or received.

TCF considers its undistributed foreign earnings to be reinvested indefinitely. This position is based on management's determination that cash held in TCF's foreign jurisdictions is not needed to fund its U.S. operations and that it either has reinvested or has intentions to reinvest these earnings. While management currently intends to indefinitely reinvest all of TCF's foreign earnings, should circumstances or tax laws change, TCF may need to record additional income tax expense in the period in which such determination or tax law change occurs.

As a result of Tax Reform, TCF recorded a \$2.0 million charge related to U.S. federal income tax on the deemed repatriation of undistributed foreign earnings as of December 31, 2017. TCF recorded an additional \$0.2 million charge in the second quarter of 2018 for the finalization of the provisional amounts recorded in 2017. Due to the shift to a worldwide territorial tax regime as part of Tax Reform, future repatriations of foreign earnings will no longer be subject to U.S. federal income tax. However, these foreign earnings may be subject to foreign withholding taxes should they be distributed in the form of dividends. As of December 31, 2018, the estimated withholding taxes that could be due on these earnings was \$3.9 million.

Reconciliations of the changes in unrecognized tax benefits were as follows:

(In thousands)	At or For the Year Ended December 31,		
	2018	2017	2016
Balance, beginning of period	\$ 4,645	\$ 4,690	\$ 4,249
Increases for tax positions related to the current year	903	200	546
Increases for tax positions related to prior years	1,438	86	627
Decreases for tax positions related to prior years	(970)	(331)	(84)
Settlements with taxing authorities	—	—	(525)
Decreases related to lapses of applicable statutes of limitation	(144)	—	(123)
Balance, end of period	\$ 5,872	\$ 4,645	\$ 4,690

The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate was \$3.7 million and \$2.2 million at December 31, 2018 and 2017, respectively. TCF recognizes increases and decreases for interest and penalties related to unrecognized tax benefits, where applicable, in income tax expense. TCF recognized approximately \$0.1 million of tax expense, \$0.6 million of tax benefit and \$0.9 million of tax expense for 2018, 2017 and 2016, respectively, related to interest and penalties. Interest and penalties of approximately \$0.7 million and \$0.6 million were accrued at December 31, 2018 and 2017, respectively.

TCF's federal income tax returns are open and subject to examination for 2015 and later tax return years. TCF's various state income tax returns are generally open for 2014 and later tax return years based on individual state statutes of limitation. TCF's various foreign income tax returns are open and subject to examination for 2014 and later tax return years. Changes in the amount of unrecognized tax benefits within the next 12 months from normal expirations of statutes of limitation are not expected to be material.

TCF's deferred tax assets and deferred tax liabilities were as follows:

(In thousands)	At December 31,	
	2018	2017
Deferred tax assets:		
Allowance for loan and lease losses	\$ 33,546	\$ 41,339
Stock compensation and deferred compensation plans	32,686	21,150
Net operating losses and other carryforwards	20,591	16,452
Debt securities available for sale	9,235	5,345
Accrued expense	2,524	2,507
Other	1,900	3,603
Deferred tax assets	100,482	90,396
Valuation allowance	(14,291)	(14,267)
Total deferred tax assets, net of valuation allowance	86,191	76,129
Deferred tax liabilities:		
Lease financing	297,603	246,221
Premises and equipment	40,130	30,109
Loan fees and discounts	17,465	12,489
Prepaid expenses	7,921	8,047
Goodwill and other intangibles	2,290	2,475
Other	7,319	4,715
Total deferred tax liabilities	372,728	304,056
Net deferred tax liabilities	\$ 286,537	\$ 227,927

The net operating losses and other carryforwards at December 31, 2018 consisted of state net operating losses of \$3.3 million that expire in 2019 through 2038, federal credit carryforwards of \$2.8 million that expire in 2038 and charitable contribution carryforwards of \$0.2 million that expire in 2022. The valuation allowance at December 31, 2018 and 2017 principally applies to net operating losses that, in the opinion of management, are more likely than not to expire unutilized. However, to the extent that tax benefits related to these carryforwards are realized in the future, the reduction in the valuation allowance will reduce income tax expense.

Note 15. Equity

Preferred Stock Preferred stock was as follows:

(In thousands)	At December 31,	
	2018	2017
Series C non-cumulative perpetual preferred stock	\$ 169,302	\$ 169,302
Series B non-cumulative perpetual preferred stock	—	96,519
Total preferred stock	\$ 169,302	\$ 265,821

At December 31, 2018 and 2017, TCF had 7,000,000 depository shares outstanding, each representing a 1/1000th ownership interest in a share of the 5.70% Series C non-cumulative perpetual preferred stock of TCF Financial Corporation, par value \$0.01 per share, with a liquidation preference of \$25,000 per share (equivalent to \$25 per depository share) (the "Series C Preferred Stock"). Dividends are payable on the Series C Preferred Stock if, as and when declared by TCF's Board of Directors on a non-cumulative basis on March 1, June 1, September 1 and December 1 of each year, which commenced on December 1, 2017. The Series C Preferred Stock may be redeemed at TCF's option in whole or in part on December 1, 2022 or on any dividend payment date thereafter. The Series C Preferred Stock was issued on September 14, 2017 for an aggregate public offering price of \$175.0 million. Net proceeds of the offering to TCF, after deducting deferred stock issuance costs of \$5.7 million, were \$169.3 million.

On March 1, 2018, TCF redeemed all 4,000,000 of the outstanding shares of the 6.45% Series B non-cumulative perpetual preferred stock of TCF Financial Corporation, par value \$0.01 per share, with a liquidation preference of \$25 per share (the "Series B Preferred Stock") for \$100.0 million. Deferred stock issuance costs of \$3.5 million originally recorded as a reduction to preferred stock upon the issuance of the Series B Preferred Stock were reclassified to retained earnings and resulted in a one-time, non-cash reduction to net income available to common stockholders utilized in the computation of earnings per common share and diluted earnings per common share for 2018. Dividends were payable on the Series B Preferred Stock if, as and when declared by TCF's Board of Directors on a non-cumulative basis on March 1, June 1, September 1 and December 1 of each year.

On October 16, 2017, TCF redeemed the 6,900,000 depository shares, each representing a 1/1000th ownership interest in a share of the 7.50% Series A non-cumulative perpetual preferred stock of TCF Financial Corporation, par value \$0.01 per share, with a liquidation preference of \$25,000 per share (equivalent to \$25 per depository share) (the "Series A Preferred Stock") for \$172.5 million using the net proceeds from the offering of its Series C depository shares and additional cash on hand. Deferred stock issuance costs of \$5.8 million originally recorded as a reduction to preferred stock upon the issuance of the Series A Preferred Stock were reclassified to retained earnings and resulted in a one-time, non-cash reduction to net income available to common stockholders utilized in the computation of earnings per common share and diluted earnings per common share for 2017. Dividends were payable on the Series A Preferred Stock if, as and when declared by TCF's Board of Directors on a non-cumulative basis on March 1, June 1, September 1 and December 1 of each year.

Restricted Retained Earnings Retained earnings at TCF Bank at December 31, 2018 included approximately \$134.4 million for which no provision for federal income taxes has been made. This amount represents earnings legally appropriated to thrift bad debt reserves and deducted for federal income tax purposes in prior years and is generally not available for payment of cash dividends or other distributions to stockholders. Future payments or distributions of these appropriated earnings could create a tax liability for TCF based on the amount of the distributions and the tax rates in effect at that time.

Treasury Stock and Other Treasury stock and other were as follows:

(In thousands)	At December 31,	
	2018	2017
Treasury stock, at cost	\$ 222,816	\$ 10,265
Shares held in trust for deferred compensation plans, at cost	29,366	30,532
Total	\$ 252,182	\$ 40,797

TCF repurchased \$212.9 million and \$9.2 million of its common stock in 2018 and 2017, respectively, pursuant to its share repurchase program. These shares were recorded as treasury stock. No repurchases of common stock were made in 2016. At December 31, 2018, TCF had the authority to repurchase an additional \$78.1 million in aggregate value of shares pursuant to its share repurchase program.

TCF reissued 16,000 shares of treasury stock at a cost of \$378 thousand in 2018 related to grants of restricted stock awards. There were no reissuances of treasury stock in 2017 or 2016.

The cost of TCF common stock held in trust for TCF's deferred compensation plans, including the Senior Officer, Winthrop and Directors Deferred Compensation Plans, TCF Employees Deferred Stock Compensation Plan and the TCF 401K Supplemental Plan, is reported in a manner similar to treasury stock (that is, changes in fair value are not recognized) with a corresponding deferred compensation obligation reflected in additional paid-in capital. Upon resignation, death, disability or termination of a deferred compensation plan participant or based on other contractual requirements, the shares held in trust are distributed to the respective plan's participant or beneficiary, as applicable. See Note 17. Stock Compensation and Note 18. Employee Benefit Plans for further information on deferred compensation plans.

Non-controlling Interest in Subsidiaries TCF has a joint venture with The Toro Company ("Toro") called Red Iron Acceptance, LLC ("Red Iron"). Red Iron provides U.S. distributors and dealers and select Canadian distributors of the Toro[®] and Exmark[®] branded products with sources of financing. TCF and Toro maintain a 55% and 45% ownership interest, respectively, in Red Iron. As TCF has a controlling financial interest in Red Iron, its financial results are consolidated in TCF's financial statements. Toro's interest is reported as a non-controlling interest within equity.

Warrants During 2018, 3,194,787 warrants were exercised at an exercise price of \$16.93 and 5,201 warrants expired on November 14, 2018. The exercise of the warrants resulted in the issuance of 1,088,918 common shares. No warrants were exercised in 2017 and 2016.

Note 16. Regulatory Capital Requirements

TCF and TCF Bank are subject to minimum capital requirements administered by the federal banking regulators. Failure to meet minimum capital requirements can initiate certain mandatory, and possible additional discretionary, actions by the federal banking regulators that could have a material adverse effect on TCF. In general, TCF Bank may not declare or pay a dividend to TCF Financial in excess of 100% of its net retained earnings for the current year combined with its net retained earnings for the preceding two calendar years, which was \$235.4 million at December 31, 2018, without prior approval of the Office of the Comptroller of the Currency (the "OCC"). The OCC also has the authority to prohibit the payment of dividends by a national bank when it determines such payments would constitute an unsafe and unsound banking practice. TCF Bank's ability to make capital distributions in the future may require regulatory approval and may be restricted by its federal banking regulators. TCF Bank's ability to make any such distributions will also depend on its earnings and ability to meet minimum regulatory capital requirements in effect during future periods. In the future, these capital adequacy standards may be higher than existing minimum regulatory capital requirements.

The Basel III capital standards allowed institutions not subject to the advanced approaches requirements to opt out of including components of accumulated other comprehensive income (loss) in common equity Tier 1 capital. TCF and TCF Bank made the one-time permanent election to not include accumulated other comprehensive income (loss) in regulatory capital. TCF and TCF Bank are subject to a capital conservation buffer. As of January 1, 2019, the Basel III capital standard requires TCF and TCF Bank to maintain a 2.5% capital conservation buffer, designed to absorb losses during periods of economic stress, composed entirely of common equity Tier 1 capital, on top of the minimum risk-weighted asset ratios, resulting in minimum ratios for TCF Bank of (i) a common equity Tier 1 capital ratio of at least 7.0%, (ii) a Tier 1 risk-based capital ratio of at least 8.5% and (iii) a total risk-based capital ratio of at least 10.5%.

Regulatory capital information for TCF and TCF Bank was as follows:

	TCF		TCF Bank		Well-capitalized Standard	Minimum Capital Requirement ⁽¹⁾
	At December 31,		At December 31,			
(Dollars in thousands)	2018	2017	2018	2017		
Regulatory Capital:						
Common equity Tier 1 capital	\$ 2,224,183	\$ 2,242,410	\$ 2,282,013	\$ 2,409,027		
Tier 1 capital	2,408,393	2,522,178	2,300,472	2,426,854		
Total capital	2,750,581	2,889,323	2,675,347	2,837,374		
Regulatory Capital Ratios:						
Common equity Tier 1 capital ratio	10.82%	10.79%	11.10%	11.59%	6.50%	4.50%
Tier 1 risk-based capital ratio	11.72	12.14	11.19	11.68	8.00	6.00
Total risk-based capital ratio	13.38	13.90	13.01	13.65	10.00	8.00
Tier 1 leverage ratio	10.44	11.12	9.97	10.70	5.00	4.00

(1) Excludes capital conservation buffer of 1.875% and 1.25% at December 31, 2018 and 2017, respectively.

Note 17. Stock Compensation

TCF maintains four stock compensation plans: (i) The TCF Financial 2015 Omnibus Incentive Plan (the "Omnibus Incentive Plan"), (ii) the TCF Financial Incentive Stock Program (the "Incentive Stock Program"), (iii) the Senior Officer, Winthrop and Directors Deferred Compensation Plans and (iv) the TCF Employees Deferred Stock Compensation Plan.

Omnibus Incentive Plan and Incentive Stock Program The Omnibus Incentive Plan and the Incentive Stock Program were adopted to enable TCF to attract and retain key personnel. In April 2015, TCF stockholders approved the Omnibus Incentive Plan, which replaced the Incentive Stock Program. At December 31, 2018, there were 4,796,822 shares reserved for issuance under the Omnibus Incentive Plan.

At December 31, 2018, there were 264,373 shares of performance-based restricted stock awards outstanding that will vest only if certain performance goals and service conditions are achieved. Failure to achieve the performance goals and service conditions will result in all or a portion of the shares being forfeited. Service-based restricted stock awards under either the Omnibus Incentive Plan or the Incentive Stock Program vest over periods from one to five years.

Information about restricted stock awards was as follows:

(Dollars in thousands)	At or For the Year Ended December 31,		
	2018	2017	2016
Unrecognized stock compensation expense	\$ 18,052	\$ 17,944	\$ 24,925
Weighted-average amortization (years)	1.6	1.6	1.6

At December 31, 2018, there were 406,575 performance-based restricted stock units granted and outstanding under the Omnibus Incentive Plan that will vest only if certain performance goals are achieved. The performance-based restricted stock units are subject to TCF's relative total stockholder return for a three-year measurement period, based on award date, as measured against TCF's peer group, which includes publicly-traded banks and thrift institutions with assets between \$10 billion and \$50 billion as selected by TCF's Compensation Committee. The number of restricted stock units granted was at target and the actual restricted stock units that will vest will depend on actual performance with a maximum total payout of 150% of target. Failure to achieve the performance goals will result in all or a portion of the restricted stock units being forfeited. The remaining weighted-average performance period of the restricted stock units was 1.6 years at December 31, 2018.

Compensation expense for restricted stock awards and restricted stock units was as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Compensation expense	\$ 16,549	\$ 12,687	\$ 8,715
Tax benefit recognized for stock compensation expense	3,871	5,661	3,103

TCF's restricted stock award and stock option transactions under the Omnibus Incentive Plan and the Incentive Stock Program were as follows:

	Restricted Stock Awards		Stock Options		
	Shares	Weighted-average Grant Date Fair Value	Shares	Weighted-average Remaining Contractual Life in Years	Weighted-average Exercise Price
Outstanding at December 31, 2015	3,273,086	\$ 13.09	1,379,000	2.17	\$ 14.07
Granted	899,000	12.13	—	—	—
Exercised	—	—	(857,000)	—	13.04
Forfeited/canceled	(230,486)	13.59	(118,000)	—	15.75
Vested	(405,425)	13.10	—	—	—
Outstanding at December 31, 2016	3,536,175	12.81	404,000	1.06	15.75
Granted	583,388	16.47	—	—	—
Exercised	—	—	(38,000)	—	15.75
Forfeited/canceled	(577,020)	11.38	—	—	—
Vested	(902,880)	13.65	—	—	—
Outstanding at December 31, 2017	2,639,663	13.65	366,000	0.06	15.75
Granted	763,446	21.65	—	—	—
Exercised	—	—	(366,000)	—	15.75
Forfeited/canceled	(234,974)	15.12	—	—	—
Vested	(878,689)	12.24	—	—	—
Outstanding at December 31, 2018	2,289,446	16.70	—	—	—

In 2008, TCF granted stock options under the Incentive Stock Program and during 2018, all of the outstanding stock options were exercised.

Senior Officer, Winthrop and Directors Deferred Compensation Plans TCF maintains the aforementioned deferred compensation plans, which previously allowed both eligible employees and non-employee directors to defer a portion of certain payments, and, in some cases, grants of restricted stock. In October 2008, TCF terminated the employee plans and only the Directors plan remains active, which allows non-employee directors to defer up to 100% of their director fees and restricted stock awards. The amounts deferred under these plans are invested in TCF common stock or other publicly traded stocks, bonds or mutual funds. At December 31, 2018, the fair value of the assets in these plans was \$13.8 million and included \$11.1 million invested in TCF common stock, compared with a total fair value of \$15.7 million including \$12.0 million invested in TCF common stock at December 31, 2017. The plans' assets invested in TCF common stock are held in trust and are included in treasury stock and other. See Note 15. Equity for further information on treasury stock and other.

TCF Employees Deferred Stock Compensation Plan The TCF Employees Deferred Stock Compensation Plan is comprised of restricted stock awards issued to certain executives. The assets of this plan are solely held in TCF common stock with a fair value of \$6.3 million and \$9.6 million at December 31, 2018 and 2017, respectively. The plan's assets invested in TCF common stock are held in trust and are included in treasury stock and other. See Note 15. Equity for further information on treasury stock and other.

Upon resignation, death, disability or termination of a deferred compensation plan participant or based on other contractual requirements, the plan participant's assets are distributed.

Note 18. Employee Benefit Plans

TCF maintains four employee benefit plans: (i) the TCF 401K Plan (the "401K"), (ii) the TCF 401K Supplemental Plan (the "Supplemental Plan"), (iii) the TCF Cash Balance Pension Plan (the "Pension Plan") and (iv) the Postretirement Plan.

TCF 401K Plan The 401K, a qualified 401(k) and employee stock ownership plan, allows participants to make contributions of up to 50% of their covered compensation on a tax-deferred and/or after-tax basis, subject to the annual covered compensation limitation imposed by the Internal Revenue Service ("IRS"). TCF matches the contributions of all participants with TCF common stock at the rate of \$1 per dollar for employees with one or more years of service up to a maximum company contribution of 5.0% of the employee's covered compensation per pay period subject to the annual covered compensation limitation imposed by the IRS. Employee contributions vest immediately and matching contributions made subsequent to January 1, 2016 vest immediately. Company matching contributions made prior to January 1, 2016 are subject to a graduated vesting schedule based on an employee's years of service with full vesting after five years.

Employees have the opportunity to diversify and invest their account balance, including matching contributions, in various mutual funds or TCF common stock. At December 31, 2018, the fair value of the assets in the 401K totaled \$319.4 million and included \$152.0 million invested in TCF common stock. Dividends on TCF common shares held in the 401K reduce retained earnings and the shares are considered outstanding for computing earnings per share. The Company's matching contributions are expensed when earned. TCF's contributions to the 401K were \$12.3 million, \$12.3 million and \$12.6 million for 2018, 2017 and 2016, respectively.

TCF 401K Supplemental Plan The Supplemental Plan, a non-qualified plan, allows certain employees to contribute up to 50% of their salary and bonus. TCF matching contributions to this plan totaled \$1.3 million, \$1.2 million and \$1.7 million for 2018, 2017 and 2016, respectively. The Company made no other contributions to this plan, other than payment of administrative expenses. The amounts deferred under this plan are invested in TCF common stock or mutual funds. At December 31, 2018 and 2017, the fair value of the assets in the plan totaled \$51.7 million and \$52.7 million, respectively, and included \$23.0 million and \$26.0 million, respectively, invested in TCF common stock. The plan's assets invested in TCF common stock are held in trust and included in treasury stock and other. See Note 15. Equity for further information on treasury stock and other.

TCF Cash Balance Pension Plan The Pension Plan is a qualified defined benefit plan covering employees who were hired prior to June 30, 2004, were at least 21 years old and had worked 1,000 hours. Effective March 31, 2006, TCF amended the Pension Plan to discontinue compensation credits for all participants. Interest credits will continue to be paid until participants' accounts are distributed from the Pension Plan. TCF makes a monthly interest credit to each participant's account. The interest rate used to determine the monthly interest credit is based on the one-year average of the 5-year Treasury Constant Maturity Rate plus 25 basis points, rounded to the nearest quarter point, capped at 12% and determined at the beginning of each year. The weighted-average interest crediting rate was 2.25% and 1.50% for 2018 and 2017, respectively. All participant accounts are 100% vested. The information set forth in the following tables is based on current actuarial reports using the measurement date of December 31.

The measurement of the projected benefit obligation, prepaid pension asset, pension liability and annual pension expense involves actuarial valuation methods and the use of actuarial and economic assumptions. Due to the long-term nature of the Pension Plan obligation, actual results may differ significantly from the actuarial-based estimates. Differences between estimates and actual experience are recorded in the year they arise. TCF closely monitors all assumptions and updates them annually. The Company does not consolidate the assets and liabilities associated with the Pension Plan.

The funded status of the Pension Plan was as follows:

(In thousands)	At or For the Year Ended December 31,	
	2018	2017
Change in projected benefit obligation:		
Projected benefit obligation, beginning of period	\$ 31,389	\$ 33,174
Interest cost on projected benefit obligation	983	1,138
Actuarial (gain) loss	(630)	765
Benefits paid	(3,412)	(3,688)
Projected benefit obligation, end of period	28,330	31,389
Change in fair value of plan assets:		
Fair value of plan assets, beginning of period	36,863	39,377
Actual gain (loss) on plan assets	(607)	1,174
Benefits paid	(3,412)	(3,688)
Fair value of plan assets, end of period	32,844	36,863
Funded status of plan, end of period	\$ 4,514	\$ 5,474
Amounts recognized in the Consolidated Statements of Financial Condition:		
Prepaid (accrued) benefit cost, end of period	\$ 4,514	\$ 5,474

The accumulated benefit obligation for the Pension Plan was \$28.3 million and \$31.4 million at December 31, 2018 and 2017, respectively.

The discount rate used to determine the projected benefit obligation for the Pension Plan was 3.95% and 3.30% in 2018 and 2017, respectively. The discount rate used to determine the projected benefit obligation was determined by matching estimated benefit cash flows to a yield curve derived from corporate bonds rated AA by either Moody's or Standard and Poor's. Bonds containing call or put provisions were excluded. The average estimated duration of benefit cash flows for the Pension Plan was 6.6 years.

TCF's Pension Plan investment policy permits investments in cash, money market mutual funds, direct fixed income securities to include U.S. Treasury securities and U.S. Government-sponsored enterprises, and indirect fixed income investment securities made in fund form (mutual fund or institutional fund) where the fund invests in fixed income securities in investment grade corporate credits, non-investment grade floating-rate bank loans and non-investment grade bonds.

The Pension Plan assets include mutual funds, U.S. Treasury Bills, interest-bearing cash, mortgage-backed securities and a collective investment fund. The Pension Plan assets are measured at fair value on a recurring basis and grouped in three levels, based on the markets in which the assets are traded and the degree and reliability of estimates and assumptions used to determine fair value. Mutual funds, U.S. Treasury Bills and interest-bearing cash are categorized as Level 1. The fair value of Level 1 assets is based on quotes from independent asset pricing services based on active markets. Mortgage-backed securities are categorized as Level 2. The fair value of level 2 assets is based on prices obtained from independent pricing sources that are based on observable transactions of similar instruments, but not quoted markets. At December 31, 2018 and 2017, there were no assets categorized as Level 3. The fair value of the collective investment fund is based on the net asset value ("NAV") of units as a practical expedient, and therefore the asset is not classified in the fair value hierarchy.

The Pension Plan's investments measured at fair value on a recurring basis were as follows:

(In thousands)	At December 31, 2018			
	Level 1	Level 2	Level 3	Total
Mutual funds	\$ 21,566	\$ —	\$ —	\$ 21,566
U.S. Treasury Bills	2,993	—	—	2,993
Interest-bearing cash	83	—	—	83
Mortgage-backed securities	—	3,399	—	3,399
Collective investment fund (measured at NAV of units as a practical expedient)	—	—	—	4,812
Total investments at fair value	\$ 24,642	\$ 3,399	\$ —	\$ 32,853

(In thousands)	At December 31, 2017			
	Level 1	Level 2	Level 3	Total
Mutual funds	\$ 27,178	\$ —	\$ —	\$ 27,178
Interest-bearing cash	63	—	—	63
Mortgage-backed securities	—	4,613	—	4,613
Collective investment fund (measured at NAV of units as a practical expedient)	—	—	—	4,995
Total investments at fair value	\$ 27,241	\$ 4,613	\$ —	\$ 36,849

The net periodic benefit plan (income) cost included in other non-interest expense for the Pension Plan was as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Interest cost	\$ 983	\$ 1,138	\$ 1,281
Return on plan assets	607	(1,174)	(1,898)
Recognized actuarial (gain) loss	(630)	765	(625)
Net periodic benefit plan (income) cost	\$ 960	\$ 729	\$ (1,242)

Pension Plan actual return (loss) on plan assets, net of administrative expenses was (1.6)%, 3.2% and 4.9% for 2018, 2017 and 2016, respectively.

The actuarial assumptions used in the Pension Plan valuation are reviewed annually. The assumptions used to determine the estimated net benefit plan cost for the Pension Plan were as follows:

	Year Ended December 31,		
	2018	2017	2016
Discount rate	3.30%	3.60%	3.75%
Expected long-term rate of return on plan assets	1.50	1.50	1.50

The expected long-term rate of return on plan assets is determined by reference to historical market returns and future expectations. The 10-year expected average return of the index consistent with the Pension Plan's current investment strategy was 2.5%, net of administrative expenses.

TCF is eligible to contribute up to \$11.4 million to the Pension Plan until the 2018 federal income tax return extended due date under various IRS funding methods. TCF made no cash contributions to the Pension Plan in 2018, 2017 and 2016, respectively. TCF does not expect to be required to contribute to the Pension Plan in 2019.

The expected future benefit payments used to determine the projected benefit obligation of the Pension Plan were as follows:

(In thousands)	
2019	\$ 3,241
2020	2,793
2021	2,410
2022	2,298
2023	2,478
2024 - 2028	9,399

Postretirement Plan The Postretirement Plan provides health care benefits to eligible retired employees who retired prior to December 31, 2009. Effective January 1, 2000, TCF modified the Postretirement Plan for employees not yet eligible for benefits under the Postretirement Plan by eliminating the Company subsidy. The provisions for full-time and retired employees then eligible for these benefits were not changed. The Postretirement Plan is not funded. The information set forth in the following tables is based on current actuarial reports using the measurement date of December 31.

The funded status of the Postretirement Plan was as follows:

(In thousands)	At or For the Year Ended December 31,	
	2018	2017
Change in benefit obligation:		
Benefit obligation, beginning of period	\$ 3,717	\$ 4,164
Interest cost on benefit obligation	110	133
Actuarial (gain) loss	(115)	(248)
Benefits paid	(392)	(332)
Benefit obligation, end of period	3,320	3,717
Change in fair value of plan assets:		
Fair value of plan assets, beginning of period	—	—
Benefits paid	(392)	(332)
TCF contributions	392	332
Fair value of plan assets, end of period	—	—
Funded status of plan, end of period	\$ (3,320)	\$ (3,717)
Amounts recognized in the Consolidated Statements of Financial Condition:		
Prepaid (accrued) benefit cost, end of period	\$ (3,320)	\$ (3,717)
Prior service cost included in accumulated other comprehensive income (loss)	(147)	(193)

The changes recognized in accumulated other comprehensive income (loss) attributable to the Postretirement Plan were as follows:

(In thousands)	At or For the Year Ended December 31,		
	2018	2017	2016
Accumulated other comprehensive income (loss) before tax, beginning of period	\$ (193)	\$ (239)	\$ (285)
Amortization of prior service credit (recognized in net periodic benefit cost)	46	46	46
Accumulated other comprehensive income (loss) before tax, end of period	\$ (147)	\$ (193)	\$ (239)

Prior service credits of the Postretirement Plan of \$46 thousand were included within accumulated other comprehensive income (loss) at December 31, 2018 and are expected to be recognized as components of net periodic benefit cost during 2019.

The net periodic benefit plan (income) cost included in other non-interest expense for the Postretirement Plan was as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Interest cost	\$ 110	\$ 133	\$ 151
Recognized actuarial (gain) loss	(115)	(248)	(211)
Amortization of prior service cost	(46)	(46)	(46)
Net periodic benefit plan (income) cost	\$ (51)	\$ (161)	\$ (106)

The discount rate used to determine the estimated net periodic benefit plan (income) cost for the Postretirement Plan was 3.15%, 3.40% and 3.50% for 2018, 2017 and 2016, respectively.

The assumptions used to determine the benefit obligation for the Postretirement Plan were as follows:

	Year Ended December 31,	
	2018	2017
Discount rate	3.85%	3.15%
Health care cost trend rate assumed for next year	5.6	5.7
Final health care cost trend rate	4.5	4.5
Year that final health care trend rate is reached	2038	2038

The discount rate used to determine the benefit obligation was determined by matching estimated benefit cash flows to a yield curve derived from corporate bonds rated AA by either Moody's or Standard and Poor's. Bonds containing call or put provisions were excluded. The average estimated duration of benefit cash flows for the Postretirement Plan was 6.1 years.

TCF contributed \$0.4 million, \$0.3 million and \$0.3 million to the Postretirement Plan in 2018, 2017 and 2016, respectively. TCF expects to contribute \$0.4 million to the Postretirement Plan in 2019. TCF currently has no plans to pre-fund the Postretirement Plan in 2019.

The expected future benefit payments used to determine the benefit obligation of the Postretirement Plan were as follows:

(In thousands)	
2019	\$ 431
2020	402
2021	374
2022	347
2023	320
2024 - 2028	1,233

Note 19. Financial Instruments with Off-Balance Sheet Risk

TCF is a party to financial instruments with off-balance sheet risk, primarily to meet the financing needs of its customers. These financial instruments, which are issued or held for purposes other than trading, involve elements of credit and interest-rate risk in excess of the amounts recognized in the Consolidated Statements of Financial Condition.

TCF's exposure to credit loss, in the event of non-performance by the counterparty to the financial instrument, for commitments to extend credit and standby letters of credit is represented by the contractual amount of the commitments. TCF uses the same credit policies in making these commitments as it does for making direct loans. TCF evaluates each customer's creditworthiness on a case-by-case basis. The amount of collateral obtained is based on a credit evaluation of the customer.

Financial instruments with off-balance sheet risk were as follows:

(In thousands)	At December 31,	
	2018	2017
Commitments to extend credit:		
Consumer real estate and other	\$ 1,627,960	\$ 1,484,065
Commercial	1,127,368	1,033,973
Leasing and equipment finance	153,339	126,249
Total commitments to extend credit	2,908,667	2,644,287
Standby letters of credit and guarantees on industrial revenue bonds	20,662	12,992
Total	\$ 2,929,329	\$ 2,657,279

Commitments to Extend Credit Commitments to extend credit are agreements to lend provided there is no violation of any condition in the contract. These commitments generally have fixed expiration dates or other termination clauses and may require payment of a fee. Since a certain amount of the commitments are expected to expire without being drawn upon, the total commitment amounts do not necessarily represent future cash requirements. Collateral to secure any funding of these commitments predominantly consists of residential and commercial real estate mortgages.

Standby Letters of Credit and Guarantees on Industrial Revenue Bonds Standby letters of credit and guarantees on industrial revenue bonds are conditional commitments issued by TCF guaranteeing the performance of a customer to a third party. These conditional commitments expire in various years through 2023. Collateral held consists primarily of commercial real estate mortgages. Since the conditions under which TCF is required to fund these commitments may not materialize, the cash requirements are expected to be less than the total outstanding commitments.

Note 20. Derivative Instruments

Derivative instruments, recognized at fair value within other assets or accrued expenses and other liabilities on the Consolidated Statements of Financial Condition, were as follows:

(In thousands)	At December 31, 2018			
	Notional Amount	Fair Value		
		Derivative Assets	Derivative Liabilities	
Derivatives designated as hedging instruments:				
Interest rate contract	\$ 150,000	\$ 393	\$	—
Forward foreign exchange contracts	157,271	2,980		—
Total derivatives designated as hedging instruments		3,373		—
Derivatives not designated as hedging instruments:				
Interest rate contracts	1,095,449	7,516		3,732
Forward foreign exchange contracts	254,274	3,709		13
Interest rate lock commitments	28,007	652		28
Other contracts	13,020	—		583
Total derivatives not designated as hedging instruments		11,877		4,356
Total derivatives before netting		15,250		4,356
Netting ⁽¹⁾		(6,982)		(991)
Total derivatives, net		\$ 8,268	\$	3,365

(In thousands)	At December 31, 2017			
	Notional Amount	Fair Value		
		Derivative Assets	Derivative Liabilities	
Derivatives designated as hedging instruments:				
Interest rate contract	\$ 150,000	\$ 405	\$	—
Forward foreign exchange contracts	77,879	—		1,744
Total derivatives designated as hedging instruments		405		1,744
Derivatives not designated as hedging instruments:				
Interest rate contracts	592,383	1,392		1,688
Forward foreign exchange contracts	330,928	—		4,619
Interest rate lock commitments	18,015	223		—
Other contracts	13,804	—		615
Total derivatives not designated as hedging instruments		1,615		6,922
Total derivatives before netting		2,020		8,666
Netting ⁽¹⁾		(457)		(7,098)
Total derivatives, net		\$ 1,563	\$	1,568

(1) Includes balance sheet netting of derivative asset and derivative liability balances, related cash collateral and portfolio level counterparty valuation adjustments.

Derivative instruments may be subject to master netting arrangements and collateral arrangements and qualify for offset in the Consolidated Statements of Financial Condition. A master netting arrangement with a counterparty creates a right of offset for amounts due to and from that same counterparty that is enforceable in the event of a default or bankruptcy. Derivative instruments subject to master netting arrangements and collateral arrangements are recognized on a net basis in the Consolidated Statements of Financial Condition. The gross amounts recognized, gross amounts offset and net amount presented of derivative instruments were as follows:

(In thousands)	At December 31, 2018		
	Gross Amounts Recognized	Gross Amounts Offset ⁽¹⁾	Net Amount Presented
Derivative assets:			
Interest rate contracts	\$ 7,909	\$ (395)	\$ 7,514
Forward foreign exchange contracts	6,689	(6,587)	102
Interest rate lock commitments	652	—	652
Total derivative assets	\$ 15,250	\$ (6,982)	\$ 8,268
Derivative liabilities:			
Interest rate contracts	\$ 3,732	\$ (395)	\$ 3,337
Forward foreign exchange contracts	13	(13)	—
Interest rate lock commitments	28	—	28
Other contracts	583	(583)	—
Total derivative liabilities	\$ 4,356	\$ (991)	\$ 3,365

(In thousands)	At December 31, 2017		
	Gross Amounts Recognized	Gross Amounts Offset ⁽¹⁾	Net Amount Presented
Derivative assets:			
Interest rate contracts	\$ 1,797	\$ (457)	\$ 1,340
Interest rate lock commitments	223	—	223
Total derivative assets	\$ 2,020	\$ (457)	\$ 1,563
Derivative liabilities:			
Interest rate contracts	\$ 1,688	\$ (457)	\$ 1,231
Forward foreign exchange contracts	6,363	(6,026)	337
Other contracts	615	(615)	—
Total derivative liabilities	\$ 8,666	\$ (7,098)	\$ 1,568

(1) Includes the amounts with counterparties subject to enforceable master netting arrangements that have been offset in the Consolidated Statements of Financial Condition.

Derivatives Designated as Hedging Instruments

Interest Rate Contract TCF Bank entered into an interest rate swap agreement which was designated as a fair value hedge of its contemporaneously issued subordinated debt. The interest rate swap agreement effectively converts the fixed interest rate to a floating rate based on the three-month LIBOR plus a fixed number of basis points on the \$150.0 million notional amount. The carrying amount of the hedged subordinated debt including the cumulative basis adjustment related to the application of fair value hedge accounting is recorded in Long-term borrowings on the Consolidated Statements of Financial Condition and was as follows:

(In thousands)	Carrying Amount of the Hedged Liability		Cumulative Amount of Fair Value Hedging Adjustments Included in the Carrying Amount of the Hedged Liability	
	At December 31,		At December 31,	
	2018	2017	2018	2017
Subordinated bank note - 2025	\$ 144,296	\$ 146,095	\$ (4,165)	\$ (2,157)

The gain (loss) related to the fair value hedge and the line within the Consolidated Statements of Income where the gain (loss) was recorded were as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Gain (loss) of fair value hedge:			
Hedged item	\$ 2,163	\$ 808	\$ 1,140
Derivative designated as a hedging instrument	(2,275)	(609)	(1,178)
Income statement line where the gain (loss) on the fair value hedge was recorded:			
Interest expense - borrowings	\$ 43,144	\$ —	\$ —
Other non-interest income	—	11,646	8,883

Forward Foreign Exchange Contracts Certain of TCF's forward foreign exchange contracts are used to manage the foreign exchange risk associated with the Company's net investment in TCFFCFC. These forward foreign exchange contracts have been designated as net investment hedges. The effect of net investment hedges on accumulated other comprehensive income was as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Forward foreign exchange contracts	\$ 13,762	\$ (4,430)	\$ (1,213)

Derivatives Not Designated as Hedging Instruments Certain other interest rate contracts, forward foreign exchange contracts, interest rate lock commitments and other contracts have not been designated as hedging instruments. The effect of these derivatives on the Consolidated Statements of Income was as follows:

(In thousands)	Location of Gain (Loss)	Year Ended December 31,		
		2018	2017	2016
Interest rate contracts	Other non-interest income	\$ (409)	\$ (268)	\$ 71
Forward foreign exchange contracts	Other non-interest expense	23,707	(15,748)	(13,689)
Interest rate lock commitments	Gains on sales of loans, net	806	(73)	(419)
Other contracts	Other non-interest expense	(274)	(311)	(629)
Net gain (loss) recognized		\$ 23,830	\$ (16,400)	\$ (14,666)

TCF executes all of its forward foreign exchange contracts in the over-the-counter market with large financial institutions pursuant to International Swaps and Derivatives Association, Inc. agreements. These agreements include credit risk-related features that enhance the creditworthiness of these instruments, as compared with other obligations of the respective counterparty with whom TCF has transacted, by requiring that additional collateral be posted under certain circumstances. The amount of collateral required depends on the contract and is determined daily based on market and currency exchange rate conditions.

At December 31, 2018 and 2017, credit risk-related contingent features existed on forward foreign exchange contracts with a notional value of \$25.7 million and \$39.8 million, respectively. In the event TCF is rated less than BB- by Standard and Poor's, the contracts could be terminated or TCF may be required to provide approximately \$0.5 million and \$0.8 million in additional collateral at December 31, 2018 and 2017, respectively. There were no forward foreign exchange contracts containing credit risk-related features in a liability position at December 31, 2018 and \$0.4 million at December 31, 2017.

At December 31, 2018, TCF had posted \$9.1 million and \$1.3 million of cash collateral related to its interest rate contracts and other contracts, respectively, and had received \$6.7 million of cash collateral related to its forward foreign exchange contracts.

Note 21. Fair Value Disclosures

TCF uses fair value measurements to record fair value adjustments to certain assets and liabilities and to determine fair value disclosures. The Company's fair values are based on the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Debt securities available for sale, certain loans held for sale, interest-only strips, interest rate contracts, forward foreign exchange contracts, interest rate lock commitments, other contracts, forward loan sales commitments, and assets and liabilities held in trust for deferred compensation plans are recorded at fair value on a recurring basis. From time to time we may be required to record at fair value other assets on a non-recurring basis, such as certain debt securities held to maturity, loans, goodwill, other intangible assets, other real estate owned, repossessed and returned assets or the securitization receivable. These non-recurring fair value adjustments typically involve application of lower of cost or fair value accounting or write-downs of individual assets.

TCF groups its assets and liabilities measured at fair value in three levels, based on the markets in which the assets and liabilities are traded and the degree and reliability of estimates and assumptions used to determine fair value. The levels are as follows: Level 1, which includes valuations that are based on prices obtained from independent pricing sources for the same instruments traded in active markets; Level 2, which includes valuations that are based on prices obtained from independent pricing sources that are based on observable transactions of similar instruments, but not quoted markets and Level 3, which includes valuations generated from Company model-based techniques that use significant unobservable inputs. Such unobservable inputs reflect estimates of assumptions that market participants would use in pricing the asset or liability.

The following is a discussion of the valuation methodologies used to record assets and liabilities at fair value on a recurring or non-recurring basis.

Debt Securities Available for Sale Debt securities available for sale consist primarily of securities of U.S. Government sponsored enterprises and federal agencies, and obligations of states and political subdivisions. The fair value of these securities, categorized as Level 2, is recorded using prices obtained from independent asset pricing services that are based on observable transactions, but not quoted markets. Management reviews the prices obtained from independent asset pricing services for unusual fluctuations and comparisons to current market trading activity.

Loans Held for Sale Loans held for sale for which the fair value option has been elected are categorized as Level 3. The fair value of these loans is recorded utilizing internal valuation models which use quoted investor prices to estimate the fair value.

Loans Loans for which repayment is expected to be provided solely by the value of the underlying collateral, categorized as Level 3 and recorded at fair value on a non-recurring basis, are valued based on the fair value of that collateral less estimated selling costs. Such loans include non-accrual impaired loans as well as certain delinquent non-accrual consumer real estate and auto finance loans. The fair value of the collateral is determined based on internal estimates and assessments provided by third-party appraisers.

Interest-only Strips The fair value of interest-only strips, categorized as Level 3, represents the present value of future cash flows expected to be received by TCF on certain assets. TCF uses available market data, along with its own empirical data and discounted cash flow models, to arrive at the fair value of its interest-only strips. The present value of the estimated expected future cash flows to be received is determined by using discount, loss and prepayment rates that TCF believes are commensurate with the risks associated with the cash flows and what a market participant would use. These assumptions are inherently subject to volatility and uncertainty and, as a result, the fair value of the interest-only strips may fluctuate significantly from period to period.

Derivative Instruments

Interest Rate Contracts TCF executes interest rate contracts with commercial banking customers to facilitate their respective risk management strategies. Certain of these interest rate contracts are simultaneously hedged by offsetting interest rate contracts TCF executes with a third party, minimizing TCF's net interest rate risk exposure resulting from such transactions. TCF also has an interest rate swap agreement to convert its \$150.0 million of fixed-rate subordinated notes to floating rate debt. These derivative instruments are recorded at fair value. The fair value of these interest rate contracts, categorized as Level 2, is determined using a cash flow model which may consider the forward curve, the discount curve and credit valuation adjustments related to counterparty and/or borrower non-performance risk.

Forward Foreign Exchange Contracts TCF's forward foreign exchange contracts are currency contracts executed in over-the-counter markets and are recorded at fair value using a cash flow model that includes key inputs such as foreign exchange rates and an assessment of the risk of counterparty non-performance. The risk of counterparty non-performance is based on external assessments of credit risk. The fair value of these contracts, categorized as Level 2, is based on observable transactions, but not quoted markets.

Interest Rate Lock Commitments TCF's interest rate lock commitments are derivative instruments that are recorded at fair value using an internal valuation model that utilizes estimated rates of successful loan closings and quoted investor prices. While this model uses both Level 2 and Level 3 inputs, TCF has determined that the significant inputs used in the valuation of these commitments fall within Level 3 and therefore the interest rate lock commitments are categorized as Level 3.

Other Contracts TCF's swap agreement, categorized as Level 3, is related to the sale of TCF's Visa Class B stock. The fair value of the swap agreement is based on TCF's estimated exposure related to the Visa covered litigation through a probability analysis of the funding and estimated settlement amounts.

Forward Loan Sales Commitments TCF enters into forward loan sales commitments to sell certain consumer real estate loans. The resulting loans held for sale are recorded at fair value under the elected fair value option. TCF relies on internal valuation models to estimate the fair value of these instruments. The valuation models utilize estimated rates of successful loan closings and quoted investor prices. While these models use both Level 2 and Level 3 inputs, TCF has determined that the significant inputs used in the valuation of these commitments fall within Level 3 and therefore the forward loan sales commitments are categorized as Level 3.

Other Real Estate Owned and Repossessed and Returned Assets The fair value of other real estate owned, categorized as Level 3, is based on independent appraisals, real estate brokers' price opinions or automated valuation methods, less estimated selling costs. Certain properties require assumptions that are not observable in an active market in the determination of fair value. The fair value of repossessed and returned assets is based on available pricing guides, auction results or price opinions, less estimated selling costs. Assets acquired through foreclosure, repossession or returned to TCF are initially recorded at the lower of the loan or lease carrying amount or fair value less estimated selling costs at the time of transfer to other real estate owned or repossessed and returned assets.

Assets and Liabilities Held in Trust for Deferred Compensation Plans Assets held in trust for deferred compensation plans include investments in publicly traded securities, excluding TCF common stock reported in treasury stock and other equity, and U.S. Treasury notes. The fair value of these assets, categorized as Level 1, is based on prices obtained from independent asset pricing services based on active markets. The fair value of the liabilities equals the fair value of the assets.

The balances of assets and liabilities measured at fair value on a recurring and non-recurring basis were as follows:

(In thousands)	At December 31, 2018			
	Level 1	Level 2	Level 3	Total
Recurring fair value measurements through net income:				
Assets:				
Loans held for sale	\$ —	\$ —	\$ 18,070	\$ 18,070
Interest rate contracts ⁽¹⁾	—	7,909	—	7,909
Forward foreign exchange contracts ⁽¹⁾	—	3,709	—	3,709
Interest rate lock commitments ⁽¹⁾	—	—	652	652
Forward loan sales commitments	—	—	152	152
Assets held in trust for deferred compensation plans	33,217	—	—	33,217
Total assets	\$ 33,217	\$ 11,618	\$ 18,874	\$ 63,709
Liabilities:				
Interest rate contracts ⁽¹⁾	\$ —	\$ 3,732	\$ —	\$ 3,732
Forward foreign exchange contracts ⁽¹⁾	—	13	—	13
Interest rate lock commitments ⁽¹⁾	—	—	28	28
Other contracts ⁽¹⁾	—	—	583	583
Forward loan sales commitments	—	—	178	178
Liabilities held in trust for deferred compensation plans	33,217	—	—	33,217
Total liabilities	\$ 33,217	\$ 3,745	\$ 789	\$ 37,751
Recurring fair value measurements through other comprehensive income:				
Assets:				
Debt securities available for sale:				
Mortgage-backed securities:				
U.S. Government sponsored enterprises and federal agencies	\$ —	\$ 1,913,190	\$ —	\$ 1,913,190
Other	—	—	4	4
Obligations of states and political subdivisions	—	556,871	—	556,871
Interest-only strips	—	—	16,835	16,835
Forward foreign exchange contracts ⁽¹⁾	—	2,980	—	2,980
Total assets	\$ —	\$ 2,473,041	\$ 16,839	\$ 2,489,880
Non-recurring fair value measurements:				
Loans	\$ —	\$ —	\$ 57,663	\$ 57,663
Other real estate owned	—	—	9,397	9,397
Repossessed and returned assets	—	4,358	5,165	9,523
Total non-recurring fair value measurements	\$ —	\$ 4,358	\$ 72,225	\$ 76,583

(1) As permitted under GAAP, TCF has elected to net derivative assets and derivative liabilities when a legally enforceable master netting agreement exists as well as the related cash collateral received and paid. For purposes of this table, the derivative assets and derivative liabilities are presented gross of this netting adjustment.

At December 31, 2017

(In thousands)	Level 1		Level 2		Level 3		Total
Recurring fair value measurements through net income:							
Assets:							
Loans held for sale	\$	—	\$	—	\$	3,356	\$ 3,356
Interest rate contracts ⁽¹⁾		—		1,797		—	1,797
Interest rate lock commitments ⁽¹⁾		—		—		223	223
Forward loan sales commitments		—		—		68	68
Assets held in trust for deferred compensation plans		29,962		—		—	29,962
Total assets	\$	29,962	\$	1,797	\$	3,647	\$ 35,406
Liabilities:							
Interest rate contracts ⁽¹⁾	\$	—	\$	1,688	\$	—	\$ 1,688
Forward foreign exchange contracts ⁽¹⁾		—		4,619		—	4,619
Other contracts ⁽¹⁾		—		—		615	615
Forward loan sales commitments		—		—		5	5
Liabilities held in trust for deferred compensation plans		29,962		—		—	29,962
Total liabilities	\$	29,962	\$	6,307	\$	620	\$ 36,889
Recurring fair value measurements through other comprehensive income:							
Assets:							
Debt securities available for sale:							
Mortgage-backed securities:							
U.S. Government sponsored enterprises and federal agencies	\$	—	\$	894,685	\$	—	\$ 894,685
Other		—		—		6	6
Obligations of states and political subdivisions		—		814,327		—	814,327
Interest-only strips		—		—		21,386	21,386
Total assets	\$	—	\$	1,709,012	\$	21,392	\$ 1,730,404
Liabilities:							
Forward foreign exchange contracts ⁽¹⁾	\$	—	\$	1,744	\$	—	\$ 1,744
Total liabilities	\$	—	\$	1,744	\$	—	\$ 1,744
Non-recurring fair value measurements:							
Loans	\$	—	\$	—	\$	72,287	\$ 72,287
Other real estate owned		—		—		14,036	14,036
Repossessed and returned assets		—		3,669		4,388	8,057
Total non-recurring fair value measurements	\$	—	\$	3,669	\$	90,711	\$ 94,380

(1) As permitted under GAAP, TCF has elected to net derivative assets and derivative liabilities when a legally enforceable master netting agreement exists as well as the related cash collateral received and paid. For purposes of this table, the derivative assets and derivative liabilities are presented gross of this netting adjustment.

Management assesses the appropriate classification of financial assets and liabilities within the fair value hierarchy by monitoring the level of available observable market information. Changes in markets or economic conditions, as well as changes to Company valuation models, may require the transfer of financial instruments from one fair value level to another. Such transfers, if any, are recorded at the fair values as of the beginning of the quarter in which the transfers occurred. TCF had no transfers in 2018, 2017 and 2016.

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

(In thousands)	Debt Securities Available for Sale	Loans Held for Sale	Interest-only Strips	Interest Rate Lock Commitments	Other Contracts	Forward Loan Sales Commitments
Asset (liability) balance, December 31, 2015	\$ 34	\$ 10,568	\$ 44,332	\$ 716	\$ (305)	\$ 265
Total net gains (losses) included in:						
Net income	—	(48)	2,980	(419)	(629)	96
Other comprehensive income (loss)	—	—	159	—	—	—
Sales	—	(343,949)	—	—	—	—
Originations	—	339,930	22,620	—	—	—
Principal paydowns / settlements	(16)	(3)	(29,939)	—	315	—
Asset (liability) balance, December 31, 2016	18	6,498	40,152	297	(619)	361
Total net gains (losses) included in:						
Net income	—	129	3,939	(74)	(310)	(298)
Other comprehensive income (loss)	—	—	(452)	—	—	—
Sales	—	(215,381)	—	—	—	—
Originations	—	212,509	3,377	—	—	—
Principal paydowns / settlements	(12)	(399)	(25,630)	—	314	—
Asset (liability) balance, December 31, 2017	6	3,356	21,386	223	(615)	63
Total net gains (losses) included in:						
Net income	—	454	2,616	401	(274)	(89)
Other comprehensive income (loss)	—	—	1,195	—	—	—
Sales	—	(332,288)	—	—	—	—
Originations	—	346,560	4,797	—	—	—
Principal paydowns / settlements	(2)	(12)	(13,159)	—	306	—
Asset (liability) balance, December 31, 2018	\$ 4	\$ 18,070	\$ 16,835	\$ 624	\$ (583)	\$ (26)

Fair Value Option

TCF Bank originates first mortgage lien loans in its primary banking markets and sells the loans through correspondent relationships. TCF elected the fair value option for these loans. This election facilitates the offsetting of changes in fair value of the loans held for sale and the derivative financial instruments used to economically hedge them. The difference between the aggregate fair value and aggregate unpaid principal balance of these loans held for sale was as follows:

(In thousands)	At December 31,	
	2018	2017
Fair value carrying amount	\$ 18,070	\$ 3,356
Aggregate unpaid principal amount	17,517	3,268
Fair value carrying amount less aggregate unpaid principal	\$ 553	\$ 88

Differences between the fair value carrying amount and the aggregate unpaid principal balance include changes in fair value recorded at and subsequent to funding and gains and losses on the related loan commitment prior to funding. No loans recorded under the fair value option were delinquent or on non-accrual status at December 31, 2018 and 2017. The net gain from initial measurement of the correspondent lending loans held for sale, any subsequent changes in fair value while the loans are outstanding and any actual adjustment to the gains realized upon sales of the loans totaled \$10.0 million, \$4.9 million and \$7.6 million for 2018, 2017 and 2016, respectively, and are included in net gains on sales of loans. These amounts exclude the impacts from the interest rate lock commitments and forward loan sales commitments which are also included in net gains on sales of loans.

Disclosures About Fair Value of Financial Instruments

Management discloses the estimated fair value of financial instruments, including assets and liabilities on and off the Consolidated Statements of Financial Condition, for which it is practicable to estimate fair value. These fair value estimates were made at December 31, 2018 and 2017 based on relevant market information and information about the financial instruments. Fair value estimates are intended to represent the price at which an asset could be sold or a liability could be settled. However, given there is no active market or observable market transactions for many of the Company's financial instruments, the estimates of fair values are subjective in nature, involve uncertainties and include matters of significant judgment. Changes in assumptions could significantly affect the estimated values.

The carrying amounts and estimated fair values of the Company's financial instruments, excluding short-term financial assets and liabilities as their carrying amounts approximate fair value, and excluding financial instruments recorded at fair value on a recurring basis, were as follows. This information represents only a portion of TCF's balance sheet and not the estimated value of the Company as a whole. Non-financial instruments such as the intangible value of TCF's branches and core deposits, leasing operations, goodwill, premises and equipment and the future revenues from TCF's customers are not reflected in this disclosure. Therefore, this information is of limited use in assessing the value of TCF.

(In thousands)	At December 31, 2018				
	Carrying Amount	Estimated Fair Value			Total
		Level 1	Level 2	Level 3	
Financial instrument assets:					
Investments	\$ 91,654	\$ —	\$ 91,654	\$ —	\$ 91,654
Debt securities held to maturity	148,852	—	146,467	2,800	149,267
Loans held for sale	72,594	—	—	74,078	74,078
Loans:					
Consumer real estate	5,410,340	—	—	5,461,209	5,461,209
Commercial real estate	2,908,147	—	—	2,872,829	2,872,829
Commercial business	943,156	—	—	890,828	890,828
Equipment finance	2,169,577	—	—	2,131,147	2,131,147
Inventory finance	3,107,356	—	—	3,091,593	3,091,593
Auto finance	1,982,277	—	—	1,935,017	1,935,017
Other	21,295	—	—	16,928	16,928
Allowance for loan losses ⁽¹⁾	(157,446)	—	—	—	—
Securitization receivable ⁽²⁾	19,432	—	—	19,025	19,025
Total financial instrument assets	\$ 16,717,234	\$ —	\$ 238,121	\$ 16,495,454	\$ 16,733,575
Financial instrument liabilities:					
Deposits	\$ 18,903,686	\$ 14,113,006	\$ 4,820,442	\$ —	\$ 18,933,448
Long-term borrowings	1,449,472	—	1,451,550	—	1,451,550
Total financial instrument liabilities	\$ 20,353,158	\$ 14,113,006	\$ 6,271,992	\$ —	\$ 20,384,998
Financial instruments with off-balance sheet risk:⁽³⁾					
Commitments to extend credit	\$ 18,555	\$ —	\$ 18,555	\$ —	\$ 18,555
Standby letters of credit	(77)	—	(77)	—	(77)
Total financial instruments with off-balance sheet risk	\$ 18,478	\$ —	\$ 18,478	\$ —	\$ 18,478

(1) Expected credit losses are included in the estimated fair values.

(2) Carrying amounts are included in other assets.

(3) Positive amounts represent assets, negative amounts represent liabilities.

At December 31, 2017

(In thousands)	Carrying Amount	Estimated Fair Value			Total
		Level 1	Level 2	Level 3	
Financial instrument assets:					
Investments	\$ 82,644	\$ —	\$ 82,644	\$ —	\$ 82,644
Debt securities held to maturity	161,576	—	162,826	2,800	165,626
Loans held for sale	134,752	—	—	139,458	139,458
Loans:					
Consumer real estate	4,819,696	—	—	4,916,475	4,916,475
Commercial real estate	2,751,285	—	—	2,710,237	2,710,237
Commercial business	809,908	—	—	776,989	776,989
Equipment finance	2,300,479	—	—	2,260,692	2,260,692
Inventory finance	2,739,754	—	—	2,723,045	2,723,045
Auto finance	3,199,639	—	—	3,197,794	3,197,794
Other	22,517	—	—	21,129	21,129
Allowance for loan losses ⁽¹⁾	(171,041)	—	—	—	—
Securitization receivable ⁽²⁾	19,179	—	—	18,595	18,595
Total financial instrument assets	\$ 16,870,388	\$ —	\$ 245,470	\$ 16,767,214	\$ 17,012,684
Financial instrument liabilities:					
Deposits	\$ 18,335,002	\$ 13,352,731	\$ 5,023,526	\$ —	\$ 18,376,257
Long-term borrowings	1,249,449	—	1,255,333	—	1,255,333
Total financial instrument liabilities	\$ 19,584,451	\$ 13,352,731	\$ 6,278,859	\$ —	\$ 19,631,590
Financial instruments with off-balance sheet risk:⁽³⁾					
Commitments to extend credit	\$ 19,423	\$ —	\$ 19,423	\$ —	\$ 19,423
Standby letters of credit	(83)	—	(83)	—	(83)
Total financial instruments with off-balance sheet risk	\$ 19,340	\$ —	\$ 19,340	\$ —	\$ 19,340

(1) Expected credit losses are included in the estimated fair values.

(2) Carrying amounts are included in other assets.

(3) Positive amounts represent assets, negative amounts represent liabilities.

Note 22. Earnings Per Common Share

The computations of basic and diluted earnings per common share were as follows:

(Dollars in thousands, except per share data)	Year Ended December 31,		
	2018	2017	2016
Basic Earnings Per Common Share:			
Net income attributable to TCF Financial Corporation	\$ 304,358	\$ 268,637	\$ 212,124
Preferred stock dividends	11,588	19,904	19,388
Impact of preferred stock redemption ⁽¹⁾	3,481	5,779	—
Net income available to common stockholders	289,289	242,954	192,736
Less: Earnings allocated to participating securities	42	42	49
Earnings allocated to common stock	\$ 289,247	\$ 242,912	\$ 192,687
Weighted-average common shares outstanding used in basic earnings per common share calculation	165,585,493	168,679,501	167,219,964
Basic earnings per common share	\$ 1.75	\$ 1.44	\$ 1.15
Diluted Earnings Per Common Share:			
Earnings allocated to common stock	\$ 289,247	\$ 242,912	\$ 192,687
Weighted-average common shares outstanding used in basic earnings per common share calculation	165,585,493	168,679,501	167,219,964
Net dilutive effect of:			
Non-participating restricted stock	600,884	353,610	505,162
Stock options	2,332	28,625	82,325
Warrants	372,996	27,508	—
Weighted-average common shares outstanding used in diluted earnings per common share calculation	166,561,705	169,089,244	167,807,451
Diluted earnings per common share	\$ 1.74	\$ 1.44	\$ 1.15

(1) Amounts represent the deferred stock issuance costs originally recorded in preferred stock that were reclassified to retained earnings.

For 2018 and 2017, there were 878,366 and 750,623, respectively, outstanding shares related to non-participating restricted stock that were not included in the computation of diluted earnings per common share because they were anti-dilutive. For 2016, there were 4,707,629 outstanding shares related to warrants and non-participating restricted stock that were not included in the computation of diluted earnings per common share because they were anti-dilutive.

Note 23. Other Non-interest Expense

Other non-interest expense was as follows:

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Consumer Financial Protection Bureau and OCC settlement charge ⁽¹⁾	\$ 32,000	\$ —	\$ —
Advertising and marketing	28,120	26,927	22,264
Professional fees	21,529	33,070	19,335
Outside processing	20,574	20,473	15,313
Card processing and issuance costs	17,461	18,325	15,856
FDIC insurance	15,056	16,049	15,912
Loan and lease processing	13,649	22,149	26,193
Severance	6,324	22,299	5,280
Goodwill impairment	—	73,041	—
Other	105,933	114,523	110,244
Total other non-interest expense	\$ 260,646	\$ 346,856	\$ 230,397

(1) See Note 26. Litigation Contingencies for further information.

Note 24. Business Segments

The Company's reportable segments are Consumer Banking, Wholesale Banking and Enterprise Services. Consumer Banking is comprised of all of the Company's consumer-facing businesses and includes retail banking, consumer real estate and other, and auto finance. Wholesale Banking is comprised of commercial banking, leasing and equipment finance, and inventory finance. Enterprise Services is comprised of (i) corporate treasury, which includes TCF's investment and borrowing portfolios and management of capital, debt and market risks; (ii) corporate functions, such as information technology, risk and credit management, bank operations, finance, investor relations, corporate development, internal audit, legal and human capital management that provide services to the operating segments; (iii) the Holding Company and (iv) eliminations.

TCF evaluates performance and allocates resources based on each reportable segment's net income or loss. The reportable business segments follow GAAP as described in Note 1. Basis of Presentation, except for the accounting for intercompany interest income and interest expense, which are eliminated in consolidation and presenting net interest income on a fully tax-equivalent basis. TCF generally accounts for inter-segment sales and transfers at cost.

Certain information for each of TCF's reportable segments, including reconciliations of TCF's consolidated totals, was as follows:

(In thousands)	Consumer Banking	Wholesale Banking	Enterprise Services	Consolidated
At or For the Year Ended December 31, 2018:				
Interest income:				
Loans and leases	\$ 430,762	\$ 638,188	\$ (3,813)	\$ 1,065,137
Debt securities available for sale	—	—	54,574	54,574
Debt securities held to maturity	—	91	3,879	3,970
Loans held for sale and other	10,413	306	7,864	18,583
Funds transfer pricing - credits	404,770	35,370	(440,140)	—
Total interest income	845,945	673,955	(377,636)	1,142,264
Interest expense:				
Deposits	79,680	9,611	17,822	107,113
Borrowings	43,398	79,660	(79,914)	43,144
Funds transfer pricing - charges	166,787	205,001	(371,788)	—
Total interest expense	289,865	294,272	(433,880)	150,257
Net interest income (expense)	556,080	379,683	56,244	992,007
Provision for credit losses	24,922	21,846	—	46,768
Net interest income (expense) after provision for credit losses	531,158	357,837	56,244	945,239
Non-interest income:				
Leasing and equipment finance	—	185,107	—	185,107
Fees and service charges	119,541	12,660	—	132,201
Card revenue	58,811	53	—	58,864
ATM revenue	19,687	3	—	19,690
Gains on sales of loans, net	33,488	10	—	33,498
Servicing fee income	26,042	1,292	—	27,334
Gains (losses) on debt securities, net	—	221	127	348
Other	11,611	1,201	1,031	13,843
Total non-interest income	269,180	200,547	1,158	470,885
Non-interest expense:				
Compensation and employee benefits	215,548	94,709	186,806	497,063
Occupancy and equipment	105,000	20,141	40,671	165,812
Operating lease depreciation	—	73,829	—	73,829
Foreclosed real estate and repossessed assets, net	14,600	2,443	7	17,050
Other	331,600	120,824	(191,778)	260,646
Total non-interest expense	666,748	311,946	35,706	1,014,400
Income (loss) before income tax expense (benefit)	133,590	246,438	21,696	401,724
Income tax expense (benefit)	30,706	53,614	1,776	86,096
Income (loss) after income tax expense (benefit)	102,884	192,824	19,920	315,628
Income attributable to non-controlling interest	—	11,270	—	11,270
Preferred stock dividends	—	—	11,588	11,588
Impact of preferred stock redemption	—	—	3,481	3,481
Net income (loss) available to common stockholders	\$ 102,884	\$ 181,554	\$ 4,851	\$ 289,289
Revenues from external customers:				
Interest income	\$ 441,175	\$ 634,772	\$ 66,317	\$ 1,142,264
Non-interest income	269,180	200,547	1,158	470,885
Total	\$ 710,355	\$ 835,319	\$ 67,475	\$ 1,613,149
Total assets	\$ 8,193,021	\$ 12,229,071	\$ 3,277,520	\$ 23,699,612

(In thousands)	Consumer Banking	Wholesale Banking	Enterprise Services	Consolidated
At or For the Year Ended December 31, 2017:				
Interest income:				
Loans and leases	\$ 433,627	\$ 527,141	\$ (6,522)	\$ 954,246
Debt securities available for sale	—	—	33,278	33,278
Debt securities held to maturity	—	101	4,335	4,436
Loans held for sale and other	22,698	81	4,318	27,097
Funds transfer pricing - credits	367,149	25,499	(392,648)	—
Total interest income	823,474	552,822	(357,239)	1,019,057
Interest expense:				
Deposits	55,237	2,745	8,030	66,012
Borrowings	49,879	47,460	(69,532)	27,807
Funds transfer pricing - charges	143,748	143,336	(287,084)	—
Total interest expense	248,864	193,541	(348,586)	93,819
Net interest income (expense)	574,610	359,281	(8,653)	925,238
Provision for credit losses	48,227	20,216	—	68,443
Net interest income (expense) after provision for credit losses	526,383	339,065	(8,653)	856,795
Non-interest income:				
Leasing and equipment finance	—	145,039	—	145,039
Fees and service charges	121,728	10,159	—	131,887
Card revenue	55,728	4	—	55,732
ATM revenue	19,621	3	—	19,624
Gains on sales of loans, net	42,787	—	—	42,787
Servicing fee income	39,996	1,351	—	41,347
Gains (losses) on debt securities, net	—	237	—	237
Other	10,135	1,192	319	11,646
Total non-interest income	289,995	157,985	319	448,299
Non-interest expense:				
Compensation and employee benefits	224,420	86,397	171,695	482,512
Occupancy and equipment	109,848	20,402	26,659	156,909
Operating lease depreciation	—	55,901	—	55,901
Foreclosed real estate and repossessed assets, net	14,097	3,279	380	17,756
Other	395,364	111,452	(159,960)	346,856
Total non-interest expense	743,729	277,431	38,774	1,059,934
Income (loss) before income tax expense (benefit)	72,649	219,619	(47,108)	245,160
Income tax expense (benefit)	49,513	(68,883)	(14,254)	(33,624)
Income (loss) after income tax expense (benefit)	23,136	288,502	(32,854)	278,784
Income attributable to non-controlling interest	—	10,147	—	10,147
Preferred stock dividends	—	—	19,904	19,904
Impact of preferred stock redemption	—	—	5,779	5,779
Net income (loss) available to common stockholders	\$ 23,136	\$ 278,355	\$ (58,537)	\$ 242,954
Revenues from external customers:				
Interest income	\$ 456,325	\$ 520,801	\$ 41,931	\$ 1,019,057
Non-interest income	289,995	157,985	319	448,299
Total	\$ 746,320	\$ 678,786	\$ 42,250	\$ 1,467,356
Total assets	\$ 8,894,798	\$ 11,571,587	\$ 2,535,774	\$ 23,002,159

(In thousands)	Consumer Banking	Wholesale Banking	Enterprise Services	Consolidated
At or For the Year Ended December 31, 2016:				
Interest income:				
Loans and leases	\$ 397,886	\$ 457,908	\$ (5,248)	\$ 850,546
Debt securities available for sale	—	—	26,573	26,573
Debt securities held to maturity	—	172	4,477	4,649
Loans held for sale and other	46,073	50	2,839	48,962
Funds transfer pricing - credits	352,096	21,452	(373,548)	—
Total interest income	796,055	479,582	(344,907)	930,730
Interest expense:				
Deposits	56,105	1,014	4,669	61,788
Borrowings	42,595	25,104	(46,863)	20,836
Funds transfer pricing - charges	137,504	109,811	(247,315)	—
Total interest expense	236,204	135,929	(289,509)	82,624
Net interest income (expense)	559,851	343,653	(55,398)	848,106
Provision for credit losses	50,819	15,055	—	65,874
Net interest income (expense) after provision for credit losses	509,032	328,598	(55,398)	782,232
Non-interest income:				
Leasing and equipment finance	—	119,166	—	119,166
Fees and service charges	130,542	7,122	—	137,664
Card revenue	54,879	3	—	54,882
ATM revenue	20,441	4	—	20,445
Gains on sales of loans, net	85,205	54	—	85,259
Servicing fee income	38,560	1,622	—	40,182
Gains (losses) on debt securities, net	—	(581)	—	(581)
Other	7,364	1,491	28	8,883
Total non-interest income	336,991	128,881	28	465,900
Non-interest expense:				
Compensation and employee benefits	243,445	84,692	147,827	475,964
Occupancy and equipment	96,512	10,954	42,514	149,980
Operating lease depreciation	—	40,359	—	40,359
Foreclosed real estate and repossessed assets, net	10,552	2,035	600	13,187
Other	301,951	109,075	(180,629)	230,397
Total non-interest expense	652,460	247,115	10,312	909,887
Income (loss) before income tax expense (benefit)	193,563	210,364	(65,682)	338,245
Income tax expense (benefit)	69,523	70,805	(23,800)	116,528
Income (loss) after income tax expense (benefit)	124,040	139,559	(41,882)	221,717
Income attributable to non-controlling interest	—	9,593	—	9,593
Preferred stock dividends	—	—	19,388	19,388
Net income (loss) available to common stockholders	\$ 124,040	\$ 129,966	\$ (61,270)	\$ 192,736
Revenues from external customers:				
Interest income	\$ 443,959	\$ 452,882	\$ 33,889	\$ 930,730
Non-interest income	336,991	128,881	28	465,900
Total	\$ 780,950	\$ 581,763	\$ 33,917	\$ 1,396,630
Total assets	\$ 8,885,412	\$ 10,391,305	\$ 2,164,609	\$ 21,441,326

Note 25. Parent Company Financial Information

TCF Financial's condensed statements of financial condition, income and cash flows were as follows:

Condensed Statements of Financial Condition

(In thousands)	At December 31,	
	2018	2017
Assets:		
Cash and due from banks	\$ 91,132	\$ 80,471
Investment in TCF Bank	2,426,329	2,563,552
Accounts receivable from TCF Bank	23,780	22,015
Other assets	4,253	5,739
Total assets	\$ 2,545,494	\$ 2,671,777
Liabilities and Equity:		
Accrued expenses and other liabilities	\$ 7,693	\$ 9,020
Total liabilities	7,693	9,020
Equity	2,537,801	2,662,757
Total liabilities and equity	\$ 2,545,494	\$ 2,671,777

Condensed Statements of Income

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Interest income	\$ 200	\$ 183	\$ 155
Non-interest income:			
Dividends from TCF Bank	431,000	65,000	63,000
Management fees	20,532	15,660	17,657
Other	426	13	5
Total non-interest income	451,958	80,673	80,662
Non-interest expense:			
Compensation and employee benefits	21,825	17,801	17,578
Occupancy and equipment	301	275	370
Other	4,139	1,785	3,545
Total non-interest expense	26,265	19,861	21,493
Income before income tax benefit and equity in undistributed earnings (loss) of TCF Bank	425,893	60,995	59,324
Income tax benefit	952	1,575	1,010
Income before equity in undistributed earnings (loss) of TCF Bank	426,845	62,570	60,334
Equity in undistributed earnings (loss) of TCF Bank	(122,487)	206,067	151,790
Net income	304,358	268,637	212,124
Preferred stock dividends	11,588	19,904	19,388
Impact of preferred stock redemption	3,481	5,779	—
Net income available to common stockholders	\$ 289,289	\$ 242,954	\$ 192,736

Condensed Statements of Cash Flows

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Cash flows from operating activities:			
Net income	\$ 304,358	\$ 268,637	\$ 212,124
Adjustments to reconcile net income to net cash provided by (used in) operating activities:			
Equity in undistributed (earnings) loss of TCF Bank	122,487	(206,067)	(151,790)
Depreciation and amortization	4,986	9,110	4,734
Provision (benefit) for deferred income taxes	(583)	4,690	(592)
Gains on sales of assets, net	(402)	—	—
Net change in other assets and accrued expenses and other liabilities	379	(2,494)	1,032
Other, net	3,001	(3,408)	(443)
Net cash provided by (used in) operating activities	434,226	70,468	65,065
Cash flows from investing activities:			
Purchases of premises and equipment	(3)	(23)	(69)
Proceeds from sales of assets	727	—	22
Net cash provided by (used in) investing activities	724	(23)	(47)
Cash flows from financing activities:			
Redemption of Series B preferred stock	(100,000)	—	—
Net proceeds from public offering of Series C preferred stock	—	169,302	—
Redemption of Series A preferred stock	—	(172,500)	—
Repurchases of common stock	(212,929)	(9,163)	—
Common shares sold to TCF employee benefit plans	715	23,254	5,838
Dividends paid on preferred stock	(11,588)	(19,904)	(19,388)
Dividends paid on common stock	(99,490)	(50,617)	(50,182)
Stock compensation tax (expense) benefit	—	—	(377)
Exercise of stock options	(997)	(57)	(701)
Net cash provided by (used in) financing activities	(424,289)	(59,685)	(64,810)
Net change in cash and due from banks	10,661	10,760	208
Cash and due from banks at beginning of period	80,471	69,711	69,503
Cash and due from banks at end of period	\$ 91,132	\$ 80,471	\$ 69,711

TCF Financial's operations are conducted through its banking subsidiary, TCF Bank. As a result, TCF Financial's cash flows and ability to make dividend payments to its preferred and common stockholders depend on the earnings of TCF Bank. The ability of TCF Bank to pay dividends or make other payments to TCF Financial is limited by its obligation to maintain sufficient capital and by other regulatory restrictions on dividends. At December 31, 2018, TCF Bank could pay \$235.4 million in additional dividends to TCF Financial without prior regulatory approval. See Note 16. Regulatory Capital Requirements of Notes to Consolidated Financial Statements for further information.

Note 26. Litigation Contingencies

From time to time TCF is a party to legal proceedings arising out of its lending, leasing and deposit operations, including foreclosure proceedings and other collection actions as part of its lending and leasing collections activities. TCF may also be subject to regulatory examinations and enforcement actions brought by federal regulators, including the Securities and Exchange Commission, the Federal Reserve, the OCC and the Consumer Financial Protection Bureau (the "CFPB") which may impose sanctions on TCF for failures related to regulatory compliance. From time to time borrowers and other customers, and employees and former employees have also brought actions against TCF, in some cases claiming substantial damages. TCF and other financial services companies are subject to the risk of class action litigation. Litigation is often unpredictable and the actual results of litigation cannot be determined and therefore the ultimate resolution of a matter and the possible range of loss associated with certain potential outcomes cannot be established. Based on our current understanding of TCF's pending legal proceedings, management does not believe that judgments or settlements arising from pending or threatened legal matters, individually or in the aggregate, would have a material adverse effect on the consolidated financial position, operating results or cash flows of TCF.

On January 19, 2017, the CFPB filed a civil lawsuit against TCF Bank in the United States District Court for the District of Minnesota (the "Court"), captioned Consumer Financial Protection Bureau v. TCF National Bank, alleging violations of the Consumer Financial Protection Act (the "CFPA") and Regulation E, §1005.17 in connection with TCF Bank's practices administering checking account overdraft program "opt-in" requirements from 2010 to early 2014. On September 8, 2017, the Court issued a ruling on the motion made by TCF Bank to dismiss the complaint of the CFPB. In its ruling, the Court granted TCF Bank's motion to dismiss the CFPB's Regulation E claims and also dismissed the CFPB's unfair, deceptive and abusive conduct claims under the CFPA for periods prior to July 21, 2011. On July 20, 2018, TCF Bank entered into a Stipulated Final Judgment and Order (the "CFPB Settlement") with the CFPB to resolve the matter and has entered into a Consent Order and a Consent Order For a Civil Money Penalty and related stipulations (collectively, the "OCC Consent Orders") with the OCC to resolve related regulatory issues with the OCC (collectively, the CFPB Settlement and the OCC Consent Orders are referred to herein as the "Consent Agreements"). The Consent Agreements provide, among other things, for TCF Bank to submit a restitution plan to the CFPB and OCC pursuant to which TCF Bank will pay restitution in the total amount of \$25.0 million to certain current and former customers and require a notice to certain customers opted-in to overdraft service reminding them of their current opt-in choice. TCF is working toward completion of the restitution plan and expects to satisfy all the requirements in a timely fashion and in accordance with the terms of the CFPB Settlement and the restitution plan. Pursuant to the Consent Agreements, TCF Bank paid \$5.0 million in civil money penalties, \$3.0 million of which was paid to the OCC and \$2.0 million of which was paid to the CFPB. In addition, TCF Bank expects to incur approximately \$2.0 million in administrative costs related to the administration of the restitution plan required under the Consent Agreements.

Note 27. Accumulated Other Comprehensive Income (Loss)

The components of other comprehensive income (loss), reclassifications from accumulated other comprehensive income (loss) to various financial statement line items and the related tax effects were as follows:

(In thousands)	Before Tax	Tax Effect	Net of Tax
Year Ended December 31, 2018:			
Net unrealized gains (losses) on debt securities available for sale and interest-only strips:			
Net unrealized gains (losses) arising during the period	\$ (16,373)	\$ 4,002	\$ (12,371)
Reclassification of net (gains) losses from accumulated other comprehensive income (loss) to:			
Total interest income	1,066	(335)	731
Gains (losses) on debt securities, net	(127)	31	(96)
Other non-interest expense	90	(23)	67
Amounts reclassified from accumulated other comprehensive income (loss)	1,029	(327)	702
Net unrealized gains (losses) on debt securities available for sale and interest-only strips	(15,344)	3,675	(11,669)
Net unrealized gains (losses) on net investment hedges	13,762	(3,312)	10,450
Foreign currency translation adjustment ⁽¹⁾	(13,368)	—	(13,368)
Recognized postretirement prior service cost:			
Reclassification of amortization of prior service cost to Other non-interest expense	(46)	12	(34)
Total other comprehensive income (loss)	\$ (14,996)	\$ 375	\$ (14,621)
Year Ended December 31, 2017:			
Net unrealized gains (losses) on debt securities available for sale and interest-only strips:			
Net unrealized gains (losses) arising during the period	\$ 24,244	\$ (8,857)	\$ 15,387
Reclassification of net (gains) losses from accumulated other comprehensive income (loss) to:			
Total interest income	963	572	1,535
Other non-interest expense	(755)	287	(468)
Amounts reclassified from accumulated other comprehensive income (loss)	208	859	1,067
Net unrealized gains (losses) on debt securities available for sale and interest-only strips	24,452	(7,998)	16,454
Net unrealized gains (losses) on net investment hedges	(4,430)	1,684	(2,746)
Foreign currency translation adjustment ⁽¹⁾	4,921	—	4,921
Recognized postretirement prior service cost:			
Reclassification of amortization of prior service cost to Other non-interest expense	(46)	17	(29)
Total other comprehensive income (loss)	\$ 24,897	\$ (6,297)	\$ 18,600
Year Ended December 31, 2016:			
Net unrealized gains (losses) on debt securities available for sale and interest-only strips:			
Net unrealized gains (losses) arising during the period	\$ (32,408)	\$ 12,323	\$ (20,085)
Reclassification of net (gains) losses from accumulated other comprehensive income (loss) to:			
Total interest income	1,764	(665)	1,099
Other non-interest expense	149	(57)	92
Amounts reclassified from accumulated other comprehensive income (loss)	1,913	(722)	1,191
Net unrealized gains (losses) on debt securities available for sale and interest-only strips	(30,495)	11,601	(18,894)
Net unrealized gains (losses) on net investment hedges	(1,213)	457	(756)
Foreign currency translation adjustment ⁽¹⁾	1,300	—	1,300
Recognized postretirement prior service cost:			
Reclassification of amortization of prior service cost to Other non-interest expense	(46)	17	(29)
Total other comprehensive income (loss)	\$ (30,454)	\$ 12,075	\$ (18,379)

(1) Foreign investments are deemed to be permanent in nature and, therefore, TCF does not provide for taxes on foreign currency translation adjustments.

Reclassifications of net (gains) losses from accumulated other comprehensive income (loss) for debt securities available for sale and interest-only strips were recorded in the Consolidated Statements of Income in interest income for those debt securities that were previously transferred to held to maturity, in gains (losses) on debt securities, net for sales of debt securities available for sale and in other non-interest expense for interest-only strips. During 2014, TCF transferred \$191.7 million of available for sale mortgage-backed debt securities to held to maturity. At December 31, 2018 and 2017, the unrealized holding loss on the transferred debt securities retained in accumulated other comprehensive income (loss) totaled \$11.0 million and \$12.1 million, respectively. These amounts are amortized over the remaining lives of the transferred debt securities. The tax effects of the reclassifications included in the table above were recorded in income tax expense (benefit) in the Consolidated Statements of Income.

The components of accumulated other comprehensive income (loss) were as follows:

(In thousands)	Net Unrealized Gains (Losses) on Debt Securities Available for Sale and Interest-only Strips	Net Unrealized Gains (Losses) on Net Investment Hedges	Foreign Currency Translation Adjustment	Recognized Postretirement Prior Service Cost	Total
At or For the Year Ended December 31, 2018:					
Balance, beginning of period	\$ (16,353)	\$ 4,536	\$ (6,843)	\$ 143	\$ (18,517)
Other comprehensive income (loss)	(12,371)	10,450	(13,368)	—	(15,289)
Amounts reclassified from accumulated other comprehensive income (loss)	702	—	—	(34)	668
Net other comprehensive income (loss)	(11,669)	10,450	(13,368)	(34)	(14,621)
Balance, end of period	\$ (28,022)	\$ 14,986	\$ (20,211)	\$ 109	\$ (33,138)
At or For the Year Ended December 31, 2017:					
Balance, beginning of period	\$ (28,601)	\$ 6,493	\$ (11,764)	\$ 147	\$ (33,725)
Other comprehensive income (loss)	15,387	(2,746)	4,921	—	17,562
Amounts reclassified from accumulated other comprehensive income (loss)	1,067	—	—	(29)	1,038
Net other comprehensive income (loss)	16,454	(2,746)	4,921	(29)	18,600
Adoption impact of ASU 2018-02	(4,206)	789	—	25	(3,392)
Balance, end of period	\$ (16,353)	\$ 4,536	\$ (6,843)	\$ 143	\$ (18,517)
At or For the Year Ended December 31, 2016:					
Balance, beginning of period	\$ (9,707)	\$ 7,249	\$ (13,064)	\$ 176	\$ (15,346)
Other comprehensive income (loss)	(20,085)	(756)	1,300	—	(19,541)
Amounts reclassified from accumulated other comprehensive income (loss)	1,191	—	—	(29)	1,162
Net other comprehensive income (loss)	(18,894)	(756)	1,300	(29)	(18,379)
Balance, end of period	\$ (28,601)	\$ 6,493	\$ (11,764)	\$ 147	\$ (33,725)

Note 28. Pending Merger with Chemical Financial Corporation

On January 28, 2019, TCF entered into an Agreement and Plan of Merger (the "Merger Agreement") with Chemical Financial Corporation ("Chemical"), a bank holding company with \$21.5 billion in assets, headquartered in Detroit, Michigan. The merger is expected to close in late 2019, subject to satisfaction of customary closing conditions, including regulatory approvals and approval by the shareholders of TCF and Chemical. Under the terms of the Merger Agreement, which has been unanimously approved by the boards of directors of both companies, each outstanding share of TCF common stock will be converted into the right to receive, without interest, 0.5081 shares of Chemical common stock. Also, at the effective time of the merger, each outstanding share of the 5.70% Series C non-cumulative perpetual preferred stock of TCF will be converted into the right to receive, without interest, one share of a newly created series of preferred stock of Chemical with equivalent rights and preferences (the "New Chemical Preferred Stock"). The shares of Chemical common stock and the New Chemical Preferred Stock to be issued in the merger will be listed on the Nasdaq. Following the completion of the merger, TCF and Chemical shareholders will own approximately 54% and 46% of the combined company, respectively, on a fully diluted basis.

Other Financial Data

The selected quarterly financial data presented below should be read in conjunction with the Consolidated Financial Statements and related notes.

Selected Quarterly Financial Data (Unaudited)

(In thousands, except per share data)	Quarter Ended							
	Dec. 31, 2018	Sep. 30, 2018	Jun. 30, 2018	Mar. 31, 2018	Dec. 31, 2017	Sep. 30, 2017	Jun. 30, 2017	Mar. 31, 2017
Net interest income	\$ 248,888	\$ 249,121	\$ 250,799	\$ 243,199	\$ 241,860	\$ 234,103	\$ 227,161	\$ 222,114
Provision for credit losses	18,894	2,270	14,236	11,368	22,259	14,545	19,446	12,193
Net interest income after provision for credit losses	229,994	246,851	236,563	231,831	219,601	219,558	207,715	209,921
Non-interest income	128,133	116,445	114,103	112,204	120,892	109,230	114,663	103,514
Non-interest expense	249,958	246,423	272,039	245,980	347,806	235,035	233,087	244,006
Income (loss) before income tax expense (benefit)	108,169	116,873	78,627	98,055	(7,313)	93,753	89,291	69,429
Income tax expense (benefit)	20,013	28,034	16,418	21,631	(110,965)	30,704	25,794	20,843
Income after income tax expense (benefit)	88,156	88,839	62,209	76,424	103,652	63,049	63,497	48,586
Income attributable to non-controlling interest	2,504	2,643	3,460	2,663	2,253	2,521	3,065	2,308
Net income attributable to TCF Financial Corporation	85,652	86,196	58,749	73,761	101,399	60,528	60,432	46,278
Preferred stock dividends	2,494	2,494	2,494	4,106	3,746	6,464	4,847	4,847
Impact of preferred stock redemption or notice to redeem preferred stock	—	—	—	3,481	—	5,779	—	—
Net income available to common stockholders	\$ 83,158	\$ 83,702	\$ 56,255	\$ 66,174	\$ 97,653	\$ 48,285	\$ 55,585	\$ 41,431
Earnings per common share:								
Basic	\$ 0.51	\$ 0.51	\$ 0.34	\$ 0.39	\$ 0.58	\$ 0.29	\$ 0.33	\$ 0.25
Diluted	0.51	0.51	0.34	0.39	0.57	0.29	0.33	0.25

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 carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer (Principal Executive Officer), Chief Financial Officer (Principal Financial Officer) and Chief Accounting Officer (Principal Accounting Officer), of the effectiveness of the design and operation of the Company's disclosure controls and procedures pursuant to Rules 13a-15 and 15d-15 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Based on that evaluation, management concluded that the Company's disclosure controls and procedures were effective as of December 31, 2018.

Disclosure controls and procedures are designed to ensure that information required to be disclosed by TCF in reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms. Disclosure controls are also designed with the objective of ensuring that such information is accumulated and communicated to the Company's management, including the Chief Executive Officer (Principal Executive Officer), Chief Financial Officer (Principal Financial Officer) and Chief Accounting Officer (Principal Accounting Officer), as appropriate, to allow for timely decisions regarding required disclosure. TCF's disclosure controls also include internal controls that are designed to provide reasonable assurance that transactions are properly authorized, assets are safeguarded against unauthorized or improper use and that transactions are properly recorded and reported.

Changes in Internal Control Over Financial Reporting There were no changes to TCF's internal control over financial reporting (as defined in Rule 13a-15(f) of the Exchange Act) during the quarter ended December 31, 2018, that materially affected, or are reasonably likely to materially affect, TCF's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting for TCF Financial Corporation (the "Company"). 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.

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

Management, with the participation of the Chief Executive Officer (Principal Executive Officer) and Chief Financial Officer (Principal Financial Officer), completed an assessment of TCF's internal control over financial reporting as of December 31, 2018. This assessment was based on criteria for evaluating internal control over financial reporting established in *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission in May 2013. Based on this assessment, management concluded that TCF's internal control over financial reporting was effective as of December 31, 2018.

KPMG LLP, the Company's independent registered public accounting firm that audited the consolidated financial statements included in this annual report, has issued an unqualified attestation report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2018.

Any control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. The design of a control system inherently has limitations and the benefits of controls must be weighed against their costs. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. Therefore, no assessment of a cost-effective system of internal controls can provide absolute assurance that all control issues and instances of fraud, if any, will be detected.

Report of Independent Registered Public Accounting Firm



To the Stockholders and Board of Directors
TCF Financial Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited TCF Financial Corporation and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated statements of financial condition of the Company as of December 31, 2018 and 2017, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2018, and the related notes (collectively, the consolidated financial statements), and our report dated February 26, 2019 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

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

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

Definition and Limitations of Internal Control Over Financial Reporting

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

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

KPMG LLP

Minneapolis, Minnesota
February 26, 2019

Item 9B. Other Information

None.

Part III

Item 10. Directors, Executive Officers and Corporate Governance

Information regarding directors and executive officers of TCF is set forth in the following sections of TCF's definitive Proxy Statement for the 2019 Annual Meeting of Stockholders to be held on April 24, 2019 ("2019 Proxy") and is incorporated herein by reference: Election of Directors; Background of Executive Officers Who Are Not Directors; and Section 16(a) Beneficial Ownership Reporting Compliance.

Information regarding procedures for nominations of directors is set forth in the following sections of TCF's 2019 Proxy and is incorporated herein by reference: Corporate Governance - Director Nominations; and Additional Information.

Audit Committee and Financial Expert

Information regarding TCF's Audit Committee, its members and financial experts is set forth in the following sections of TCF's 2019 Proxy and is incorporated herein by reference: Election of Directors - Background of the Nominees; Corporate Governance - Board Committees, Committee Memberships, and Meetings in 2018; and Corporate Governance - Audit Committee.

TCF's Board of Directors is required to determine whether it has at least one Audit Committee Financial Expert and that the expert is independent. An Audit Committee Financial Expert is a committee member who has an understanding of generally accepted accounting principles and financial statements and has the ability to assess the general application of these principles in connection with the accounting for estimates, accruals and reserves. Additionally, this individual should have experience preparing, auditing, analyzing or evaluating financial statements that present the breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by TCF's financial statements or experience actively supervising one or more persons engaged in such activities. The member should also have an understanding of internal control over financial reporting as well as an understanding of audit committee functions.

The Board has determined that all members of the Audit Committee, including Karen L. Grandstrand, George G. Johnson, Richard H. King, Vance K. Opperman, Roger J. Sit and Julie H. Sullivan, are independent and that Directors Johnson, Opperman, Sit and Sullivan each meet the requirements of audit committee financial experts. Additional information regarding Ms. Grandstrand, Mr. Johnson, Mr. King, Mr. Opperman, Mr. Sit and Dr. Sullivan and the other directors is set forth in the section Election of Directors - Background of the Nominees in TCF's 2019 Proxy and is incorporated herein by reference.

Code of Ethics for Senior Financial Management

TCF has adopted a code of ethics applicable to the Principal Executive Officer ("PEO"), Principal Financial Officer ("PFO") and Principal Accounting Officer ("PAO") (the "Senior Financial Management Code of Ethics") as well as a code of ethics generally applicable to all employees (including the PEO, PFO and PAO) and directors of TCF (the "Code of Ethics"). The Code of Ethics and the Senior Financial Management Code of Ethics are both available for review at TCF's website at www.tcfbank.com by clicking on "About TCF" and then "Learn More" under the heading "Corporate Governance" and then either "Code of Ethics Policy" or "Code of Ethics for Senior Financial Management". Any changes to either code will be posted on the website and any waivers granted to or violations by the PEO, PFO, PAO or any director of TCF will also be posted on TCF's website. To date, there have been no waivers granted to or violations by the PEO, PFO, PAO or any director of TCF.

Item 11. Executive Compensation

Information regarding compensation of directors and executive officers of TCF is set forth in the following sections of TCF's 2019 Proxy and is incorporated herein by reference: Corporate Governance - Compensation, Nominating, and Corporate Governance Committee - Compensation Committee Interlocks and Insider Participation; Director Compensation; Compensation Discussion and Analysis; Compensation Committee Report; and Executive Compensation.

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

Information regarding ownership of TCF's common stock by TCF's directors, executive officers and certain other stockholders and shares authorized under equity compensation plans is set forth in the following sections of TCF's 2019 Proxy and is incorporated herein by reference: Equity Compensation Plans Approved by Stockholders; and Ownership of TCF Stock.

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

Information regarding director independence and certain relationships and transactions between TCF and certain related persons is set forth in the section entitled Corporate Governance - Director Independence and Related Person Transactions of TCF's 2019 Proxy and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services

Information regarding principal accounting fees and services and the Audit Committee's pre-approval policies and procedures relating to audit and non-audit services provided by the Company's independent registered public accounting firm is set forth in the section entitled Independent Registered Public Accountants in TCF's 2019 Proxy and is incorporated herein by reference.

Part IV

Item 15. Exhibits, Financial Statement Schedules

1. Financial Statements

The following consolidated financial statements of TCF Financial Corporation are filed as part of this report:

Description	Page
Report of Independent Registered Public Accounting Firm	59
Consolidated Statements of Financial Condition at December 31, 2018 and 2017	60
Consolidated Statements of Income for each of the years in the three-year period ended December 31, 2018	61
Consolidated Statements of Comprehensive Income for each of the years in the three-year period ended December 31, 2018	62
Consolidated Statements of Equity for each of the years in the three-year period ended December 31, 2018	63
Consolidated Statements of Cash Flows for each of the years in the three-year period ended December 31, 2018	65
Notes to Consolidated Financial Statements	66

2. Financial Statement Schedules

All financial statement schedules have been included in the Consolidated Financial Statements or the Notes thereto, or are either inapplicable or not required.

3. Exhibits

Exhibit Number	Description
2.1	Agreement and Plan of Merger by and between TCF Financial Corporation and Chemical Financial Corporation, dated as of January 27, 2019 [incorporated by reference to Exhibit 2.1 of TCF Financial Corporation's Current Report on Form 8-K filed January 28, 2019 (No.19546413)]
3(a)	Amended and Restated Certificate of Incorporation of TCF Financial Corporation [incorporated by reference to Exhibit 3.1 of TCF Financial Corporation's Quarterly Report on Form 10-Q filed May 3, 2018 (No. 18803407)]
3(b)	Amended and Restated Bylaws of TCF Financial Corporation [incorporated by reference to Exhibit 3.1 to TCF Financial Corporation's Current Report on Form 8-K filed January 28, 2019 (No.19546413)]
4(a)	Specimen Common Stock Certificate of TCF Financial Corporation [incorporated by reference to Exhibit 4.3 to TCF Financial Corporation's Registration Statement on Form S-3ASR filed May 29, 2012 (No. 12874917)]
4(b)	Form of Stock Certificate representing the Series C Non-Cumulative Perpetual Preferred Stock [incorporated by reference to Exhibit 4.1 to TCF Financial Corporation's Current Report on Form 8-K filed September 14, 2017 (No. 171084863)]
4(c)	Deposit Agreement dated September 14, 2017 by and among TCF Financial Corporation, Computershare Trust Company, N.A. and Computershare Inc. and the holders from time to time of the Depositary Receipts described therein [incorporated by reference to Exhibit 4.2 to TCF Financial Corporation's Current Report on Form 8-K filed September 14, 2017 (No. 171084863)]
4(d)	Form of Depositary Receipt [included as part of Exhibit 4.2 to TCF Financial Corporation's Current Report on Form 8-K filed September 14, 2017 (No. 171084863)]
4(e)	Copies of instruments with respect to long-term debt will be furnished to the Securities and Exchange Commission upon request.
10(a)*	Amended and Restated TCF Financial 2015 Omnibus Incentive Plan [incorporated by reference to Exhibit 10.1 to TCF Financial Corporation's Current Report on Form 8-K filed April 27, 2018 (No. 18784131)]
10(a)-1*	Form of Restricted Stock Award Agreement under the TCF Financial 2015 Omnibus Incentive Plan [incorporated by reference to Exhibit 10(a)-1 to TCF Financial Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2016 (No. 17624401)]
10(a)-2*	Form of Performance-Based Restricted Stock Award Agreement under the TCF Financial 2015 Omnibus Incentive Plan [incorporated by reference to Exhibit 10.3 to TCF Financial Corporation's Current Report on Form 8-K filed April 28, 2015 (No. 15798862)]
10(a)-3*	Form of Restricted Stock Unit Agreement under the TCF Financial 2015 Omnibus Incentive Plan [incorporated by reference to Exhibit 10.4 to TCF Financial Corporation's Current Report on Form 8-K filed April 28, 2015 (No. 15798862)]
10(a)-4*	Form of Performance-Based Restricted Stock Unit Agreement under the TCF Financial 2015 Omnibus Incentive Plan [incorporated by reference to Exhibit 10.5 to TCF Financial Corporation's Current Report on Form 8-K filed April 28, 2015 (No. 15798862)]
10(a)-5*	2015 Performance-Based Restricted Stock Unit Agreement under the TCF Financial 2015 Omnibus Incentive Plan entered into by certain executives [incorporated by reference to Exhibit 10.6 to TCF Financial Corporation's Current Report on Form 8-K filed April 28, 2015 (No. 15798862)]
10(a)-6*#	Form of TCF Financial Corporation Management Incentive Plan - Executive Award
10(a)-7*#	Form of Performance-Based Restricted Stock Unit Agreement under the TCF Financial 2015 Omnibus Incentive Plan
10(b)*	TCF Financial Incentive Stock Program, as amended and restated April 24, 2013 [incorporated by reference to Exhibit 10.1 to TCF Financial Corporation's Current Report on Form 8-K filed April 30, 2013 (No. 13797581)]
10(b)-1*	Form of Nonqualified Stock Option Award Agreement as executed by certain executives [incorporated by reference to Exhibit 10(b)-10 to TCF Financial Corporation's Current Report on Form 8-K filed January 25, 2008 (No. 08551203)]
10(b)-2*	Form of Deferred Restricted Stock Award Agreement as executed by certain executives [incorporated by reference to Exhibit 10(b)-16 to TCF Financial Corporation's Current Report on Form 8-K filed February 18, 2011 (No. 11625311)]
10(b)-3*	Form of Performance-Based Restricted Stock Award Agreement as executed by certain executives [incorporated by reference to Exhibit 10.3 to TCF Financial Corporation's Current Report on Form 8-K filed January 20, 2012 (No. 12537269)]
10(c)*	TCF Performance-Based Compensation Policy for Covered Executive Officers, as approved effective January 1, 2013 [incorporated by reference to Exhibit 10.2 to TCF Financial Corporation's Current Report on Form 8-K filed April 30, 2013 (No. 13797581)]
10(d)*	Employment Agreement between Craig R. Dahl and TCF Financial Corporation, effective as of April 25, 2018 [incorporated by reference to Exhibit 10.3 to TCF Financial Corporation's Current Report on Form 8-K filed April 27, 2018 (No. 18784131)]
10(e)*	TCF Financial Corporation Supplemental Employee Retirement Plan - ESPP Plan as amended and restated through January 24, 2005 [incorporated by reference to Exhibit 10(j) to TCF Financial Corporation's Current Report on Form 8-K filed January 27, 2005 (No. 05552640)]
10(e)-1*	TCF 401K Supplemental Plan, as amended effective October 18, 2016 [incorporated by reference to Exhibit 10(e)-1 to TCF Financial Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2016 (No. 17624401)]
10(f)*	Trust Agreement for TCF 401K Plan Supplemental Plan effective November 1, 2017, by and between TCF Financial Corporation and Reliance Trust Company [incorporated by reference to Exhibit 10(f) to TCF Financial Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2017 (No. 18635448)]
10(i)*	TCF Financial Corporation Senior Officer Deferred Compensation Plan as amended and restated through January 24, 2005 [incorporated by reference to Exhibit 10(l) to TCF Financial Corporation's Current Report on Form 8-K filed January 27, 2005 (No. 05552640)]
10(j)*	Trust Agreement for TCF Financial Senior Officer Deferred Compensation Plan as executed with First National Bank in Sioux Falls as trustee effective as of October 1, 2000 [incorporated by reference to Exhibit 10(m) to TCF Financial Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 (No. 1584625)]; as amended by amendment adopted April 30, 2001 [incorporated by reference to Exhibit 10(m) to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001 (No. 1706058)]; and as amended by Second Amendment of Trust Agreement for TCF Financial Senior Officers Deferred Compensation Plan effective as of June 30, 2003 [incorporated by reference to Exhibit 10(m) to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2003 (No. 03830138)]

- 10(k)* Amended and Restated Directors Stock Grant Program [incorporated by reference to Exhibit 10.2 to TCF Financial Corporation's Current Report on Form 8-K filed April 27, 2018 (No. 18784131)]
- 10(k)-1* Form of Director's Restricted Stock Agreement dated January 24, 2012 [incorporated by reference to Exhibit 10(j)-1 to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012 (No. 12986667)]
- 10(k)-2* Form of Deferred Director's Restricted Stock Agreement dated January 24, 2012 [incorporated by reference to Exhibit 10(j)-2 to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2012 (No. 12986667)]
- 10(l)* TCF Financial Corporation TCF Directors Deferred Compensation Plan as amended and restated through January 24, 2005 [incorporated by reference to Exhibit 10(r) to TCF Financial Corporation's Current Report on Form 8-K filed January 27, 2005 (No. 05552640)]
- 10(l)-1* TCF Financial Corporation TCF Directors 2005 Deferred Compensation Plan, adopted effective as of January 6, 2005, as amended and restated through January 24, 2005 [incorporated by reference to Exhibit 10(r)-1 to TCF Financial Corporation's Current Report on Form 8-K filed January 27, 2005 (No. 05552640)]; and as amended by Amendment of Directors 2005 Deferred Compensation Plan effective July 19, 2010 [incorporated by reference to Exhibit 10(r)-1 to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2010 (No. 101147679)]
- 10(m)* Trust Agreement for TCF Directors Deferred Compensation Plan [incorporated by reference to Exhibit 10(d) to TCF Financial Corporation's Annual Report on Form 10-K for the fiscal year ended December 31, 2000 (No. 1584625)]; as amended by amendment adopted April 30, 2001 [incorporated by reference to Exhibit 10(s) to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001 (No. 1706058)]; as amended by amendment adopted October 10, 2001 [incorporated by reference to Exhibit 10(s) to TCF Financial Corporation's Annual Report on Form 10-K for the year ended December 31, 2001 (No. 02568362)]; and as amended by amendments adopted May 3, 2002 [incorporated by reference to Exhibit 10(s) to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (No. 02730799)]; and as amended by Third Amendment of TCF Directors Deferred Compensation Trust effective as of June 30, 2003 [incorporated by reference to Exhibit 10(s) to TCF Financial Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2003 (No. 03830138)]
- 10(n)* Summary of Non-Employee Director Compensation [incorporated by reference to Exhibit 10.1 to TCF Financial Corporation's Current Report on Form 8-K filed February 20, 2019 (No. 19616276)]
- 10(o)* TCF Employees Deferred Stock Compensation Plan, effective January 1, 2011 [incorporated by reference to Exhibit 10(u) to TCF Financial Corporation's Current Report on Form 8-K filed February 18, 2011 (No. 11625311)]
- 10(p)* Form of Rabbi Trust Agreement for the TCF Employees Deferred Stock Compensation Plan [incorporated by reference to Exhibit 10(v) to TCF Financial Corporation's Current Report on Form 8-K filed February 18, 2011 (No. 11625311)]
- 10(q) TCF 401K Plan, as amended and restated effective January 24, 2018 [incorporated by reference to Exhibit 99.1 to TCF Financial Corporation's Current Report on Form S-8 filed July 30, 2018 (No. 18978481)]
- 10(r)* Form of Change in Control Severance Agreement, as executed by certain executives [incorporated by reference to Exhibit 10.1 to TCF Financial Corporation's Current Report on Form 8-K filed March 2, 2018 (No. 18662196)]
- 21# Subsidiaries of TCF Financial Corporation (as of December 31, 2018)
- 23# Consent of KPMG LLP dated February 26, 2019
- 31.1# Certification of the Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
- 31.2# Certification of the Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
- 32.1# Certification of the Chief Executive Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 32.2# Certification of the Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
- 101# Financial statements from the Annual Report on Form 10-K of the Company for the period ended December 31, 2018, formatted in XBRL: (i) the Consolidated Statements of Financial Condition, (ii) the Consolidated Statements of Income, (iii) the Consolidated Statements of Comprehensive Income, (iv) the Consolidated Statements of Equity, (v) the Consolidated Statements of Cash Flows and (vi) the Notes to Consolidated Financial Statements

*Management Contract
Filed herein

SIGNATURES

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

TCF FINANCIAL CORPORATION

/s/ Craig R. Dahl

Craig R. Dahl,
Chairman, President and Chief Executive Officer
(Principal Executive Officer)

Dated: February 26, 2019

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

Name	Title	Date
<u>/s/ Craig R. Dahl</u> Craig R. Dahl	Chairman, President and Chief Executive Officer (Principal Executive Officer)	February 26, 2019
<u>/s/ Brian W. Maass</u> Brian W. Maass	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 26, 2019
<u>/s/ Susan D. Bode</u> Susan D. Bode	Senior Vice President and Chief Accounting Officer (Principal Accounting Officer)	February 26, 2019
<u>/s/ Peter Bell</u> Peter Bell	Director	February 26, 2019
<u>/s/ William F. Bieber</u> William F. Bieber	Director	February 26, 2019
<u>/s/ Theodore J. Bigos</u> Theodore J. Bigos	Director	February 26, 2019
<u>/s/ Karen L. Grandstrand</u> Karen L. Grandstrand	Director	February 26, 2019
<u>/s/ George G. Johnson</u> George G. Johnson	Director	February 26, 2019
<u>/s/ Richard H. King</u> Richard H. King	Director	February 26, 2019
<u>/s/ Vance K. Opperman</u> Vance K. Opperman	Lead Director	February 26, 2019
<u>/s/ Roger J. Sit</u> Roger J. Sit	Director	February 26, 2019
<u>/s/ Julie H. Sullivan</u> Julie H. Sullivan	Director	February 26, 2019
<u>/s/ Barry N. Winslow</u> Barry N. Winslow	Director	February 26, 2019
<u>/s/ Theresa M. H. Wise</u> Theresa M. H. Wise	Director	February 26, 2019

Stockholder Information

Listing of Common Stock

The common stock of TCF Financial Corporation is listed on the New York Stock Exchange under the symbol TCF.

Transfer Agent

Computershare Trust Company, N.A.
PO Box 505000
Louisville, KY 40233
(800) 443-6852
www.computershare.com/investor

Direct Stock Purchase and Dividend Reinvestment Plan

TCF Financial Corporation offers the Computershare Investment Plan, a direct stock purchase and dividend reinvestment plan for TCF Financial Corporation common stock. This stockholder-paid program provides a low-cost alternative to traditional retail brokerage methods of purchasing, holding and selling TCF common stock. The Plan is sponsored and administered by our Transfer Agent, Computershare, Inc. Information is available from:

Computershare Trust Company, N.A.
PO Box 505000
Louisville, KY 40233
(800) 443-6852
www.computershare.com/investor

Investor/Analyst Contact

Timothy Sedabres
Senior Vice President
Investor Relations
(952) 745-2766

Justin Horstman
Vice President
Investor Relations
(952) 745-2756

Media Contact

Mark Goldman
Senior Vice President
Corporate Communications
(952) 475-7050

Annual Meeting

The Annual Meeting of Stockholders of TCF will be held on Wednesday, April 24, 2019, 4:00 p.m. (local time) at the DoubleTree by Hilton Minneapolis – Park Place, 1500 Park Place Boulevard, Minneapolis, Minnesota.

Available Information


Please visit our website at <http://ir.tcfbank.com> for access to TCF investor information, news releases, investor presentations, quarterly conference calls, annual reports, and SEC filings. Information may also be obtained, free of charge, from:

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