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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 Number: 000-15637

SVB FINANCIAL GROUP

(Exact name of registrant as specified in its charter)

Delaware	**91-1962278**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3003 Tasman Drive, Santa Clara, California	**95054-1191**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(408) 654-7400**

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 $0.001 per share	NASDAQ Global Select Market

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

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

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

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

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

Indicate by check mark 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 the Form 10-K or any amendment to the Form 10-K. ☒

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

Large accelerated filer	☒	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 securities held by non-affiliates of the registrant as of June 30, 2018, the last business day of the registrant's most recently completed second fiscal quarter, based upon the closing price of its common stock on such date, on the NASDAQ Global Select Market was $15,365,101,185.

At January 31, 2019, 52,630,866 shares of the registrant's common stock ($0.001 par value) were outstanding.

Documents Incorporated by Reference	**Parts of Form 10-K Into Which Incorporated**
Definitive proxy statement for the Company's 2019 Annual Meeting of Stockholders to be filed within 120 days of the end of the fiscal year ended December 31, 2018	Part III

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Glossary of Frequently-used Acronyms in this Report

AICPA— American Institute of Certified Public Accountants

AFS— Available-for-Sale

ASC— Accounting Standards Codification

ASU— Accounting Standards Update

CET— Common Equity Tier

DBO— California Department of Business Oversight - Division of Financial Institutions

EHOP— Employee Home Ownership Program of the Company

EPS— Earnings Per Share

ERI— Energy and Resource Innovation

ESOP— Employee Stock Ownership Plan of the Company

ESPP— 1999 Employee Stock Purchase Plan of the Company

FASB— Financial Accounting Standards Board

FDIC— Federal Deposit Insurance Corporation

FHLB— Federal Home Loan Bank

FINRA— Financial Industry Regulatory Authority

FRB— Federal Reserve Bank

FTE— Full-Time Employee

FTP— Funds Transfer Pricing

GAAP— Accounting principles generally accepted in the United States of America

HTM— Held-to-Maturity

IASB— International Accounting Standards Board

IFRS— International Financial Reporting Standards

IPO— Initial Public Offering

IRS— Internal Revenue Service

IT— Information Technology

LIBOR— London Interbank Offered Rate

M&A— Merger and Acquisition

OTTI— Other Than Temporary Impairment

SEC— Securities and Exchange Commission

SPD-SVB— SPD Silicon Valley Bank Co. Ltd. (the Bank's joint venture bank in China)

SVBIF— SVB India Finance Private Limited (the Bank's non-banking financial company in India)

TDR— Troubled Debt Restructuring

UK— United Kingdom

VIE— Variable Interest Entity

Forward-Looking Statements

This Annual Report on Form 10-K, including in particular “Management’s Discussion and Analysis of Financial Condition and Results of Operations” under Part II, Item 7 of this report, contains forward-looking statements within the meaning of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. In addition, management has in the past and may in the future make forward-looking statements to analysts, investors, representatives of the media and others. Forward-looking statements are statements that are not historical facts and represent only our beliefs regarding future events. Broadly speaking, forward-looking statements include, but are not limited to, the following:

- Financial projections, including with respect to our net interest income, noninterest income, earnings per share, noninterest expenses (including professional services, compliance, compensation and other costs), cash flows, balance sheet positions, capital expenditures, liquidity and capitalization or other financial items;
- Descriptions of our strategic initiatives, plans or objectives for future operations, including pending sales or acquisitions;
- Forecasts of private equity and venture capital funding and investment levels;
- Forecasts of future interest rates, economic performance, and income from investments;
- Forecasts of expected levels of provisions for loan losses, loan growth and client funds; and
- Descriptions of assumptions underlying or relating to any of the foregoing.

You can identify these and other forward-looking statements by the use of words such as “becoming,” “may,” “will,” “should,” "could," "would," “predict,” “potential,” “continue,” “anticipate,” “believe,” “estimate,” “assume,” “seek,” “expect,” “plan,” “intend,” the negative of such words or comparable terminology. Forward-looking statements are neither historical facts nor assurances of future performance. Although we believe that the expectations reflected in these forward-looking statements are reasonable, we have based these expectations on our current beliefs as well as our assumptions, and such expectations may prove to be incorrect. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results of operations and financial performance could differ significantly from those expressed in or implied by our management’s forward-looking statements. Important factors that could cause our actual results and financial condition to differ from the expectations stated in the forward-looking statements include, among others:

- Market and economic conditions, including the interest rate environment, and the associated impact on us;
- The credit profile and credit quality of our loan portfolio and volatility of our levels of nonperforming assets and charge-offs;
- The adequacy of our allowance for loan losses and the need to make provisions for loan losses for any period;
- The borrowing needs of our clients;
- The sufficiency of our capital and liquidity positions;
- The levels of loans, deposits and client investment fund balances;
- The performance of our portfolio investments as well as the general condition of the public and private equity and mergers and acquisitions markets and their impact on our investments, including equity warrant assets, venture capital and private equity funds and direct equity investments;
- Our overall investment plans and strategies as well as the realization, timing, valuation and performance of our equity or other investments;
- The levels of public offerings, mergers and acquisitions and venture capital investment activity of our clients that may impact the borrowing needs of our clients and demand for our investment banking and other services;
- The occurrence of fraudulent activity, including breaches of our information security or cyber security-related incidents;
- Business disruptions and interruptions due to natural disasters and other external events;
- The impact on our reputation and business from our interactions with business partners, counterparties, service providers and other third parties;
- Expansion of our business internationally, and the impact of international market and economic events on us;
- Our ability to maintain or increase our market share through successfully implementing our business strategy and undertaking new business initiatives, including through the integration of newly-acquired Leerink Holdings LLC, now SVB Leerink Holdings LLC ("SVB Leerink");
- The impact of governmental policy, legal requirements and regulations including Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), regulations promulgated by the Board of Governors of the Federal Reserve (the "Federal Reserve"), and other regulatory requirements;
- The impact of lawsuits and claims, as well as legal or regulatory proceedings;
- The impact of changes in accounting standards and tax laws;
- The levels of equity capital available to our client or portfolio companies;

- The effectiveness of our risk management framework and quantitative models; and
- Other factors as discussed in “Risk Factors” under Part I, Item 1A of this report.

Accordingly, you are cautioned not to place undue reliance on forward-looking statements. We urge investors to consider all of these factors, among others, carefully in evaluating the forward-looking statements contained in this Annual Report on Form 10-K. All subsequent written or oral forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by these cautionary statements. The forward-looking statements included in this filing are made only as of the date of this filing. We assume no obligation and do not intend to revise or update any forward-looking statements contained in this Annual Report on Form 10-K, except as required by law.

PART I.

ITEM 1.BUSINESS

General

SVB Financial Group ("SVB Financial") is a diversified financial services company, as well as a bank holding company and a financial holding company. SVB Financial was incorporated in the state of Delaware in March 1999. Through our various subsidiaries and divisions, we offer a diverse set of banking and financial products and services to clients across the United States, as well as in key international innovation markets. For more than 35 years, we have been dedicated to helping support entrepreneurs and clients of all sizes and stages throughout their life cycles, primarily in the technology, life science/healthcare, private equity/venture capital and premium wine industries.

We offer commercial and private banking products and services through our principal subsidiary, Silicon Valley Bank (the "Bank"), which is a California state-chartered bank founded in 1983 and a member of the Federal Reserve System. The Bank and its subsidiaries also offer asset management, private wealth management and other investment services. In addition, through SVB Financial's other subsidiaries and divisions, we offer investment banking services and non-banking products and services, such as funds management, M&A advisory services, venture capital and private equity investment. In addition, we focus on cultivating strong relationships with firms within the private equity and venture capital community worldwide, many of which are also our clients and may invest in our corporate clients.

As of December 31, 2018, on a consolidated basis, we had total assets of $56.9 billion, total investment securities of $24.2 billion, total loans, net of unearned income, of $28.3 billion, total deposits of $49.3 billion and total SVB Financial stockholders' equity of $5.1 billion.

Headquartered in Santa Clara, CA, we operate in key innovation markets in the United States and around the world. Our corporate office is located at 3003 Tasman Drive, Santa Clara, California 95054, and our telephone number is (408) 654-7400.

When we refer to "SVB Financial Group," "SVBFG," the "Company," "we," "our," "us" or use similar words, we mean SVB Financial Group and all of its subsidiaries collectively, including the Bank. When we refer to "SVB Financial" or the "Parent" we are referring only to our parent company entity, SVB Financial Group (not including subsidiaries).

Business Overview

For reporting purposes, SVB Financial Group has three operating segments for which we report financial information in this report: Global Commercial Bank, SVB Private Bank and SVB Capital. As the SVB Leerink deal did not close until after December 31, 2018, results for SVB Leerink are not included in this report.

Global Commercial Bank

Our Global Commercial Bank segment is comprised of results primarily from our Commercial Bank, our Private Equity Division, SVB Wine, SVB Analytics and our Debt Fund Investments, each as further described below.

Commercial Bank. Our Commercial Bank products and services are provided by the Bank and its subsidiaries to commercial clients primarily in the technology, life science/healthcare, and private equity/venture capital industries. The Bank provides solutions to the financial needs of commercial clients through credit, treasury management, foreign exchange, trade finance, and other services. We broadly serve clients within the U.S., as well as non-U.S. clients in key international innovation markets.

Through our credit products and services, the Bank extends loans and other credit facilities to commercial clients. In particular, credit products and services include traditional term loans, equipment loans, asset-based loans, revolving lines of credit, accounts-receivable-based lines of credit, capital call lines of credit and credit cards. These loans may be secured by clients' assets or future cash flows or may be unsecured.

The Bank's treasury management products and services include a wide range of deposits and receivables, payments, and cash management solutions accessible through our expanding online and mobile banking platforms. Deposit products include business and analysis checking accounts, money market accounts, multi-currency accounts, in-country bank accounts and sweep accounts. In connection with deposit services, the Bank provides receivables services, which include merchant services, remote capture, lockbox, electronic deposit capture, and fraud control services. Payment and cash management products and services include wire transfer and automated clearing house payment services to enable clients to transfer funds more quickly, as well as business bill pay, business credit and debit cards, account analysis, and disbursement services.

The Bank's foreign exchange and trade products and services help to facilitate clients' global finance and business needs. These products and services include foreign exchange services that help commercial clients to manage their foreign currency

needs and risks through the purchase and sale of currencies, swaps and hedges on the global inter-bank market. The Bank also offers letters of credit, including export, import, and standby letters of credit, to enable clients to ship and receive goods globally.

The Bank and its subsidiaries also offer a variety of investment services and solutions to its clients that enable them to more effectively manage their assets. For example, through its registered investment advisory subsidiary, SVB Asset Management, the Bank offers discretionary investment advisory services based on its clients' investment policies, strategies and objectives. The Bank also offers investment solutions through our repurchase agreement program.

Private Equity Division. Our Private Equity Division provides banking products and services primarily to our private equity and venture capital clients.

SVB Wine. SVB Wine provides banking products and services to our premium wine industry clients, including vineyard development loans.

SVB Analytics. SVB Analytics, Inc. ("SVB Analytics") previously provided equity valuation services and currently provides research for investors and companies in the innovation economy. In September 2017, SVB Analytics sold its equity valuation services business.

Debt Fund Investments. Debt Fund Investments is comprised of our investments in debt funds in which we are a strategic investor: (i) funds managed by Gold Hill Capital, which provide secured debt to private companies of all stages, and (ii) funds managed by Partners for Growth LLC, which provide secured debt primarily to mid-stage and late-stage companies.

SVB Private Bank

SVB Private Bank is the private banking division of the Bank, which provides a range of personal financial solutions for consumers. Our clients are primarily private equity/venture capital professionals and executive leaders of the innovation companies they support. We offer a customized suite of private banking services, including mortgages, home equity lines of credit, restricted stock purchase loans, capital call lines of credit, and other secured and unsecured lending products. We also help our private banking clients meet their cash management needs by providing deposit account products and services, including checking, money market, certificates of deposit accounts, online banking, credit cards and other personalized banking services. SVB Private Bank also includes SVB Wealth Advisory, an investment advisory subsidiary of the Bank, which provides private wealth management services to individual clients.

SVB Capital

SVB Capital is the venture capital investment arm of SVB Financial Group, which focuses primarily on funds management. SVB Capital manages over $4.5 billion of funds on behalf of third party limited partner investors and, on a more limited basis, SVB Financial Group. The SVB Capital family of funds is comprised of direct venture funds that invest in companies and funds of funds that invest in other venture capital funds. SVB Capital generates income for the Company primarily through investment returns (including carried interest) and management fees. See Note 2-“Summary of Significant Accounting Policies-Principles of Consolidation and Presentation” of the “Notes to the Consolidated Financial Statements” under Part II, Item 8 of this report.

For more information about our three operating segments, including financial information and results of operations, see “Management's Discussion and Analysis of Financial Condition and Results of Operations-Operating Segment Results” under Part II, Item 7 of this report, and Note 22—“Segment Reporting” of the “Notes to the Consolidated Financial Statements” under Part II, Item 8 of this report.

SVB Leerink

On January 4, 2019, we acquired Leerink Holdings LLC, the Boston-based parent company of healthcare and life science investment bank Leerink Partners LLC, now SVB Leerink Holdings LLC ("SVB Leerink"). SVB Leerink is an investment bank specializing in the Equity & Convertible Capital Markets, Mergers & Acquisitions, Equity Research and Sales & Trading for growth and innovation-minded healthcare and life science companies and operates as a wholly-owned subsidiary of SVB Financial. SVB Leerink provides investment banking services across all subsectors of healthcare including: biotechnology, pharmaceuticals, medical devices, diagnostic and life science tools, healthcare services and digital health. SVB Leerink focuses on two primary lines of business: (i) investment banking focused on providing companies with capital-raising services, financial advice on mergers and acquisitions, sales and trading services and equity research, and (ii) sponsorship of private investment funds.

For more information about the SVB Leerink acquisition, see Note 26 - "Subsequent Events" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

Revenue Sources

Our total revenue is comprised of our net interest income and noninterest income. Net interest income on a fully taxable equivalent basis and noninterest income for the year ended December 31, 2018 were $1.9 billion and $0.7 billion, respectively.

Net interest income accounts for the major portion of our earnings. It is comprised primarily of income generated from interest rate spread differences between the interest rates received on interest-earning assets, such as loans extended to clients and securities held in our fixed income securities portfolio, and the interest rates paid by us on interest-bearing liabilities, such as deposits and borrowings. Our deposits are largely obtained from commercial clients within our technology, life science/healthcare and private equity/venture capital industry sectors. We also obtain deposits from the premium wine industry commercial clients and from our SVB Private Bank clients. Other than our Private Bank clients, we do not obtain deposits from retail or consumer banking sources.

Noninterest income is primarily income generated from our fee-based services and gains on our investments and derivative securities. We offer a wide range of fee-based financial services to our clients, including global commercial banking, private banking and other business services, and, through the acquisition of SVB Leerink, investment banking and M&A advisory services. We generally refer to revenues generated by such fee-based services as our "core fee income" which is comprised of our foreign exchange fees, deposit service charges, credit card fees, lending related fees, client investment fees and letters of credit fees. We believe our ability to integrate and cross-sell our diverse financial services to our clients is a strength of our business model. Additionally, we hold available-for-sale, held-to-maturity, non-marketable and marketable investment securities. Subject to applicable regulatory requirements, we manage and invest in private equity/venture capital funds that invest directly in privately-held companies, as well as funds that invest in other private equity/venture capital funds. Gains on these investments are reported in our consolidated statements of income and include noncontrolling interests. We also recognize gains from warrants to acquire stock in client companies, which we obtain in connection with negotiating credit facilities and certain other services. See “Management's Discussion and Analysis of Financial Condition and Results of Operations-Noninterest Income-Gains on Investment Securities, Net” - and "-Gains on Equity Warrant Assets, Net" under Part II, Item 7 of this report.

We derive substantially all of our revenue from U.S. clients. We derived less than 10 percent of our total revenues from foreign clients for each of 2018, 2017 and 2016.

Client Niches

We provide products and services to serve the needs of our clients in each of the niches described below. We serve our commercial company clients throughout their life cycles, beginning with the emerging, start-up stage and progressing through later stages as their needs mature and expand, primarily in the technology and life science/healthcare industries. We also serve other targeted client niches --- private equity and venture capital firms, premium wine and private banking/wealth management.

Technology and Life Science/Healthcare

We serve a variety of clients in the technology and life science/healthcare industries. Our technology clients tend to be in the industries of: hardware (such as semiconductors, communications, data, storage, and electronics); software/internet (such as infrastructure software, applications, software services, digital content and advertising technology), and energy and resource innovation ("ERI"). Because of the diverse nature of ERI products and services, ERI-related loans are reported under our hardware, software/internet, life science/healthcare and other commercial loan categories, as applicable, for loan-related reporting. Our life science/healthcare clients primarily tend to be in the industries of biotechnology, medical devices, healthcare information technology and healthcare services. A key component of our technology and life science/healthcare business strategy is to develop relationships with clients at an early stage and offer them banking services that will continue to meet their needs as they mature and expand. We serve these clients primarily through three practices:

- Our **SVB Accelerator** practice focuses on serving our “emerging” or “early-stage” clients. These clients are generally privately-held companies in the start-up or early stages of their life cycles and funded by friends and family, “seed” or “angel” investors, or have gone through an initial round of venture capital financing. They are typically engaged primarily in research and development activities and may have brought only a few products or services to market, if any. SVB Accelerator clients tend to have annual revenues below $5 million, and many are pre-revenue companies.
- Our **SVB Growth** practice serves our “mid-stage” and “late-stage” clients. These clients are generally privately-held companies in the intermediate or later stages of their life cycles, and are often dependent on venture capital for funding. However, some of these clients are in the more advanced stages of their life cycles and may be publicly-held or poised to become publicly-held. Our SVB Growth clients generally have a more established product or service offering in the market and may be in a period of expansion. SVB Growth clients tend to have annual revenues between $5 million and $75 million.
- Our **SVB Corporate Finance** practice primarily serves our large corporate clients, which are more mature and established companies. These clients are generally publicly-held or large privately-held companies and have a more sophisticated product or service offering in the market. SVB Corporate Finance clients tend to have annual revenues over $75 million.

In addition, our **Sponsored Finance** group provides debt financing in support of private equity sponsored company acquisitions, primarily technology and life science/healthcare companies.

Private Equity/Venture Capital

We serve clients in the private equity/venture capital community, many of whom are investors in the portfolio company clients to whom we provide banking services. In particular, we provide credit facilities to our private equity/venture capital clients, including capital call lines of credit, the repayment of which is dependent on the payment of capital calls or management fees by the underlying limited partner investors in the funds managed by the firms.

Since our founding, we have cultivated strong relationships within the venture capital community, which has over time expanded into the private equity community. We believe our network helps to facilitate deal flow opportunities between these private equity/venture capital firms and the companies within the markets we serve.

Premium Wine

We are one of the leading providers of financial services to premium wine producers across the Western United States, primarily in California's Napa Valley, Sonoma County and Central Coast regions, as well as the Pacific Northwest. We focus on vineyards and wineries that produce grapes and premium wines.

Private Bank/Wealth Management

We provide private banking and wealth management services to consumer clients, including private equity/venture capital professionals and executive leaders of the innovation companies we support. We offer private banking, cash management and wealth management services to meet their personal banking and financial needs.

Competition

The banking and financial services industry is highly competitive and continues to evolve as a result of changes in regulation, technology, product delivery systems, and the general market and economic climate. Our competitors include other banks, debt funds, specialty and diversified financial services intermediaries and other "Fintech" disruptors that offer lending, leasing, payments, investment, foreign currency exchange, advisory and other financial products and services to our target client base. For example, we compete with alternative lenders, such as "marketplace" lenders, peer-to-peer lenders and other non-traditional lenders that have emerged in recent years. We also compete with non-financial service providers, particularly payment facilitators and processors, as well as other nonbanking technology providers in the payments industry which may offer specialized services to our client base. In addition, we compete with hedge funds and private equity funds, as well as investment banks. The principal competitive factors in our markets include product offerings, service, pricing, and transaction size and structure. Given our established market position within the client segments that we serve, our continued efforts to develop products and services, and our ability to integrate and cross-sell our diverse financial services to extend the length of our relationships with our clients, we believe we compete favorably in the markets in our core business areas.

Employees

As of December 31, 2018, we employed 2,900 full-time equivalent employees.

Supervision and Regulation

Our bank and bank holding company operations are subject to extensive regulation by federal and state regulatory agencies. This regulation is intended primarily for the stability of the U.S. banking system as well as the protection of depositors and the Deposit Insurance Fund (the "DIF"). This regulation is not intended for the benefit of our security holders. As a bank holding company that has elected financial holding company status, SVB Financial is subject to primary inspection, supervision, regulation, and examination by the Federal Reserve under the Bank Holding Company Act of 1956, as amended (the "BHC Act"). The Bank, as a California state-chartered bank and a member of the Federal Reserve System, is subject to primary supervision and examination by the Federal Reserve, as well as the California Department of Business Oversight (the "DBO") - Division of Financial Institutions. In addition, the Bank must comply with certain requirements of the Federal Deposit Insurance Corporation (the "FDIC"), as to the extent provided by law, the Bank's deposits are insured by the FDIC. Our consumer banking activities also are subject to regulation and supervision by the Consumer Financial Protection Bureau (the "CFPB"). Many of these banking regulations are designed primarily to protect our customers, counterparties and the stability of the U.S. and international banking systems.

SVB Financial and its other non-bank subsidiaries are also subject to regulation by the Federal Reserve and other applicable federal and state regulatory agencies and self-regulatory organizations, including the Securities and Exchange Commission (“SEC”) and the Financial Industry Regulatory Authority (“FINRA”). In addition, we are subject to regulation by certain foreign regulatory agencies in international jurisdictions where we conduct, or may in the future wish to conduct, business, including the United Kingdom, Israel, Hong Kong, China, Germany and Canada. (See “-International Regulation” below.)

The following discussion of statutes and regulations is a summary and does not purport to be complete. This discussion is qualified in its entirety by reference to the statutes and regulations referred to in this discussion. Regulators, the U.S. Congress, state legislatures and international consultative and standard setting bodies continue to enact rules, laws and policies to regulate the financial services industry and public companies in an effort to protect consumers and investors, and may have differing interpretations in the implementation of such rules. As a result, the precise nature of these laws and regulations and the effect of such policies on the Company’s business cannot be predicted and in some cases, may have a material and adverse effect on our business, financial condition, and/or results of operations. For more information, see "Risk Factors - Legal and Regulatory Risks" under Part I, Item IA of this report.

Regulation and Supervision of SVB Financial

Under the BHC Act, SVB Financial, as a bank holding company, is subject to the Federal Reserve’s regulation and supervision and its authority to, among other things:

- Require periodic reports and such other additional information as the Federal Reserve may require in its discretion;
- Require the maintenance of certain minimum levels of capital and adherence to capital adequacy standards;
- Restrict the ability of bank holding companies to service debt, pay dividends or receive dividends or other distributions from their subsidiary banks;
- Require prior approval for senior executive officer and director changes under certain circumstances;
- Require that bank holding companies serve as a source of financial and managerial strength to their banks and commit resources as necessary to support their banks. The determination of a bank holding company’s failure to meet its obligations to serve as a source of strength to its subsidiary banks will generally be considered by the Federal Reserve to be an unsafe and unsound banking practice, a violation of Federal Reserve regulations or otherwise inconsistent with applicable statutory standards, or all of the foregoing;
- Terminate an activity or terminate control of or liquidate or divest certain subsidiaries, affiliates or investments if the Federal Reserve believes the activity or the control of the subsidiary or affiliate constitutes a serious risk to the financial safety, soundness or stability of any bank subsidiary, or if there is a failure to maintain certain capital and management standards;
- Regulate provisions of certain bank holding company debt, including the authority to impose interest ceilings and reserve requirements on such debt and require prior approval to purchase or redeem our securities in certain situations; and
- Require approval of acquisitions and mergers with banks and large financial companies and consider certain competitive, management, financial, financial stability and other factors in granting these approvals. Similar California and other state banking agency approvals may also be required.

Bank holding companies generally are prohibited, except in certain statutorily prescribed instances including exceptions for financial holding companies, from acquiring direct or indirect ownership or control of five percent or more of any class of the outstanding voting shares of any company that is not a bank or bank holding company and from engaging directly or indirectly in activities other than those of banking, managing or controlling banks, or furnishing services to its subsidiaries. However, subject to prior notice or Federal Reserve approval, bank holding companies may engage in, or acquire shares of companies engaged in, activities determined by the Federal Reserve to be so closely related to banking or managing or controlling banks as to be a proper incident thereto. In addition to being a bank holding company, SVB Financial has elected to be a "financial holding company" as permitted under the Gramm-Leach-Bliley Act of 1999 ("GLBA"), which status allows SVB Financial to generally engage in certain otherwise prohibited nonbanking activities and certain other broader securities, insurance, merchant banking and other activities that the Federal Reserve has determined to be “financial in nature” or are incidental or complementary to activities that are financial in nature without prior Federal Reserve approval, subject to the requirement imposed by the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") that SVB Financial must obtain prior Federal Reserve approval (subject to certain exceptions) in order to acquire a nonbanking company engaged in financial activities with more than $10 billion in consolidated assets.

Pursuant to the GLBA, in order to elect and retain financial holding company status, all depository institution subsidiaries of a bank holding company must be well-capitalized, well-managed, and, except in limited circumstances, in satisfactory compliance with the Community Reinvestment Act (“CRA”). In addition, pursuant to the Dodd-Frank Act, a financial holding company, and no longer just bank subsidiaries thereof, is required to be well-capitalized and well-managed. Failure to maintain

compliance with these requirements or correct any non-compliance within a specified time could lead to divestiture of subsidiary banks, require all activities to conform to those permissible for a bank holding company (as opposed to the greater range of activities permissible for a financial holding company), or subject the financial holding company to other regulatory restrictions.

Because SVB Financial is a holding company, our rights and the rights of our creditors and security holders to participate in the assets of any of our subsidiaries upon the subsidiary's liquidation or reorganization will be subject to the prior claims of the subsidiary's creditors, except to the extent we may ourselves be a creditor with recognized claims against the subsidiary. In addition, there are various statutory and regulatory limitations on the extent to which the Bank can finance or otherwise transfer funds to us or to our non–bank subsidiaries, including certain investment funds to which the Bank serves as an investment adviser, whether in the form of loans or other extensions of credit, including a purchase of assets subject to an agreement to repurchase, securities investments, the borrowing or lending of securities to the extent that the transaction causes the Bank or a subsidiary to have credit exposure to the affiliate, or certain other specified types of transactions, as discussed in further detail below. Further, loans and other extensions of credit by the Bank to us or any of our non-bank subsidiaries are required to be secured by specified amounts of collateral and are required to be on terms and conditions consistent with safe and sound banking practices.

In addition to regulation and supervision by the Federal Reserve as a bank holding company and financial holding company, SVB Financial is also treated as a bank holding company under the California Financial Code. As such, SVB Financial and its subsidiaries are subject to periodic examination by and may be required to file reports with the DBO.

The Dodd-Frank Wall Street Reform and Consumer Protection Act

The Dodd-Frank Act, enacted in 2010, was intended to make significant structural reforms to the financial services industry. The Dodd-Frank Act broadly affects the financial services industry by creating new resolution authorities, requiring ongoing stress testing of capital, mandating higher capital levels and more stringent liquidity management requirements, increasing regulation of executive and incentive-based compensation and requiring numerous other provisions aimed at strengthening the sound operation of the financial services sector, many of which vary depending on the asset size of the financial institution. Various aspects of the Dodd-Frank Act apply based on the asset size of the financial institution. On May 24, 2018, President Trump signed into law the Economic Growth, Regulatory Relief, and Consumer Protection Act (the "EGRRCPA"), which increased these thresholds and modified certain of the Dodd-Frank Act's requirements. Among other things, the Dodd-Frank Act (as amended by the EGRRCPA) provides for:

- Capital standards applicable to bank holding companies that may be no less stringent than those generally applicable to insured depository institutions;
- Periodic stress tests for financial entities with $250 billion or more in total consolidated assets;
- Additional risk management and other enhanced prudential standards for larger bank holding companies with $250 billion or more in total consolidated assets (See "-Enhanced Prudential Standards" below);
- Risk committee requirements for publicly traded bank holding companies with $50 billion or more in total consolidated assets;
- Restrictions on a banking institution's ability to engage in proprietary trading and to sponsor, invest in or lend to certain funds, including venture capital, hedge and private equity funds;
- Repeal of the federal prohibition (Regulation Q) on the payment of interest on demand deposits, including business checking accounts, and establishment of the $250,000 limit for federal deposit insurance;
- The establishment of the CFPB with responsibility for promulgating and enforcing regulations designed to protect consumers' financial interests and prohibit unfair, deceptive and abusive acts and practices by financial institutions;
- The authority of the CFPB to directly examine those financial institutions with $10 billion or more in assets, such as SVB Financial, for compliance with the regulations promulgated by the CFPB;
- Limits, or the imposition of significant burdens and compliance and other costs on, certain activities previously conducted by banking organizations, such as originating and securitizing mortgage loans and other financial assets, arranging and participating in swap and derivative transactions, proprietary trading and investing in private equity and other funds and restrictions on debit charge interchange fees; and
- The establishment of new compensation restrictions and standards regarding the time, manner and form of compensation given to key executives and other personnel receiving incentive compensation, including documentation and governance, proxy access by stockholders, deferral and claw-back requirements.

The Dodd-Frank Act also requires the issuance of numerous implementing regulations, some of which have not yet been finalized. Individually and collectively, both the proposed and final regulations resulting from the Dodd-Frank Act may materially and adversely affect our businesses, financial conditions and results of operations. Further, the Dodd-Frank Act (as amended by the EGRRCPA) imposes enhanced prudential standards on bank holding companies with average total consolidated assets of $250 billion or more, and provides the Federal Reserve with the authority to apply enhanced prudential standards to bank holding companies with between $100 billion and $250 billion in total consolidated assets. Pursuant to this mandate, the Federal Reserve

proposed regulations in late 2018 that would introduce a tiered system of applicability that applies periodic stress test requirements and other enhanced prudential standards to bank holding companies with $100 billion or more in total consolidated assets (the “Tailoring Proposal”). In addition, under the Federal Reserve's implementing regulations, certain additional capital and liquidity standards apply to bank holding companies with average total consolidated assets of $250 billion or more or $10 billion or more in on-balance sheet foreign exposures (the "Advanced Approaches Thresholds"). Notably, the federal banking agencies proposed changes to certain capital and liquidity regulations (the "Capital and Liquidity Thresholds Proposal") in late 2018 that would modify the Advanced Approaches Thresholds by introducing a tiered system of applicability that would mirror the tiers used in the Tailoring Proposal. See "-Enhanced Prudential Standards" and "-Regulatory Capital" below.

Enhanced Prudential Standards

Under the Dodd-Frank Act (as amended by the EGRRCPA), bank holding companies with $250 billion or more in average total consolidated assets, and potentially those with $100 billion or more in average total consolidated assets, are subject to more stringent prudential requirements, including requirements for risk-based and leverage capital, liquidity management, risk management, resolution planning, company-run and supervisory capital stress testing and capital planning, and single counterparty credit exposure limits. Certain requirements, including separate early remediation standards, have not yet been finalized and implemented. As noted above, the Tailoring Proposal would implement the EGRRCPA’s revisions to the Dodd-Frank Act.

Pursuant to the Federal Reserve’s regulations, a bank holding company becomes subject to the more stringent prudential standards at the end of a four-quarter period over the course of which the bank holding company averages the relevant asset threshold (currently $50 billion under the Federal Reserve’s regulations and $100 billion under the Tailoring Proposal). We refer to the conclusion of that four-quarter period as the time at which a bank holding company becomes “subject to enhanced prudential standards.”

Once a bank holding company becomes subject to enhanced prudential standards, certain of the standards include a transition period that provides a timeline for the bank holding company to comply. Below we describe several of the enhanced prudential standards’ requirements under the current regulations and under the Tailoring Proposal and the associated transition periods that apply once a bank holding company becomes subject to the requirements.

- *Comprehensive Capital Analysis and Review (“CCAR”).* Current regulations require bank holding companies with $50 billion or more in total consolidated assets to submit an annual capital plan to the Federal Reserve. Following the passage of the EGRRCPA, the Federal Reserve issued a statement that it would not require firms with less than $100 billion in total consolidated assets to comply with that requirement. The Tailoring Proposal would revise the Federal Reserve’s regulations to reflect this new $100 billion threshold. For firms subject to CCAR, failure to submit a satisfactory plan can result in restrictions on the payment of dividends as well as other restrictions.

- *Stress Testing*. Currently, Federal Reserve regulations require bank holding companies to submit to the Federal Reserve the results of a mid-year and annual company-run stress test and make summaries of such results available to the public. Bank holding companies with $10 billion or more, but less than $50 billion, in average total consolidated assets are subject to annual company run stress test requirements. In addition, bank holding companies with $50 billion or more in total consolidated assets currently are subject to semi-annual company-run stress test requirements and an annual supervisory stress test conducted by the Federal Reserve, which publicly discloses summaries of the results of the supervisory stress tests. Following passage of the EGRRCPA, the Federal Reserve issued a statement that it would not require bank holding companies with less than $100 billion in total consolidated assets to comply with these requirements. Further, under the Tailoring Proposal, these stress testing requirements only would apply to bank holding companies with $100 billion or more in total consolidated assets.

- *Resolution Planning*. Bank holding companies are required to annually submit to the Federal Reserve and the FDIC a plan for rapid and orderly resolution in the event of material financial distress or failure. Separately, the FDIC requires insured depository institutions (“IDI”) that have average total consolidated assets of $50 billion or more, based on a four-quarter average, to annually submit to the FDIC a plan that enables the FDIC as receiver to resolve the bank under Sections 11 and 13 of the Federal Deposit Insurance Act, as amended (the “FDIA”). Following passage of the EGRRCPA, the Federal Reserve and FDIC issued a statement that they would not require bank holding companies with less than $100 billion to comply with these requirements. The EGRRCPA did not change the threshold for the FDIC’s IDI resolution planning requirement, but the FDIC has said that it will evaluate whether to revise the applicability threshold for that rule. For those depository institutions subject to the FDIC's IDI resolution planning requirement, the FDIC also announced in August 2018 the extension of the deadline for submitting IDI resolution plans to no sooner than July 1, 2020.

- *Liquidity Coverage Ratio* Pursuant to the Liquidity Coverage Ratio ("LCR") requirement, bank holding companies are required to maintain high-quality liquid assets in accordance with specific quantitative requirements. A modified, less stringent version of the Federal Reserve's LCR rule applies to bank holding companies with greater than $50 billion in average total consolidated assets, but less than $250 billion in average total consolidated assets and $10 billion in on-balance sheet foreign exposures (so-called "advanced approaches" banking organizations). Following passage of the EGRRCPA, the Federal Reserve issued a statement that they would not require bank holding companies with less than $100 billion to comply with the modified LCR. Further, under the Capital and Liquidity Thresholds Proposal, only bank holding companies with $100 billion or more in total consolidated assets would be subject to any form of LCR requirement.

- *Risk Management*. Bank holding companies must comply with enhanced risk management requirements. These requirements impose standards on the Board of Directors' risk committee and for a chief risk officer. The enhanced prudential requirements also impose liquidity risk management standards and require subject bank holding companies to conduct regular liquidity stress testing over various time horizons and maintain a buffer of liquid assets based on the results of such stress testing. Bank holding companies are required to comply with such risk management and liquidity risk management requirements on the first day of the fifth quarter after becoming subject to the enhanced prudential standards. Following passage of the EGRRCPA, the Federal Reserve issued a statement that it would not seek to require bank holding companies with less than $100 billion in total consolidated assets to satisfy these requirements, other than the risk-management and risk committee requirements. The Tailoring Proposal would revise the Federal Reserve's regulations to reflect this new $100 billion threshold.

- *Pillar III Disclosure* Bank holding companies are required to make timely qualitative and quantitative disclosures about their regulatory capital, referred to as "Pillar III disclosures." Quantitative disclosures must be made quarterly, and qualitative disclosures that do not change each quarter may be disclosed annually. Bank holding companies are required to make Pillar III disclosures after reporting $50 billion or more in total consolidated assets in their year-end financial reports to the Federal Reserve. Because the disclosures are backward-looking, a bank holding company makes its first disclosures with respect to data from prior quarters.

Regulation and Supervision of Silicon Valley Bank

The Bank is a California state-chartered bank, a member of the Federal Reserve and a member of the FDIC. The Bank is subject to primary supervision, periodic examination and regulation by the DBO and the Federal Reserve, as the Bank's primary federal regulator. In general, under the California Financial Code, California banks have all the powers of a California corporation, subject to the general limitation of state bank activities and investments under the FDIA. Specific federal and state laws and regulations which are applicable to banks regulate, among other things, the scope of their business, their investments, their transactions with affiliates, their foreign operations, their reserves against deposits, the timing of the availability of deposited funds and the nature and amount of and collateral for certain loans. The regulatory structure also gives the bank regulatory agencies extensive discretion in connection with their supervisory and enforcement activities and examination policies, including policies with respect to the classification of assets and the establishment of adequate loan loss reserves for regulatory purposes. If, as a result of an examination, the DBO or the Federal Reserve should determine that the financial condition, capital resources, asset quality, earnings prospects, management, liquidity, or other aspects of the Bank's operations are unsatisfactory or that the Bank or its management is violating or has violated any law or regulation, the DBO and the Federal Reserve, and separately the FDIC as insurer of the Bank's deposits, have broad prudential authority to:

- Require affirmative action to correct any conditions resulting from any violation or practice;
- Require prior approval for senior executive officer and director changes;
- Direct an increase in capital and the maintenance of specific minimum capital ratios which may preclude the Bank from being deemed well capitalized for regulatory purposes;
- Restrict the Bank's growth geographically, by products and services, or by mergers and acquisitions;
- Enter into informal or formal enforcement orders, including memoranda of understanding, written agreements and consent or cease and desist orders to take corrective action and enjoin unsafe and unsound practices;
- Restrict or prohibit the Bank from paying dividends or making other distributions to SVB Financial;
- Remove officers and directors and assess civil monetary penalties; and
- Take possession of and close and liquidate the Bank.

Pursuant to applicable California and federal law, state chartered commercial banks are permitted to engage in any activity permissible for national banks. Therefore, the Bank may form subsidiaries to engage in the many so-called "closely related to banking" or "nonbanking" activities commonly conducted by national banks in operating subsidiaries, and further, the Bank may conduct certain "financial" activities in a subsidiary that would be impermissible for the Bank itself to the same extent as may a

national bank, provided the Bank remains "well-capitalized," "well-managed" and in satisfactory compliance with the CRA. The Bank continues to be in satisfactory compliance with the CRA.

Regulatory Capital

In July 2013, the Federal Reserve, the FDIC and the Office of the Comptroller of the Currency (the "OCC") jointly published final rules establishing a new comprehensive capital framework for U.S. banking organizations. The agencies said that they believe the new rules will result in capital requirements that better reflect banking organizations' risk profiles. The rules implement the "Basel III" regulatory capital reforms and changes required by the Dodd-Frank Act. "Basel III" refers to the internationally agreed regulatory capital framework adopted by the Basel Committee on Banking Supervision (the "Basel Committee"). The new rules largely became effective for SVB Financial and the Bank in January 2015, with some rules being transitioned into full effectiveness over two to four years. The new capital rules, among other things, (i) require elevated capital levels for the Bank and SVB Financial; (ii) introduce a new capital measure limited to common equity called "Common Equity Tier 1" ("CET1") and a related regulatory capital ratio of CET 1 to risk-weighted assets; (iii) specify that Tier 1 capital consists of CET1 and "Additional Tier 1 capital" instruments meeting specified requirements; (iv) change the risk-weightings of certain on- and off-balance sheet assets for purposes of risk-based capital ratios; (v) create an additional capital conservation buffer (which will limit dividends and other discretionary bonus payments to certain executive officers if not satisfied) above the required capital ratios; (vi) limit what qualifies as capital for purposes of meeting the various capital requirements; (vii) apply most deductions/adjustments to regulatory capital measures to CET1 and not to the other components of capital, thus potentially requiring higher levels of CET1 in order to meet minimum ratios; and (viii) expand the scope of the deductions from, and adjustments to, capital as compared to prior regulations. Further, under the Basel III capital adequacy framework as implemented in the United States, advanced approaches banking organizations are subject to the "advanced approaches" capital rules, which require banking organization to use an internal ratings-based approach and other model-based methodologies to calculate risk-based capital requirements for credit risk and advanced measurement approaches to calculate risk-based capital requirements for operational risk. Under the Capital and Liquidity Thresholds Proposal, the advanced approaches capital rules only would apply to banking organizations with $700 billion or more in total consolidated assets, or with $100 billion or more in total consolidated assets and $75 billion or more in cross-jurisdictional activity (a measure of international activity that is broader than the "foreign exposure" measure in the current Advanced Approaches Thresholds and that looks at both foreign assets and liabilities). As of December 31, 2018, we had total consolidated assets of $56.9 billion and approximately $7.5 billion in on-balance sheet foreign exposures. Our level of foreign exposures is determined based on our current understanding of applicable regulatory standards, guidance, interpretations, expectations and assumptions, and may be subject to change based on any modifications, clarifications or evolution of these standards, guidance, interpretations, expectations or assumptions. In addition to being required to use internal models to calculate capital requirements, crossing the Advanced Approaches Thresholds, currently triggers a number of additional requirements, including the following:

- *Application of a Standardized Capital Floor* Section 171 of the Dodd-Frank Act, commonly referred to as the Collins Amendment, provides that a banking organization's capital requirements calculated under the "advanced approaches" capital rules may not be lower than the capital requirements calculated using the prescriptive "standardized approach" that otherwise generally applies to banking organizations.

- *Supplementary Leverage Ratio of 3%.* The supplementary leverage ratio ("SLR") is more stringent than the otherwise applicable Tier 1 leverage ratio of 4%, which is discussed below. Under the Capital and Liquidity Thresholds Proposal, the SLR would apply to banking organizations with $250 billion or more in total consolidated assets, or $100 billion or more in total consolidated assets and $75 billion or more in any one or more of (1) nonbank assets; (2) weighted short-term wholesale funding ("wSTWF"); and (3) off-balance-sheet exposures.

- *Unavailability of the Accumulated Other Comprehensive Income Opt-Out Election under the Risk-Based Capital Rules*. Banking organizations subject to the advanced approaches capital rules are not permitted to opt-out from having accumulated other comprehensive income ("AOCI") included in regulatory capital.

- *Countercyclical Capital Buffer*. This standard requires a banking organization to hold an additional buffer amount, designed to counteract systemic vulnerabilities. The buffer amount is currently set by the Federal Reserve at zero percent, but could change in the future. If the buffer is not met, the banking organization is subject to limitations on dividends and other payouts. Under the Capital and Liquidity Thresholds Proposal, this requirement would apply to banking organizations with $250 billion or more in total consolidated assets, or $100 billion or more in total consolidated assets and $75 billion or more in any one or more of (1) nonbank assets; (2) wSTWF; and (3) off-balance-sheet exposures.

- *Full Liquidity Coverage Ratio.* The full LCR requires LCR calculation on a daily (compared to the modified LCR's monthly standard) basis, uses the banking organization's full net cash outflow amount (compared to 70% under the modified LCR), and includes an "add-on" to net cash outflows for certain maturity mismatch during the 30-day LCR period. Under the Capital and Liquidity Thresholds Proposal, the full LCR also would apply to banking organizations with $250 billion or more in total consolidated assets or $100 billion or more in total consolidated assets and $75 billion or more in wSTWF.

On December 7, 2017, the Basel Committee published a set of revisions to its Basel III framework to address perceived weaknesses in the current methodology for calculating risk weighted assets, in particular to increase the risk-sensitivity of the standardized approach and to constrain banking organizations' discretion in modeling their capital requirements under models-based approaches (such as the advanced approaches in the United States). Following the adoption of the final standards, the Federal Reserve, the FDIC and the OCC announced, also on December 7, 2017, that they support the conclusion of efforts to reform the international bank capital standards in response to the global financial crisis, and that they would consider how to appropriately apply these revisions to the Basel III reform package in the United States through the standard notice-and-comment rulemaking process.

Under the new capital rules, CET1 is defined as common stock, plus related surplus, and retained earnings plus limited amounts of minority interest in the form of common stock, less the majority of the regulatory deductions and adjustments. The new capital rules, like the prior capital rules, specify that total capital consists of Tier 1 capital and Tier 2 capital. Tier 1 capital for SVB Financial and the Bank consists of common stock, plus related surplus and retained earnings. Under the new capital rules, for most banking organizations, the most common form of Additional Tier 1 capital is noncumulative perpetual preferred stock and the most common form of Tier 2 capital is subordinated debt and a portion of the allowance for loan and lease losses ("ALLL"), in each case, subject to the new capital rules' specific requirements.

The new capital rules require several changes to regulatory capital deductions and adjustments, subject to a transition period. These changes include, for example, the requirement that deferred tax assets ("DTAs") arising from temporary differences that could not be realized through net operating loss carrybacks and significant investments in non-consolidated financial entities be deducted from CET1 to the extent that any one such category exceeds 10% of CET1 or all such items, in the aggregate, exceed 15% of CET1. In addition, under the previous capital rules, certain effects of AOCI or loss items included in shareholders' equity were reversed for the purposes of determining regulatory capital ratios. Under the new capital rules, the effects of certain AOCI are not excluded; however, non-advanced approaches banking organizations, including SVB Financial and the Bank, may make a one-time permanent election to continue to exclude these items. We made this election in April 2015 to reduce the potential impact on SVB Financial's and the Bank's regulatory capital levels due to periodic volatile changes in long-term interest rates. Implementation of the deductions and other adjustments to CET1 began on January 1, 2015 and is being phased-in over a four-year period (begun at 40% on January 1, 2015 and increasing by a 20% percentage points per year until 100%).

The new capital rules also include changes in the risk-weighting of assets to better reflect perceived credit risk and other risk exposure and require higher tangible common equity components of capital. These include a 150% risk weight (up from 100%) for certain high volatility commercial real estate acquisitions, development and construction loans and for non-residential mortgage loans that are 90 days past due or otherwise in nonaccrual status and a 20% (up from 0%) credit conversion factor for the unused portion of a commitment with an original maturity of one year or less that is not unconditionally cancellable. Under the new capital rules, the minimum capital ratios are as follows:

- 4.5% CET1 to risk-weighted assets
- 6.0% Tier 1 capital to risk-weighted assets
- 8.0% Total capital to risk-weighted assets
- 4.0% Tier 1 capital to average consolidated assets as reported on consolidated financial statements (known as the "leverage ratio")

The new capital rules require SVB Financial and the Bank to meet a capital conservation buffer requirement in order to avoid constraints on capital distributions, such as dividends and equity repurchases, and certain bonus compensation for executive officers. To meet the requirement when it is fully phased in, the organization must maintain an amount of CET1 capital that exceeds the buffer level of 2.5% above each of the minimum risk-weighted capital ratios. The requirement is being phased in over a four year period, which began on January 1, 2016, at which time the amount of such capital must have exceeded the buffer level of 0.625%. The buffer level will continue to increase by 0.625 percentage points each year until reaching 2.5% on January 1, 2019. When the capital conservation buffer requirement is fully phased in, to avoid constraints, a banking organization must maintain the following capital ratios (after any distribution): (i) CET1 to risk-weighted assets more than 7.0%, (ii) Tier 1 capital to risk-weighted assets more than 8.5%, and (iii) total capital (Tier 1 plus Tier 2) to risk-weighted assets more than 10.5%.

With respect to the Bank, the new capital rules also revised the "prompt corrective action" regulations, by (i) introducing a CET1 ratio requirement at each level (other than critically undercapitalized), with the required CET1 ratio being 6.5% for well-

capitalized status; (ii) increasing the minimum Tier 1 capital ratio requirement for each category, with the minimum Tier 1 capital ratio for well-capitalized status being 8% (as compared to the current 6%); and (iii) eliminating the provision that provides that a bank with a composite supervisory rating of 1 may have a 3% leverage ratio and still be adequately capitalized. The new capital rules do not change the total risk-based capital requirement for any "prompt corrective action" category. See "-Prompt Corrective Action and Other General Enforcement Authority" below.

Although we continue to evaluate the impact that the new capital rules have on SVB Financial and the Bank and monitor developments from the federal banking agencies and the Basel Committee, we believe that SVB Financial and the Bank meet all capital requirements under the new capital rules on a fully phased-in basis as if such requirements were effective as of December 31, 2017. The estimate is based on management's current interpretation, expectations, and understanding of the new capital rules. We anticipate that the Bank will continue to exceed the well-capitalized minimum capital requirements, and that SVB Financial will thus continue to qualify as a financial holding company.

Capital Planning

Banking organizations must have appropriate capital planning processes, with proper oversight from the Board of Directors. Accordingly, pursuant to a separate, general supervisory letter from the Federal Reserve, bank holding companies are expected to conduct and document comprehensive capital adequacy analyses prior to the declaration of any dividends (on common stock, preferred stock, trust preferred securities or other Tier 1 capital instruments), capital redemptions or capital repurchases. Moreover, the federal banking agencies have adopted a joint agency policy statement, noting that the adequacy and effectiveness of a bank's interest rate risk management process and the level of its interest rate exposures are critical factors in the evaluation of the bank's capital adequacy. A bank with material weaknesses in its interest rate risk management process or high levels of interest rate exposure relative to its capital will be directed by the relevant federal banking agencies to take corrective actions. While the current regulations require bank holding companies with $50 billion or more in average total consolidated assets to submit capital plans, the Federal Reserve issued a statement in 2018 following adoption of the EGRRCPA that stated that it would not apply these requirements to bank holding companies with less than $100 billion in total consolidated assets and the Tailoring Proposal would revise the Federal Reserve's regulations to reflect this $100 billion threshold. See "-Enhanced Prudential Standards-Comprehensive Capital Analysis and Review" above.

Proprietary Trading and Certain Relationships with Hedge Funds and Private Equity Funds

The "Volcker Rule" under the Dodd-Frank Act restricts, among other things, proprietary trading activities of banking holding companies as well as the ability of such entities to sponsor or invest in certain privately offered funds, including certain venture capital, hedge and private equity funds. On December 10, 2013, the federal bank regulatory agencies, the SEC and the Commodity Futures Trading Commission (the "CFTC") adopted final regulations implementing the Volcker Rule. The final regulations became effective on April 1, 2014, subject to a conformance timeline pursuant to which affected entities (referred to as "banking entities") are required to bring their activities and investments into conformance with the prohibitions and restrictions of the Volcker Rule and the final regulations thereunder.

Subject to certain exceptions, the Volcker Rule prohibits a banking entity from engaging in "proprietary trading," which is defined as engaging in purchases or sales of securities or certain other financial instruments, as principal, for the "trading account" of the banking entity. Certain forms of proprietary trading may qualify as "permitted activities," and thus not be subject to the ban on proprietary trading, such as market-making related activities, risk-mitigating hedging activities, trading in U.S. government or agency obligations, or certain other U.S. state or municipal obligations, and the obligations of Fannie Mae, Freddie Mac or Ginnie Mae. Based on this definition and the exceptions provided under the final regulations, we do not believe that compliance with the Volcker Rule's proprietary trading prohibition is likely to have a material effect on our business or operations.

Additionally, subject to certain exceptions, the rule prohibits a banking entity from sponsoring or investing in "covered funds," which includes many venture capital, private equity and hedge funds. One such exception permits a banking entity to sponsor and invest in a covered fund that it organizes and offers to customers, provided that additional requirements are met. These permitted investments generally are limited to 3% of the total amount or number of ownership interests in each covered fund. In addition, the aggregate investments a banking entity makes in all covered funds generally are limited to 3% of the institution's Tier 1 capital.

On June 6, 2017, we received notice that the Board of Governors of the Federal Reserve approved the Company's application for an extension of the permitted conformance period for the Company's investments in certain "illiquid" covered funds. The approval extends the deadline by which the Company must sell, divest, restructure or otherwise conform such investments to the provisions of the Volcker Rule until the earlier of (i) July 21, 2022 or (ii) the date by which each fund matures by its terms or is otherwise conformed to the Volcker Rule.

On July 17, 2018, the Volcker Rule implementing agencies, including the Federal Reserve, jointly issued a notice of proposed rulemaking to amend the regulations implementing the Volcker Rule. The proposal includes provisions to tailor compliance requirements based on the size of a firm's trading assets and liabilities, and would eliminate or adjust certain requirements in order to clarify permitted and prohibited activities. SVB cannot predict whether, or in what form, the proposal may be finalized.

As of December 31, 2018, we estimate that our total venture capital and private equity fund investments deemed to be prohibited covered fund interests and therefore subject to the Volcker Rule's restrictions, had an aggregate carrying value and fair value of approximately $247 million. These covered fund interests are comprised of interests attributable solely to the Company in our consolidated managed funds and certain of our non-marketable securities.

We continue to assess the financial impact of these rules on our fund investments, as well as the impact of other Volcker Rule restrictions on other areas of our business.

The Volcker Rule also requires banking entities to design and implement a compliance program reasonably designed to ensure and monitor compliance with the Volcker Rule. Banking entities that have total consolidated assets of $50 billion or more as of the previous calendar year-end become subject to the Volcker Rule's enhanced compliance program requirements, which, among other things, require an annual attestation from the chief executive officer regarding the design and effectiveness of the compliance program. We had more than $50 billion in total consolidated assets as of December 31, 2017. Therefore, we became subject to these enhanced compliance requirements as of January 1, 2018.

Prompt Corrective Action and Other General Enforcement Authority

State and federal banking agencies possess broad powers to take corrective and other supervisory action against an insured bank and its holding company. The FDIA requires each federal banking agency to take prompt corrective action to resolve the problems of insured depository institutions, including those that fall below one or more prescribed minimum capital ratios. The law requires each federal banking agency to promulgate regulations defining five categories in which an insured depository institution will be placed, based on the level of its capital ratios: well-capitalized, adequately capitalized, undercapitalized, significantly undercapitalized, and critically undercapitalized. At each successive lower capital category, an insured depository institution is subject to more restrictions and prohibitions, including restrictions on growth, restrictions on interest rates paid on deposits, restrictions or prohibitions on payment of dividends and restrictions on the acceptance of brokered deposits. Further, if an insured depository institution is classified in one of the undercapitalized categories, it is required to submit a capital restoration plan to the appropriate federal banking agency, and the holding company must guarantee the performance of that plan. Based upon its capital levels, a bank that is classified as well-capitalized, adequately capitalized, or undercapitalized may be treated as though it were in the next lower capital category if the appropriate federal banking agency, after notice and opportunity for hearing, determines that an unsafe or unsound condition or practice, warrants such treatment.

Bank holding companies and insured banks also may be subject to potential enforcement actions of varying levels of severity by the federal regulators for unsafe or unsound practices in conducting their business, or for violation of any law, rule, regulation or condition imposed in writing by any applicable agency or term of a written agreement with that agency. In more serious cases, enforcement actions may include the issuance of directives to increase capital; the issuance of formal and informal agreements; the imposition of civil monetary penalties; the issuance of a cease and desist order that can be judicially enforced; the issuance of removal and prohibition orders against officers, directors, and other institution-affiliated parties; the termination of the bank's deposit insurance; the appointment of a conservator or receiver for the bank; and the enforcement of such actions through injunctions or restraining orders based upon a judicial determination that the agency would be harmed if such equitable relief was not granted.

Safety and Soundness Guidelines

Banking regulatory agencies have adopted guidelines to assist in identifying and addressing potential safety and soundness concerns before capital becomes impaired. The guidelines establish operational and managerial standards generally relating to: (i) internal controls, information systems and internal audit systems; (ii) loan documentation; (iii) credit underwriting; (iv) interest-rate exposure; (v) asset growth and asset quality; and (vi) compensation, fees and benefits. In addition, the bank regulatory agencies have adopted safety and soundness guidelines for asset quality and for evaluating and monitoring earnings to ensure that earnings are sufficient for the maintenance of adequate capital and reserves. The Federal Reserve's enhanced prudential standards require publicly traded bank holding companies with total consolidated assets of $10 billion or more to establish and maintain risk management committees for their boards of directors to oversee the bank holding companies' risk management frameworks. The Tailoring Proposal would increase this threshold to $50 billion. In January 2015, we formed a risk committee of our Board of Directors. Bank holding companies with total consolidated assets of $50 billion and greater currently also are subject to more stringent board risk committee and risk management requirements, including liquidity risk requirements. The Tailoring Proposal would increase the threshold for these requirements to $100 billion.

Restrictions on Dividends

Dividends from the Bank constitute one of the primary sources of cash for SVB Financial. The Bank is subject to various federal and state statutory and regulatory restrictions on its ability to pay dividends, including applicable provisions of the California Financial Code and the prompt corrective action regulations. In addition, the banking agencies have the authority to prohibit the Bank from paying dividends, depending upon the Bank's financial condition, if such payment is deemed to constitute an unsafe or unsound practice. Further, under the federal prompt corrective action regulations, the Federal Reserve may prohibit a bank holding company from paying any dividends if the holding company's bank subsidiary is classified as "undercapitalized."

It is the Federal Reserve's policy that bank holding companies should generally pay dividends on common stock only out of income available over the past year, and only if prospective earnings retention is consistent with the organization's expected future needs and financial condition. It is also the Federal Reserve's policy that bank holding companies should not maintain dividend levels that undermine their ability to be a source of strength to its banking subsidiaries. Additionally, in consideration of the recent financial and economic environment, the Federal Reserve has indicated that bank holding companies should carefully review their dividend policy and has discouraged payment ratios that are at maximum allowable levels unless both asset quality and capital are very strong.

Transactions with Affiliates

Transactions between the Bank and its operating subsidiaries (such as SVB Securities and SVB Asset Management) on the one hand, and the Bank's affiliates (such as SVB Financial, SVB Analytics or an entity affiliated with our SVB Capital business) on the other, are subject to restrictions imposed by federal and state law, designed to protect the Bank and its subsidiaries from engaging in unfavorable behavior with their affiliates. The Dodd-Frank Act further extended the definition of an "affiliate" to include any investment fund to which the Bank or an affiliate serves as an investment adviser. The Federal Reserve's Regulation W, implements these restrictions on affiliate transactions and prevents SVB Financial and other affiliates from borrowing from, or entering into other credit transactions with, the Bank or its operating subsidiaries unless the loans or other credit transactions are secured by specified amounts of collateral, and also require that the Bank enter into such transaction on terms no less favorable to the Bank than the terms of an arms' length transaction with an unaffiliated party. Moreover, all loans and credit transactions and other "covered transactions" by the Bank and its operating subsidiaries with any one affiliate are limited, in the aggregate, to 10% of the Bank's capital and surplus; and all loans and credit transactions and other "covered transactions" by the Bank and its operating subsidiaries with all affiliates are limited, in the aggregate, to 20% of the Bank's capital and surplus. For this purpose, a "covered transaction" generally includes, among other things, a loan or extension of credit to an affiliate, including a purchase of assets subject to an agreement to repurchase; a purchase of or investment in securities issued by an affiliate; the acceptance of a security issued by an affiliate as collateral for an extension of credit to any borrower; the borrowing or lending of securities where the Bank has credit exposure to the affiliate; the acceptance of "other debt obligations" of an affiliate as collateral for a loan to a third party; any derivative transaction that causes the Bank to have credit exposure to an affiliate; and the issuance of a guarantee, acceptance, or letter of credit on behalf of an affiliate. The Dodd-Frank Act expanded the transactions for which collateral is required to be maintained, and for all such transactions, it requires collateral to be maintained at all times. In addition, the Volcker Rule under the Dodd-Frank Act established certain prohibitions, restrictions and requirements (known as "Super 23A" and "Super 23B") on covered transactions and other arrangements between a covered fund and a banking entity that serves as an investment manager, investment adviser, organizer and offeror, or sponsor with respect to that covered fund (and certain other covered funds), regardless whether the banking entity has an ownership interest in the fund.

Loans to Insiders

Extensions of credit by the Bank to insiders of both the Bank and SVB Financial are subject to prohibitions and other restrictions imposed by the Federal Reserve's Regulation O. For purposes of these limits, "insiders" include directors, executive officers and principal stockholders of the Bank or SVB Financial and their related interests. The term "related interest" means a company controlled by a director, executive officer or principal stockholder of the Bank or SVB Financial. The Bank may not extend credit to an insider of the Bank or SVB Financial unless the loan is made on substantially the same terms as, and subject to credit underwriting procedures that are no less stringent than, those prevailing at the time for comparable transactions with non-insiders. In addition, the Bank may not extend credit to insiders in an amount, when aggregated with all other extensions of credit, that is greater than $500,000 without prior approval from the Bank's Board of Directors (with any interested person abstaining from participating directly or indirectly in the voting). California law, the federal regulations and the Dodd-Frank Act place additional restrictions on loans to insiders, and generally prohibit loans to executive officers other than for certain specified purposes. The Bank is required to maintain records regarding insiders and extensions of credit to them.

Premiums for Deposit Insurance

The FDIC insures our customer deposits through the Deposit Insurance Fund (the "DIF") up to prescribed limits for each depositor. Due to higher levels of bank failures during the 2008 economic recession, the FDIC's resolution costs increased, which depleted the DIF. In order to restore the DIF to its statutorily mandated minimum of 1.35% of total deposits by September 30, 2020, the FDIC has increased deposit insurance premium rates. Insured institutions with assets of $10 billion or more (*"large banks"*), such as the Bank, were responsible for funding the increase, with assessment rates based on a risk-based scorecard calculation provided by the FDIC. As of September 30, 2018, the DIF reserve ratio reached 1.36% and per FDIC regulations, increased premiums on large banks ceased for periods after September 30, 2018. However, the FDIC has established a higher reserve ratio of 2% as a long-term goal which goes beyond what is required by statute, and may increase assessment rates in the future accordingly. Future increases in our FDIC insurance premiums could have an adverse effect on the Bank's results of operations. For the years ended December 31, 2018 and 2017, we recorded $34.3 million and $35.1 million, respectively, in FDIC assessments expense.

Consumer Regulations

The Bank is subject to many federal consumer protection statutes and regulations, such as the CRA, the Equal Credit Opportunity Act (Regulation B), the Electronic Fund Transfer Act (Regulation E), the Truth in Lending Act (Regulation Z), the National Flood Insurance Act, the Fair Credit Reporting Act, as amended by the Fair and Accurate Credit Transaction Act and various federal and state privacy protection laws. In addition, the CFPB has the authority to conduct examinations for all depository institutions with total assets of $10 billion or more, which includes the Bank. The CFPB's mandate is to promulgate consumer regulations and ensure that consumer financial practices at large banks, such as the Bank, comply with consumer financial protection legal requirements. The CFPB's authority includes the ability to examine all subsidiaries and affiliates of the Bank as well. Penalties for violating these laws could subject the Bank to lawsuits and could also result in administrative penalties, including, civil monetary penalties, remediation for affected consumers and reimbursements and orders to halt expansion/existing activities. The CFPB has broad authority to institute various enforcement actions for violation of these laws, including investigations, civil actions, cease and desist proceedings and the ability to refer criminal findings to the Department of Justice. The Bank and SVB Financial are also subject to federal and state laws prohibiting unfair, deceptive, abusive, corrupt or fraudulent business practices, untrue or misleading advertising and unfair competition.

State and federal banking agencies and other such enforcement authorities have increased efforts to aggressively enforce consumer protection laws, implement regulations and take action against non-compliant parties. The advent of the CFPB further heightens oversight and review of compliance with consumer protection laws and regulations. Due to these heightened regulatory concerns, including increased enforcement of the CRA by the federal banking agencies, and broad consumer protection powers and authority of the CFPB, the Bank and its affiliates may incur additional compliance costs or be required to expend additional funds for investments in their local community.

Anti-Money Laundering and Anti-Corruption Regulations

The Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 ("USA PATRIOT Act") and its corresponding regulations substantially broadened the scope of U.S. anti-money laundering laws and regulations as set forth in the U.S. Bank Secrecy Act ("BSA"), by requiring insured depository institutions, broker-dealers, and certain other financial institutions to have policies, procedures, and controls to detect, prevent and report money laundering and terrorist financing. The USA PATRIOT Act and its regulations also provide for information sharing, subject to certain conditions, between federal law enforcement agencies and financial institutions, as well as among financial institutions, for counter-terrorism purposes. Federal banking regulators are required, when reviewing bank holding company acquisition and bank merger applications, to consider the effectiveness of the anti-money laundering activities of the applicants. Material deficiencies in anti-money laundering compliance, and non-compliance with related requirements such as the U.S. economic and trade sanctions regimes, can result in public enforcement actions by the bank regulatory agencies and other government agencies, including the imposition of civil money penalties and supervisory restrictions on growth and expansion. Such enforcement actions could also have serious reputational consequences for SVB Financial and the Bank.

In addition to the anti-money laundering provisions of the BSA and USA PATRIOT Act, we are also subject to anti-corruption laws and regulations both in the United States and internationally, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act, which impose strict prohibitions on payments and hiring practices with regard to government officials and employees.

Regulation of Certain Subsidiaries

SVB Leerink LLC, a subsidiary of SVB Leerink and SVB Securities are registered as broker-dealers with the SEC and are members of FINRA, and accordingly, are subject to regulation by both agencies. They are also members of the Securities Investor Protection Corporation. As broker-dealers, SVB Leerink LLC and SVB Securities must comply with a variety of regulations associated

with their business lines, including (i) rules that govern the registration and examination of the businesses and their employees, (ii) substantive requirements and prohibitions concerning their relationships with their customers and counterparties, (iii) anti-fraud provisions and (iv) requirements to develop and maintain internal compliance and supervisory programs. SVB Leerink LLC and SVB Securities also must comply with the financial responsibility rules governing broker-dealers, including Rule 15c3-1 under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), which is designed to measure the general financial condition and liquidity of a broker-dealer and seek to ensure its financial stability in light of its activities. Under this rule, the broker-dealer entities are required to maintain minimum net capital calculated in accordance with a specified formula in order to help meet its continuing commitments to customers and others. Under certain circumstances, this rule could limit the ability for capital to be withdrawn from either SVB Leerink LLC or SVB Securities or require a capital infusion to support growth in the business or new or ongoing activities. SVB Asset Management, SVB Wealth Advisory and funds management entities associated with SVB Leerink Capital LLC, a subsidiary of SVB Leerink, are registered with the SEC under the Investment Advisers Act of 1940, as amended, and are subject to its rules and regulations.

Securities Registration and Listing

SVB Financial's common stock is registered under the Securities Act of 1933 and listed on the NASDAQ Global Select Market. As such, SVB Financial is subject to the information, proxy solicitation, insider trading, corporate governance, and other public company requirements and restrictions promulgated by the SEC, as well as the Marketplace Rules and other requirements promulgated by Nasdaq Stock Market, LLC.

As a public company, SVB Financial is also subject to the accounting oversight and corporate governance requirements of the Sarbanes–Oxley Act of 2002 (the "Sarbanes-Oxley Act"), including, among other things, required executive certification of financial presentations, increased requirements for board audit committees and their members, and enhanced requirements relating to disclosure controls and procedures and internal control over financial reporting.

International Regulation

Our international-based subsidiaries and offices and global activities, including our banking branches in the United Kingdom and Germany and our joint venture bank in China are subject to the respective laws and regulations of those countries and the regions in which they operate. This includes laws and regulations promulgated by, but not limited to, the Financial Conduct Authority and the Prudential Regulation Authority in the United Kingdom, the German Federal Financial Supervisory Authority (BaFin), the China Banking Regulatory Commission and the Hong Kong Monetary Authority. To the extent we are able to commence operations as anticipated in Canada or in any other international market, we will also become subject to the regulatory regimes of those jurisdictions. Moreover, promulgation by standard-setting bodies that are charged with the development of international regulatory frameworks, such as the Basel Committee, can affect the Bank and SVB Financial globally as national regulators implement the frameworks in local jurisdictions.

Available Information

We make available free of charge through our Internet website, http://www.svb.com, our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. The contents of our website are not incorporated herein by reference and the website address provided is intended to be an inactive textual reference only.

ITEM 1A. RISK FACTORS

Our business faces significant risks, including credit, market and liquidity, operational, legal and regulatory and strategic and reputational risks. The factors described below are not intended to serve as a comprehensive listing of the risks we face and are generally applicable to more than one of the following categories of risks. Additional risks and uncertainties that we have not identified as material, or of we currently are not aware, may also impair our business operations. If any of the events or circumstances described in the following factors occurs, our business, financial condition and/or results of operations could be materially and adversely affected.

Credit Risks

Because of the credit profile of our loan portfolio, our levels of nonperforming assets and charge-offs can be volatile. We may need to make material provisions for loan losses in any period, which could reduce net income, increase net losses, or otherwise adversely affect our financial condition in that period.

Our loan portfolio has a credit profile different from that of most other banking companies. The credit profiles of our clients vary across our loan portfolio, based on the nature of the lending we do for different market segments. In our portfolios for early-

stage and mid-stage privately-held companies, many of our loans are made to companies with modest or negative cash flows and/or no established record of profitable operations, primarily within the technology and life science and healthcare industries. Consequently, repayment of these loans is often dependent upon receipt by our borrowers of additional financing from venture capitalists or others, or in some cases, a successful sale to a third party, public offering or other form of liquidity or "exit" event. In recent periods, liquidity levels have been healthy and have improved. Many companies have been able to obtain liquidity through venture capital-backed financing as well as various other exit opportunities at relatively high valuations. However, there can be no assurance that they will be able to continue to obtain funding at current valuation levels, if at all. If current economic conditions weaken or do not continue to improve, such activities may slow down, or valuations may drop in a meaningful manner, which may impact the financial health of our client companies. In such case, investors may provide financing in a more selective manner, at lower levels, and/or on less favorable terms, if at all, any of which may have an adverse effect on our borrowers' ability to repay their loans to us. In addition, because of the intense competition and rapid technological change that characterizes the technology, and life science and healthcare industry sectors in which most of our borrowers reside, as well as periodic volatility in the market prices for their securities, a borrower's financial position can deteriorate rapidly. Collateral for many of our loans often includes intellectual property and other intangible assets, which are difficult to value and may not be readily salable in the case of default. As a result, even if a loan is secured, we may not be able to fully recover the amounts owed to us, if at all.

In addition, a significant portion of our loan portfolio is comprised of our larger loans, which could increase the impact on us of any single borrower default. As of December 31, 2018, gross loans equal to or greater than $20 million to any single client (individually or in the aggregate) totaled 14.5 billion, or 50.8 percent, of our portfolio. These larger loans have over time represented, and continue to represent, an increasingly greater portion of our total loan portfolio. They include capital call lines of credit to our private equity and venture capital clients, as well as other loans made to our later-stage and larger corporate clients, and may be made to companies with greater levels of debt relative to their equity, balance sheet liquidity, or cash flow. Additionally, we have continued our efforts to grow our loan portfolio by agenting or arranging larger syndicated credit facilities and participating in larger syndicates agented by other financial institutions as well as making sponsor-led buyout loans, which are leveraged buyout or recapitalization financings typically sponsored by our private equity clients. In those arrangements where we do not act as the lead syndicate agent, our control or decision-making ability over the credit facility is typically limited to our participation interest.

Further, the repayment of financing arrangements we enter into with our clients may be dependent on the financial condition or ability of third parties to meet their payment obligations to our clients. For example, we enter into formula-based financing arrangements that are secured by our clients' accounts receivable from third parties with whom they do business. We also make loans secured by letters of credit issued by other third party banks and enter into letters of credit discounting arrangements, the repayment of which may be dependent on reimbursement by third party banks. We also extend recurring revenue-based lines of credit, where repayment may be dependent on borrowers' revenues from third parties. Further, in our loan portfolio of private equity and venture capital firm clients, many of our clients have lines of credit, the repayment of which are dependent on the payment of capital calls or management fees by the underlying limited partner investors in the funds managed by these firms. These capital call lines of credit are a significant proportion of our loan portfolio. (Capital call lines of credit represent almost half of our loan portfolio as of the end of 2018, and may in future periods increase to more than half.) These third parties may not be able to meet their financial obligations to our clients or to us which, ultimately, could have an adverse impact on us.

We also lend to individual investors, executives, entrepreneurs or other influencers in the innovation economy, primarily through SVB Private Bank. These individual clients may face difficulties meeting their financial commitments, especially during a challenging economic environment, and may be unable to repay their loans. In certain instances, we may also relax loan covenants and conditions or extend loan terms to borrowers that are experiencing financial difficulties. While such determinations are based on an assessment of various factors including access to additional capital in the near term, there can be no assurance that such continued support will result in any borrower meeting his or her financial commitments. In addition, we lend to premium wineries and vineyards through SVB Wine. Repayment of loans made to these clients may be dependent on overall wine demand and sales, or other sources of financing or income which may be adversely affected by a challenging economic environment, as well as overall grape supply which may be adversely affected by poor weather, heavy rains, flooding, droughts, fires, wildfires, earthquakes or other natural or catastrophic conditions.

Based on the credit profile of our overall loan portfolio, our level of nonperforming loans, loan charge-offs and allowance for loan losses can be volatile and can vary materially from period to period. Increases in our level of nonperforming loans or loan charge-offs may require us to increase our provision for loan losses in any period, which could reduce our net income or cause net losses in that period. Additionally, such increases in our level of nonperforming loans or loan charge-offs may also have an adverse effect on our capital ratios, credit ratings and market perceptions of us. See "*Loans*" under "*Management's Discussion and Analysis of Financial Condition and Results of Operations - Consolidated Financial Condition*" under Part II, Item 7 of this report.

Our allowance for loan losses is determined based upon both objective and subjective factors, and may not be adequate to absorb loan losses.

As a lender, we face the risk that our borrower clients will fail to pay their loans when due. If borrower defaults cause large aggregate losses, it could have a material adverse effect on our business, results of operations or financial condition. We reserve for such losses by establishing an allowance for loan losses, the increase of which results in a charge to our earnings as a provision for loan losses. Although we have established an evaluation process designed to determine the adequacy of our allowance for loan losses that uses historical and other objective information, the classification of loans and the forecasts and establishment of loan losses are also dependent upon the subjective experience and judgment of our management. Actual losses are difficult to forecast, especially if such losses stem from factors beyond our historical experience or are otherwise inconsistent with our credit quality assessments. Moreover, banking regulators, as part of their supervisory function, periodically review our methodology, models and the underlying assumptions, estimates and assessments we make in determining the adequacy of our allowance for loan losses. These regulators may conclude that changes are necessary, which could impact our overall credit portfolio. Such changes could result in, among other things, modifications to our methodology or models, reclassification or downgrades of our loans, increases in our allowance for loan losses or other credit costs, imposition of new or more stringent concentration limits, restrictions in our lending activities and/or recognition of further losses. There can be no assurance that our allowance for loan losses will be sufficient to absorb future loan losses or prevent a material adverse effect on our business, financial condition or results of operations.

The borrowing needs of our clients may be unpredictable, especially during a challenging economic environment. We may not be able to meet our unfunded credit commitments, or adequately reserve for losses associated with our unfunded credit commitments, which could have a material adverse effect on our business, financial condition, results of operations or reputation.

A commitment to extend credit is a formal agreement to lend funds to a client as long as there is no violation of any condition established under the agreement. The actual borrowing needs of our clients under these credit commitments have historically been lower than the contractual amount of the commitments. As a result, we typically have a substantial amount of total unfunded credit commitments reflected off our balance sheet and a significant portion of these commitments ultimately expire without being drawn upon. See Note 19—"Off-Balance Sheet Arrangements, Guarantees and Other Commitments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for additional details. However, the actual borrowing needs of our clients may exceed our expected funding requirements. For example, our client companies may be more dependent on our credit commitments in a challenging economic environment due to the lack of available credit elsewhere, the increasing costs of credit through other channels, or the limited availability of financings from private equity or venture capital firms. In addition, limited partner investors of our private equity and venture capital fund clients may fail to meet their underlying investment commitments due to liquidity or other financing difficulties, which may impact our clients' borrowing needs. Any failure to meet our unfunded credit commitments in accordance with the actual borrowing needs of our clients may have a material adverse effect on our business, financial condition, results of operations or reputation.

Further, although we have established a reserve for losses associated with our unfunded credit commitments, the level of the reserve is determined by a methodology similar to that used to establish our allowance for loan losses in our funded loan portfolio. While the reserve is susceptible to significant changes, it is primarily based on credit commitments outstanding less the amounts that have been funded, the amount of the unfunded portion that we expect to be utilized in the future, credit quality of the loan credit commitments, and management's estimates and judgment. There can be no assurance that our allowance for unfunded credit commitments will be adequate to provide for actual losses associated with our unfunded credit commitments. An increase in the allowance for unfunded credit commitments in any period may result in a charge to our earnings, which could reduce our net income or increase net losses in that period.

Market and Liquidity Risks

Our current level of interest rate spread may decline in the future. Any material reduction in our interest rate spread, caused by sustained periods of low market interest rates or changes in our clients' preferences for interest-bearing deposit products in periods of rising interest rates, could have a material adverse effect on our business, results of operations or financial condition.

A significant portion of our net income comes from our interest rate spread, which is the difference between the interest rates paid by us on interest-bearing liabilities such as deposits and internal borrowings, and the interest rates and fees we receive on our interest-earning assets such as loans extended to our clients, securities held in our investment portfolio and excess cash held to manage short-term liquidity. Our interest rate spread can be affected by the mix of the types of loans, investment securities, deposits and other liabilities on our balance sheet, as well as a variety of external factors beyond our control that affect interest rate levels, such as competition, inflation, recession, global economic disruptions, unemployment and the fiscal

and monetary policies of various governmental bodies. For example, changes in key variable market interest rates, such as the Federal Funds, National Prime ("Prime"), the London Interbank Offered Rate ("LIBOR") or Treasury rates, generally impact our interest rate spread. While changes in interest rates do not generally produce equivalent changes in the revenues earned from our interest-earning assets and the expenses associated with our interest-bearing liabilities, increases in market interest rates are nevertheless likely to cause our interest rate spread to increase. Conversely, if interest rates decline, our interest rate spread will likely decline. In response to the last global economic recession, the U.S. Federal Reserve and other central banking institutions took monetary policy actions, including the utilization of quantitative easing and created and maintained a low interest rate environment. Over the last few years, interest rates have increased. Over the last several years, the Federal Reserve has periodically raised interest rates and may institute further changes in the future. Increases, or sustained periods of increases, in interest rates may result in a change in the mix of non-interest and interest bearing accounts, and the level of off-balance sheet market-based investment preferred by our clients, which may also impact our interest rate spread. If interest rates decline or do not continue to rise, low rates could constrain our interest rate spread and may adversely affect our business forecasts. In addition, changes in the method of determining LIBOR or other reference rates, or uncertainty related to such potential changes, may adversely affect the value of reference rate-linked debt securities that we hold or issue, which could further impact our interest rate spread. In 2017, the U.K. Financial Conduct Authority announced that it would no longer persuade or compel submission of bank rates used for calculation of LIBOR after 2021, leading to the expectation of the transition to alternative rates prior to that time. U.S. regulatory authorities have voiced similar support for phasing out LIBOR. The impact of alternatives to LIBOR on the valuations, pricing and operation of our financial instruments is not yet known. Any material reduction in our interest rate spread could have a material adverse effect on our business, results of operations or financial conditions.

Liquidity risk could impair our ability to fund operations and jeopardize our financial condition.

Liquidity is essential to our business, both at the SVB Financial and the Bank level. We require sufficient liquidity to meet our expected financial obligations, as well as unexpected requirements stemming from client activity and market changes. Primary liquidity resources for SVB Financial include cash flow from investments and interest in financial assets held by operating subsidiaries other than the Bank; to the extent declared, dividends from the Bank, its main operating subsidiary; and as needed, periodic capital market transactions offering debt and equity instruments in the public and private markets. The primary source of liquidity for the Bank is client deposits. When needed, wholesale borrowing capacity in the form of short- and long-term borrowings secured by our portfolio of high quality investment securities, long-term capital market debt issuances and unsecured overnight funding channels available to us in the Federal Funds market supplement our liquidity. An inability to maintain or raise funds through these sources could have a substantial negative effect, individually or collectively, on SVB Financial and the Bank's liquidity. Our access to funding sources in amounts adequate to finance our activities, or on terms attractive to us, could be impaired by factors that affect us specifically or the financial services industry in general. For example, factors that could detrimentally impact our access to liquidity sources include a decrease in the level of our business activity due to a market downturn or adverse regulatory action against us, a reduction in our credit rating, any damage to our reputation or any other decrease in depositor or investor confidence in our creditworthiness and business. Our access to liquidity could also be impaired by factors that are not specific to us, such as severe volatility or disruption of the financial markets or negative views and expectations about prospects for the financial services industry as a whole. Any such event or failure to manage our liquidity effectively could affect our competitive position, increase our borrowing costs and the interest rates we pay on deposits, limit our access to the capital markets and have a material adverse effect on our financial condition.

Our equity warrant assets, venture capital and private equity fund investments and direct equity investment portfolio gains depend upon the performance of our portfolio investments and the general condition of the public and private equity and merger and acquisition markets, which are uncertain and may vary materially by period.

In connection with negotiated credit facilities and certain other services, we often obtain equity warrant assets giving us the right to acquire stock in private, venture-backed companies in the technology and life science and healthcare industries subject to applicable regulatory limits, we have also made investments through SVB Financial and our SVB Capital family of funds in venture capital funds and direct investments in companies, many of which are required to be carried at fair value or are impacted by changes in fair value. The fair value of these warrants and investments are reflected in our financial statements and are adjusted on a quarterly basis. Fair value changes are recorded as unrealized gains or losses through consolidated net income. However, the timing and amount of changes in fair value, if any, of these financial instruments depend on factors beyond our control, including the perceived and actual performance of the companies or funds in which we invest, fluctuations in the market prices of the preferred or common stock of the portfolio companies, the timing of our receipt of relevant financial information from these companies, market volatility and interest rate factors and legal and contractual restrictions. Moreover, the timing and amount of our realization of actual net proceeds, if any, from our disposition of these financial instruments also often depend on factors beyond our control. In addition to those mentioned above, such factors include the level of public offering and merger and acquisition or other exit activity, legal and contractual restrictions on our ability to sell our equity positions (including the expiration of any "lock-up" agreements) and the timing of any actual dispositions. Because of the inherent variability of these financial instruments and the markets in which they are bought and sold, their fair market value might increase or decrease

materially from period to period, and the net proceeds ultimately realized upon disposition might be materially different than the then-current recorded fair market value.

In addition, depending on the fair value of these warrants and direct equity investments, a meaningful portion of the aggregate fair value of our total warrant and direct equity investment portfolios may, from time to time, be concentrated in a limited number of warrants and direct equity investments. Valuation changes in one or more of these warrants or direct equity investments may have a material impact on the valuation of our total investment portfolio. We cannot predict future realized or unrealized gains or losses, and any such gains or losses are likely to vary materially from period to period. See Note 13 —"Derivative Financial Instruments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

Changes in the market for public equity offerings, mergers and acquisitions or a slowdown in private equity or venture capital investment levels may affect the needs of our clients for investment banking or mergers and acquisitions advisory services and the borrowing needs of our clients, which could in turn adversely affect our business, results of operations or financial condition.

While an active market for public equity offerings, financings, and merger and acquisition activity generally has positive implications for our business, one negative consequence is that our clients may pay off or reduce their loans with us if they complete a public equity offering, are acquired by or merge with another entity or otherwise receive a significant equity investment.

By contrast, a low demand for public equity or mergers and acquisitions transactions or an inability to complete such transactions due to events affecting market conditions generally, such as a partial or full U.S. government shutdown, could result in fewer transactions overall and therefore decrease revenues of SVB Leerink, our investment banking business, as such revenues stem primarily from underwriting and advisory fees associated with capital markets and mergers and acquisitions transactions.

A slowdown in overall private equity or venture capital investment levels may reduce the need for our clients to borrow from our capital call lines of credit, which are typically utilized by our private equity and venture capital fund clients to make investments prior to receipt of capital called from their respective limited partners. Any significant reduction in the outstanding amounts of our loans or under our lines of credit could have a material adverse effect on our business, results of operations or financial condition.

Operational Risks

If we fail to retain our key employees or recruit new employees, our growth and results of operations could be adversely affected.

We rely on key personnel, including a substantial number of employees who have technical expertise in their subject matter area and a strong network of relationships with individuals and institutions in the markets we serve. In addition, as we expand in international markets, we will need to hire local personnel within those markets. If we were to have less success in recruiting and retaining these employees than our competitors, for reasons including domestic or foreign regulatory restrictions on compensation practices or the availability of more attractive opportunities elsewhere, our growth and results of operations could be adversely affected.

Moreover, equity awards are an important component of our compensation program, especially for our executive officers and other members of senior management. The extent of shares available for grant in connection with such equity awards pursuant to our incentive compensation plans is generally subject to stockholder approval. If we do not have sufficient shares to grant to existing or new employees, there could be an adverse effect on our recruiting and retention efforts, which could impact our growth and results of operations.

The occurrence of fraudulent activity, breaches of our information security or cybersecurity-related incidents could have a material adverse effect on our business, financial condition or results of operations.

As a financial institution, we are susceptible to fraudulent activity, information security breaches and cybersecurity-related incidents that could be committed against us or our clients, which may result in financial losses or increased costs to us or our clients, disclosure or misuse of our information or our client information, misappropriation of assets, privacy breaches against our clients, litigation, or damage to our reputation. Such fraudulent activity may take many forms, including check fraud, electronic fraud, wire fraud, phishing, social engineering, malfeasance, and other dishonest acts. Information security breaches and cybersecurity-related incidents may include fraudulent or unauthorized access to systems used by us, our clients or third party partners, denial or degradation of service attacks, malware, or other cyber-attacks. Sources of attacks vary and may include

hackers, disgruntled employees or vendors, organized crime, terrorists, foreign governments, corporate espionage and activists. In recent periods, there continues to be a rise in electronic fraudulent activity, security breaches and cyber-attacks within the financial services industry, especially in the commercial banking sector due to cyber criminals targeting commercial bank accounts. Consistent with industry trends, we remain at risk for attempted electronic fraudulent activity, as well as attempts at security breaches and cybersecurity-related incidents. These attempts can be, and in some cases have been, directed at us (including our employees, executives or directors), as well as our vendors or other third party partners. Moreover, in recent periods, large corporations (including financial institutions and retail companies), as well as U.S. governmental agencies, have suffered significant data breaches, in some cases exposing not only confidential and proprietary corporate information, but also sensitive financial and other personal information of their customers and employees and subjecting them to potential fraudulent activity. Some of our clients may have been affected by these breaches, which increase their risks of identity theft, credit card fraud and other fraudulent activity that could involve their accounts with us, which could subject us to potential liability. Additionally, state-sponsored or terrorist-sponsored efforts to hack or disable information technology systems increases risks, since the motivation may be for geopolitical as much as for financial gain.

Information pertaining to us and our clients is maintained, and transactions are executed, on our networks and systems, as well as those of our clients and certain of our third-party partners, such as our online banking or reporting systems. The secure maintenance and transmission of confidential information, as well as execution of transactions over these systems, are essential to protect us and our clients against fraud and security breaches and to maintain our clients' confidence. Breaches of information security also may occur, and in infrequent cases have occurred, through intentional or unintentional acts by those having access to our systems or our clients' or counterparties' confidential information, including employees and third-party contractors. In addition, SVB provides card transaction processing services to some merchant customers under agreements we have with those merchants and/or with the payment networks. Under these agreements, we may be responsible for certain losses and penalties if one of our merchant customers suffers a data security breach. Furthermore, SVB's cardholders use their debit and credit cards to make purchases from third parties or through third-party processing services. As such, SVB is subject to risk from data breaches of such third-party's information systems or their payment processors, for reasons including unauthorized card use. Such a data security breach could compromise SVB's account information, cause losses on card accounts and increase litigation costs. SVB may suffer losses associated with reimbursing our customers for such fraudulent transactions on customers' card accounts, as well as for other costs related to data security breaches, such as replacing cards associated with compromised card accounts.

We also offer certain services that allow non-accountholders to process payments through SVB's systems, as well as financial analytics services. In the course of providing those services, we may obtain sensitive data about customers who do not otherwise hold accounts with us, including information regarding accounts held at other institutions, as well as profit and loss and other proprietary financial or other information regarding our customers or the non-accountholders they service. In the event of a data breach, this sensitive information may be exposed and could subject us to claims for damages.

In addition, increases in criminal activity levels and sophistication, advances in computer capabilities, new discoveries, vulnerabilities in third-party technologies (including browsers and operating systems) or other developments could result in a compromise or breach of the technology, processes and controls that we use to prevent fraudulent transactions and to protect data about us, our clients and underlying transactions, as well as the technology used by our clients to access our systems. The forms, methods, and sophistication of fraud, security breaches, cyber-attacks and other similar criminal activity continue to evolve, and as we evolve and grow our business, especially in new businesses or geographies, we may be unable to foresee future risks. Although we have developed, and continue to invest in, systems and processes that are designed to detect and prevent security breaches and cyber-attacks and periodically test our security and effectiveness of our cyber incident response plans, our inability to anticipate, or failure to adequately mitigate, fraudulent activities, breaches of security or cyber-attacks could result in: financial losses to us or our clients; our loss of business and/or clients; loss or exposure of our confidential data or information; damage to our reputation; the incurrence of additional expenses; loss of personnel; disruption to our business; force majeure claims by us or critical suppliers; our inability to grow our online services or other businesses; additional regulatory scrutiny or penalties; or our exposure to civil litigation and possible financial liability --- any of which could have a material adverse effect on our business, financial condition and results of operations. Our risk mitigation strategies and internal controls, including risk assessment policies and procedures, testing, backup and redundancy systems, incident response plans, training, and authentication or encryption tools, may not be effective against defending against fraud, security breaches or cyber-attacks.

More generally, publicized information concerning security and cyber-related problems could inhibit the use or growth of electronic or web-based applications or solutions as a means of conducting commercial transactions. Such publicity may also cause damage to our reputation as a financial institution. As a result, our business, financial condition or results of operations could be adversely affected.

We face risks associated with the ability of our information technology systems and our people and processes to support our operations and future growth effectively.

Our information technology systems, people and internal business processes are critical to our operations and future growth. Our systems may be subject to service outages from time to time due to various reasons, including infrastructure failures, interruptions due to system upgrades or malware removal, employee error or malfeasance, or other force majeure-related reasons, which could cause business disruption. Additionally, our systems and processes need to be sufficiently scalable to operate effectively, and we need to have the appropriate talent to support our business. As a result, we continue to invest in technology and more automated solutions in order to optimize the efficiency of our core operational and administrative infrastructure. In the absence of having effective automated solutions, we may rely on manual processes which may be more prone to error. Moreover, as we evolve, we may further install or implement new systems and processes or otherwise replace, upgrade or make other modifications to our existing systems and processes. These changes could be costly and require significant investment in the training of our employees and other third-party partners, as well as impose substantial demands on management time. If we do not implement new initiatives or utilize new technologies effectively or in accordance with regulatory requirements, or if our people (including outsourced business partners) are not appropriately trained or developed or do not perform their functions properly, we could experience business interruptions or other system failures which, among other things, could result in inefficiencies, revenue losses, loss of clients, exposure to fraudulent activities, regulatory enforcement actions or damage to our reputation, each of which could have a material adverse effect on our business.

Business disruptions and interruptions due to natural disasters and other external events beyond our control can adversely affect our business, financial condition or results of operations.

Our operations can be subject to natural disasters and other external events beyond our control, such as earthquakes, fires, floods, severe weather, public health issues, power failures, telecommunication loss, major accidents, terrorist attacks, acts of war, and other natural and man-made events. For example, our corporate headquarters and some of our critical business offices are located in California, near major earthquake faults. An earthquake or other disaster could cause severe destruction, disruption or interruption to our operations or property. We and other financial institutions generally must resume operations promptly following any interruption. If we were to suffer a disruption or interruption and were not able to resume normal operations within a period consistent with industry standards, our business, financial condition or results of operations could be adversely affected in a material manner. In addition, depending on the nature and duration of the disruption or interruption, we might become vulnerable to fraud, additional expense or other losses, or to a loss of business and clients. Although we have implemented a business continuity management program that we continue to enhance on an ongoing basis, there can be no assurance that the program will adequately mitigate the risks of such business disruptions and interruptions.

Additionally, natural disasters and external events, including those occurring in and around the state of California, could affect the business and operations of our clients, which could impair their ability to pay their loans or fees when due, impair the value of collateral securing their loans, cause our clients to reduce their deposits with us, or otherwise adversely affect their business dealings with us, any of which could have a material adverse effect on our business, financial condition or results of operations. A significant portion of our client borrowers, including our premium winery and vineyard clients, our SVB Private Bank mortgage clients and other corporate clients, are located in or have offices in the state of California, which has historically experienced severe natural disasters resulting in disruptions to businesses and damage to property, including wildfires and earthquakes. If there is a major earthquake, flood, fire, drought or other natural or catastrophic disaster in California or elsewhere in the markets in which we operate, our borrowers may experience uninsured property losses or sustained disruption to business or loss that may materially impair their ability to meet the terms of their loan obligations.

We face reputation and business risks due to our interactions with business partners, service providers and other third parties.

We rely on third parties, both in the United States and internationally in countries such as the United Kingdom, Germany, Hong Kong, China, Israel and India, to provide services to us and our clients or otherwise act as partners in our business activities in a variety of ways, including through the provision of key components of our business infrastructure. We expect these third parties to perform services for us, fulfill their obligations to us, accurately inform us of relevant information, and conduct their activities in a manner that reflects positively on our brand and business. Although we manage exposure to such third party risk through a variety of means including the performance of due diligence and ongoing monitoring of vendor performance, there can be no assurance these efforts will be effective. Any failure of our business partners, service providers or other third parties to meet their commitments to us or to perform in accordance with our expectations could result in operational disruptions, increased expenditures, regulatory actions in which we may be held responsible for the actions of third parties, damage to our reputation and the loss of clients, which in turn could harm our business and operations, strategic growth objectives and financial performance.

The soundness of other financial institutions could adversely affect us.

Financial services institutions are interrelated because of trading, clearing, counterparty and other relationships. We routinely execute transactions with counterparties in the financial services industry, including brokers and dealers, commercial

banks, investment banks, payment processors, and other institutional clients, which may result in payment obligations to us or to our clients due to products we have arranged. Many of these transactions expose us to credit and market risk that may cause our counterparty or client to default. In addition, we are exposed to market risk when the collateral we hold cannot be realized or is liquidated at prices not sufficient to recover the full amount of the secured obligation. Any losses arising from such occurrences could materially and adversely affect our business, results of operations or financial condition.

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

In deciding whether to extend credit or enter into other transactions with customers and counterparties, we may rely on information furnished to us by or on behalf of customers and counterparties, including financial statements and other information relating to their business or financial condition. We also may rely on representations of customers and counterparties as to the accuracy and completeness of that information and, with respect to financial statements, on reports or other certifications of their auditors or accountants. For example, under our accounts receivable financing arrangements, we rely on information, such as invoices, contracts and other supporting documentation, provided by our clients and their account debtors to determine the amount of credit to extend. Similarly, in deciding whether to extend credit, we may rely upon our customers' representations that their financial statements conform to U.S. GAAP (or other applicable accounting standards in foreign markets) and present fairly, in all material respects, the financial condition, results of operations and cash flows of the customer. If we rely on materially misleading, false, inaccurate or fraudulent information in evaluating the credit-worthiness or other risk-profiles of our clients or counterparties, we could be subject to loan losses, regulatory action, reputational harm or experience other adverse effects on our business, results of operations or financial condition.

Our accounting policies and methods are key to how we report our financial condition and results of operations. They require management to make judgments and estimates about matters that are uncertain.

Our accounting policies and methods are fundamental to how we record and report our financial condition and results of operations. Our management must exercise judgment in selecting and applying many of these accounting policies and methods so they comply with U.S. GAAP and reflect management's judgment of the most appropriate manner to report our financial condition or results. In some cases, management must select the accounting policy or method to apply from two or more alternatives, any of which might be reasonable under the circumstances yet might result in our reporting materially different amounts than would have been reported under an alternative policy or method.

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

Maintaining and adapting our internal controls over financial reporting, as required by Section 404 of the Sarbanes-Oxley Act and related rules and regulations of the SEC, can be costly and require significant management attention. As we continue to grow, our internal controls may become more complex and require additional resources to ensure they remain effective amidst dynamic regulatory and other guidance. Failure to maintain effective controls or implement required new or improved controls or difficulties encountered in the process may harm our operating results or cause us to fail to meet our reporting obligations. If we or our independent registered accounting firm identify material weaknesses in our internal control over financial reporting or are otherwise required to restate our financial statements, we could be required to implement costly and time-consuming remedial measures and could lose investor confidence in the accuracy and completeness of our financial reports. We may also face regulatory enforcement or other actions, including the potential delisting of our common stock from the NASDAQ Stock Market. This could have an adverse effect on our business, financial condition or results of operations, as well as the trading price of our securities, and could potentially subject us to litigation.

We face risks associated with our current international operations and ongoing international expansion.

One important component of our strategy is to expand internationally. We currently have international offices in the United Kingdom, Israel, Germany, Hong Kong and China, including a joint-venture bank in China. We further plan to expand our operations and business activities in some of our current international markets, as well as expand our business beyond those markets, including a pending branch application in Canada. Our efforts to expand our business internationally carry with them certain risks, including risks arising from the uncertainty regarding our ability to generate revenues from foreign operations; risks associated with leveraging and doing business with local business partners through joint ventures, strategic arrangements or other partnerships; and, other general operational risks. In addition, there are certain risks inherent in doing business on an international basis, including, among others, legal, regulatory and tax requirements and restrictions, uncertainties regarding liability, tariffs and other trade barriers, difficulties in staffing and managing foreign operations, the incremental requirement of management's attention and resources, differing technology standards or customer requirements, data security or transfer risks, cultural differences, political and economic risks such as uncertainty created by the approval of an advisory referendum by a majority of voters in the United Kingdom to the leave the European Union in June 2016, and financial risks, including currency

and payment risks such as fluctuation in the value of the euro and Chinese yuan (renminbi). These risks could hinder our ability, or the ability of our local partners, to service our clients effectively, and adversely affect the success of our international operations, which in turn, could have a material adverse effect on our overall business, results of operations or financial condition. In addition, we face risks that our employees and affiliates may fail to comply with applicable laws and regulations governing our international operations, including the U.S. Foreign Corrupt Practices Act, U.K. Bribery Act, anti-corruption laws, privacy laws, economic and trade sanctions requirements and other foreign laws and regulations. Failure to comply with such laws and regulations could, among other things, result in enforcement actions and fines against us, as well as limitations on our conduct, any of which could have a material adverse effect on our business and results of operations.

Legal and Regulatory Risks

We are subject to extensive regulation that could limit or restrict our activities, impose financial requirements or limitations on the conduct of our business, or result in higher costs to us, and the stringency of the regulatory framework applicable to us may increase if, and as, our asset size continues to grow.

SVB Financial Group, including the Bank, is extensively regulated under federal and state laws and regulations governing financial institutions, including those imposed by the FDIC, the Federal Reserve, the CFPB, and the DBO, as well as various regulatory authorities that govern our global activities. Federal and state laws and regulations govern, restrict, limit or otherwise affect the activities in which we may engage and may affect our ability to expand our business over time, result in an increase in our compliance costs, including higher FDIC insurance premiums, and may affect our ability to attract and retain qualified executive officers and employees. Further, the stringency of the federal bank prudential regulatory framework that applies to us may increase as our asset size and international business grows. As one example, under the Dodd-Frank Act (as amended by the EGRRCPA) and the Tailoring Proposal, certain enhanced prudential standards will apply to us if we reach or exceed $50 billion in average total consolidated assets. In addition, federal regulations implementing the advanced approaches capital rules as well as the additional heightened standards noted above currently apply to banking organizations with total consolidated assets of $250 billion or more or $10 billion or more in on-balance sheet foreign exposure (which is a measure of international activity that focuses on foreign assets). The Capital and Liquidity Thresholds Proposal would replace the Advanced Approaches Thresholds with two new thresholds: i) $700 billion in average total consolidated assets, and ii) $100 billion in average total consolidated assets and $75 billion or more in "cross-jurisdictional activity" (a measure of international activity that looks at both foreign assets and liabilities). Compliance with any of these additional requirements could require a material investment of resources and lead to other limitations on our business and our ability to expand. Further, a change in the applicable statutes, regulations or regulatory policy could have a material adverse effect on our business, including limiting or imposing conditions on the types of financial services and products we may offer or increasing the ability of nonbanks to offer competing financial services and products. These laws and regulations also require financial institutions, including SVB Financial and the Bank, to maintain certain minimum levels of capital and meet other minimum financial standards, which may require us to raise additional capital in the future, affect our ability to use our capital resources for other business purposes or affect our overall business strategies and plans. Furthermore, following the 2008 financial crisis, the Basel Committee adopted additional capital, leverage and liquidity standards under Basel III, and has since finalized additional standards. Most notably, in December 2017, the Basel Committee published a set of revisions to its Basel III framework to address perceived weaknesses in the current methodology for calculating risk weighted assets, in particular to increase the risk-sensitivity of the standardized approach and to constrain banking organizations' discretion in modeling their capital requirements under models-based approaches (such as the advanced approaches in the United States). Following the adoption of the final standards, the Federal Reserve, the FDIC and the OCC announced on December 7, 2017 that they support the conclusion of efforts to reform the international bank capital standards in response to the global financial crisis, and that they would consider how to appropriately apply these revisions to the Basel III reform package in the United States through the standard notice-and-comment rulemaking process. The Federal Reserve previously has adopted regulations that generally align with international standards, and have the effect of raising our capital requirements beyond those previously in place. Such requirements include limitations on capital distributions and discretionary bonus payments to executives if certain minimum capital requirements are not maintained. The Federal Reserve also has adopted certain stress testing requirements. To the extent we are subject to these stress testing requirements following the adoption of the Tailoring Proposal, and depending on the results of any stress tests, we could be required to raise additional capital or take certain other actions. Increased regulatory requirements (and the associated compliance costs), whether due to the growth of our business, the adoption of new laws and regulations, changes in existing laws and regulations, or more expansive or aggressive interpretations of existing laws and regulations, may have a material adverse effect on our business, financial condition or results of operations.

If we continue to grow and meet regulatory thresholds that trigger enhanced standards, such as average total consolidated assets of $100 billion, we will be subject to more stringent regulations, including enhanced prudential standards, required by the Dodd-Frank Act (as amended by EGRRCPA) and regulation adopted by the Federal Reserve applicable to large bank holding companies.

As of December 31, 2018, our total consolidated assets were $56.9 billion and we had approximately $7.5 billion in on-balance sheet foreign exposures. As a result, under the Federal Reserve's current enhanced prudential standard regulations, SVB Financial would be subject to more stringent prudential standards. Following the passage of the EGRRCPA, however, the Federal Reserve issued a statement that it would not require firms with less than $100 billion in total consolidated assets to comply with those requirements. In addition, the Tailoring Proposal would revise the Federal Reserve's regulations to reflect this new $100 billion threshold. As a consequence, if the Tailoring Proposal is adopted as proposed, SVB Financial would become subject to more stringent prudential standards if we averaged total consolidated assets of $100 billion or more at the end of a four-quarter period.

Pursuant to the Dodd-Frank Act (as amended by the EGRRCPA), the more stringent prudential standards that could apply include requirements related to risk-based and leverage capital, liquidity, risk management, resolution planning, company-run and supervisory capital stress testing, single counterparty credit exposure limits, and early remediation - all of which require appropriate resources and planning. The Dodd-Frank Act further permits, but does not require, the Federal Reserve to apply enhanced prudential standards to large bank holding companies in other areas, including short-term debt limits and enhanced public disclosures. Further, our international business continues to grow. Crossing the Advanced Approaches Thresholds would trigger additional heightened requirements and compliance costs that may have a material adverse effect on our business, financial conditions or results of operations. Although the Capital and Liquidity Thresholds Proposal significantly increases the Advanced Approaches Thresholds, these additional heightened requirements could apply if the proposal were to be adopted and we were to cross the revised thresholds. Our level of foreign exposures is determined based on our current understanding of applicable regulatory standards, guidance, interpretations, expectations and assumptions, and may be subject to change based on any modifications, clarifications or evolution of these standards, guidance, interpretations, expectations or assumptions, including as contemplated by the Tailoring Proposal.

If we become subject to such enhanced prudential standards, we will face more stringent requirements or limitations on our business, as well as increased compliance costs. For example, if we are subject to CCAR, the Federal Reserve may object to, or otherwise not respond favorably to our capital plan, capital actions or stress test results, and we may be limited as to how we utilize our capital, including with respect to common stock dividends and stock repurchases. In addition, if we become subject to the Federal Reserve's and the FDIC's resolution planning rules requiring us to submit plans for an orderly resolution in the event of material financial distress or failure, and those agencies jointly determine that our resolution plan is not credible, and we fail to cure the deficiencies in a timely manner, the Federal Reserve and the FDIC may jointly impose on SVB Financial or our subsidiaries more stringent capital, leverage or liquidity requirements or restrictions on growth, activities or operations, or require the divestment of assets or operations. Further, under the LCR rule, we would be required to measure specified unencumbered high-quality liquid assets against our expected net cash outflows, using the methodologies prescribed by the rule. As a result of the rule's application, SVB Financial may be required to manage our holdings of high-quality liquid assets at levels beyond what we believe we need operationally in order to manage liquidity effectively. Additionally, such an increase may also adversely affect our financial condition and results of operations since high-quality liquid assets tend to carry lower yields. See "Business-Supervision and Regulation-Enhanced Prudential Standards," under this Part I, Item 1, for a more detailed description of the various requirements which may become applicable to us.

We face a risk of noncompliance and enforcement action with the Bank Secrecy Act, other anti-money laundering and anti-bribery statutes and regulations, and U.S. economic and trade sanctions.

The Bank Secrecy Act, the USA PATRIOT Act of 2001, and other laws and regulations require financial institutions, among other duties, to institute and maintain an effective anti-money laundering program and file suspicious activity and currency transaction reports as appropriate. The federal Financial Crimes Enforcement Network is authorized to impose significant civil money penalties for violations of those requirements and has engaged in coordinated enforcement efforts with state and federal banking regulators, as well as the U.S. Department of Justice, Drug Enforcement Administration, and Internal Revenue Service. We also must comply with U.S. economic and trade sanctions administered by the U.S. Treasury Department's Office of Foreign Assets Control and the U.S. Foreign Corrupt Practices Act, and we, like other financial institutions, are subject to increased scrutiny for compliance with these requirements. We maintain policies, procedures and systems designed to detect and deter prohibited financing activities, however if these controls were deemed deficient, we could be subject to liability, including civil fines and regulatory actions, which may include restrictions on our ability to pay dividends and the necessity to obtain regulatory approvals to proceed with certain aspects of our business plan. In addition, any failure to effectively maintain and implement adequate programs to combat money laundering and terrorist financing could have serious reputational consequences for us. Any of these results could materially and adversely affect our business, financial condition or results of operations.

If we were to violate, or fail to comply with, international, federal or state laws or regulations governing financial institutions, we could be subject to disciplinary action that could have a material adverse effect on our business, financial condition, results of operations or reputation.

International, federal and state banking regulators possess broad powers to take supervisory or enforcement action with respect to financial institutions. Other regulatory bodies, including the SEC, FINRA and state securities regulators, regulate investment advisers and broker-dealers, including our subsidiaries, SVB Asset Management and SVB Securities. These regulations are highly complex, and if we were to violate, even if unintentionally or inadvertently, the laws and regulations governing financial institutions and broker-dealers, these regulatory authorities could take various actions against us, such as imposing restrictions on how we conduct our business, imposing higher capital and liquidity requirements, requiring us to maintain higher insurance levels, revoking necessary licenses or authorizations, imposing censures, civil money penalties or fines, issuing cease and desist or other supervisory orders, and suspending or expelling us or any of our employees from the securities business. These remedies and supervisory actions could have a material adverse effect on our business, financial condition, results of operations and reputation.

Laws and regulations regarding the handling of personal data and information may impede our services or result in increased costs, legal claims or fines against us.

We are subject to an evolving body of federal, state and non-U.S. laws, regulations, guidelines and principles regarding data privacy and security, including the protection of personal information. Legal requirements relating to the collection, storage, handling, use, disclosure, transfer and security of personal data continue to evolve, and regulatory scrutiny in this area is increasing around the world. Significant uncertainty exists as privacy and data protection laws may be interpreted and applied differently from country to country and may create inconsistent or conflicting requirements. For example, the General Data Protection Regulation, or GDPR, extends the scope of the European Union data protection law to all companies processing data of EU residents, regardless of location. In 2018, the State of California, where our principal offices are located, passed the California Consumer Privacy Act, which becomes effective as of January 2020, which establishes new requirements regarding handling of personal data to entities serving or employing California residents. The GDPR, California Consumer Privacy Act and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data and other personal information, may require us to evaluate our current operations, information technology systems and data handling practices and implement enhancements and adaptations where necessary to comply. Our failure to comply with any such laws may result in significant liabilities and/or reputational harm.

Adverse results from litigation or governmental or regulatory investigations can impact our business practices and operating results.

We are currently involved in certain legal proceedings, and may from time to time be involved in governmental or regulatory investigations and inquiries relating to matters that arise in connection with the conduct of our business. While we have not recognized a material accrual liability for any lawsuits and claims filed or pending against us to date, the outcome of litigation and other legal and regulatory matters is inherently uncertain and it is possible that the actual results of one or more of such matters may be substantially higher than the amounts reserved, or that judgments may be rendered, or fines or penalties assessed in matters for which we have no reserves. Further, adverse outcomes in lawsuits or investigations may result in significant monetary damages or injunctive relief that may adversely affect our operating results or financial condition as well as our ability to conduct our businesses as they are presently being conducted. Moreover, even if we prevail in such actions, litigation and investigations can be costly and time-consuming, and often risks diverting the attention of our management and key personnel from our business operations, which could have a material adverse effect on our business, financial condition and results of operations.

Changes in accounting standards could materially impact our financial statements.

From time to time, the Financial Accounting Standards Board or the SEC may change the financial accounting and reporting standards that govern the preparation of our financial statements. Also, our global initiatives, as well as continuing trends towards the convergence of international accounting standards, such as rules that may be adopted under the International Financial Reporting Standards (“IFRS”), may result in our Company being subject to new or changing accounting and reporting standards. In addition, the bodies that interpret the accounting standards (such as banking regulators or outside auditors) may change their interpretations or positions on how these standards should be applied. These changes may be beyond our control, can be hard to predict and can materially impact how we record and report our financial condition or results of operations. In some cases, we could be required to apply a new or revised standard retrospectively, or apply an existing standard differently, also retrospectively, in each case resulting in our revising or restating prior period financial statements.

Our holding company, SVB Financial, relies on equity warrant assets income, investment distributions and dividends from its subsidiaries for most of its cash revenues.

SVB Financial is a holding company and is a separate and distinct legal entity from its subsidiaries. It receives most of its cash revenues from three primary funding sources: income from our equity warrant assets and investment securities and, to the extent declared, cash dividends paid by its subsidiaries, primarily the Bank. These sources generate cash which is used by SVB Financial to pay operating and borrowing costs and, to the extent authorized or declared, fund dividends to stockholders and stock repurchase programs. Any income derived from those financial instruments is subject to a variety of factors as discussed in the "Credit Risks" portion of this "Risk Factors" section. Moreover, various federal and state laws and regulations limit the amount of dividends that the Bank and certain of our nonbank subsidiaries may pay to SVB Financial. In addition, SVB Financial's right to participate in a distribution of assets upon a liquidation or reorganization of any of its subsidiaries is subject to the prior claims of the subsidiary's creditors.

Anti-takeover provisions and federal laws, particularly those applicable to financial institutions, may limit the ability of another party to acquire us, which could prevent a merger or acquisition that may be attractive to stockholders and/or have a material adverse effect on our stock price.

As a bank holding company, we are subject to certain laws that could delay or prevent a third party from acquiring us. The Bank Holding Company Act of 1956, as amended, and the Change in Bank Control Act of 1978, as amended, together with federal and state regulations, require that, depending on the particular circumstances, either the Federal Reserve must approve or after receiving notice, must not object to any person or entity acquiring "control" (as determined under the Federal Reserve's standards) of a bank holding company, such as SVB Financial, or a state member bank, such as the Bank. In addition, DBO approval may be required in connection with the acquisition of control of the Bank. Moreover, certain provisions of our certificate of incorporation and by-laws and certain other actions we may take or have taken could delay or prevent a third-party from acquiring us, any of these laws, regulations and other provisions may prevent a merger or acquisition that would be attractive to stockholders and could limit the price investors would be willing to pay in the future for our common stock.

Strategic, Reputational and Other Risks

Concentration of risk increases the potential for significant losses, or to the extent we establish internal concentration limits to mitigate such risk, lower revenues or a slow-down in growth.

Concentration of risk stemming from our focus on certain markets or segments, including those by client industry, life-cycle stage, size and geography, increases the potential for significant losses, or may result in lower revenues or slower growth, if we choose to limit growth in certain markets or segments to mitigate concentration risk. While there may exist a great deal of diversity within each industry, our clients are concentrated within the following general industry niches: technology, life science and healthcare, private equity and venture capital and premium wine. In particular, our technology clients generally tend to be in the industries of hardware (semiconductors, communications, data storage and electronics), software/internet (such as infrastructure software, applications, software services, digital content and advertising technology), and energy and resource innovation. Our life science and healthcare clients are concentrated in the industries of biotechnology, medical devices, healthcare information technology and healthcare services. Many of our client companies are also concentrated by certain stages within their life cycles, such as early-stage, mid-stage or later-stage and many of these companies are venture capital-backed. We take deposits from these clients and are also continuing to increase our efforts to lend to larger clients and to make larger loans. In addition, growth prospects and our geographic focus on key domestic and international innovation markets, as well as premium wine markets, may lead to an increase in our concentration risk. Our loan concentrations are derived from our borrowers engaging in similar activities as well as certain types of loans extended to a diverse group of borrowers that could cause those borrowers to be similarly impacted by economic or other conditions. Any adverse effect on any of our areas of concentration could have a material impact on our business, results of operations and financial condition even when economic and market conditions are generally favorable to our competitors.

Decreases in the amount of equity capital available to our portfolio companies could adversely affect our business, growth and profitability.

Our core strategy is focused on providing banking and financial products and services to companies, investors, entrepreneurs and influencers in the innovation economy, including in particular to early-stage and mid-stage companies that receive financial support from sophisticated investors, including venture capital or private equity firms, "angels," corporate investors, crowd-funding and other evolving sources of capital. We derive a meaningful share of our deposits from these companies and provide them with loans as well as other banking products and services. In some cases, our lending credit decision is based on our analysis of the likelihood that our client will receive additional rounds of equity capital from investors or other funding sources. Among the factors that have affected and could in the future affect the amount of capital available to our portfolio companies are the receptivity of the capital markets, the prevalence of public equity offerings or merger and acquisition activity, primarily among companies within the technology and life science/healthcare industry sectors, the availability and return on alternative investments, economic conditions in the technology, life science/healthcare and private equity/venture capital industries, and

overall general economic conditions. Reduced capital markets valuations could also reduce the amount of capital available to our client companies, including companies within our technology and life science/healthcare industry sectors. If the amount of capital available to such companies decreases, it is likely that the number of our new clients and investor financial support to our existing clients could decrease, which could have an adverse effect on our business, profitability and growth prospects.

We face competitive pressures that could adversely affect our business, results of operations, financial condition or future growth.

We compete with other banks as well as specialty and diversified financial services companies and investment and debt funds, some of which are larger than we are and which may offer a broader range of lending, leasing, payments, foreign currency exchange, and other financial products and advisory services to our client base. We also compete with other alternative and more specialized lenders, such as online "marketplace" lenders, peer-to-peer lenders and other non-traditional lenders that have emerged in recent years. The process of eliminating banks as intermediaries, known as "disintermediation," could result in the loss of fee income, as well as the loss of customer deposits and the related income generated from those deposits. Moreover, we compete with non-financial services, particularly payment facilitators and processors or other Fintech or nonbanking technology providers in the payments industry, which may offer specialized services to our client base. In addition, we compete with hedge funds and private equity funds. Such competitors may focus their marketing efforts on industry sectors which we serve and for example, seek to increase their lending and other financial relationships with technology companies or special industries such as wineries. When new competitors seek to enter one of our markets, or when existing market participants seek to increase their market share, they sometimes undercut the pricing and/or credit terms prevalent in that market, which could adversely affect our market share or ability to exploit new market opportunities. We may have to agree to accept less attractive credit, pricing and other investment terms if we act to meet these competitive challenges, which could adversely affect our business, results of operations, financial condition and future growth. Similarly, competitive pressures and market disruption could adversely affect the business, results of operations, financial condition or future growth of our non-banking services, including our payments services, as well as our access to capital and attractive investment opportunities for our funds business.

Our ability to maintain or increase our market share depends on our ability to attract and maintain, as well as meet the needs of, existing and future clients.

Our success depends, in part, upon our ability to maintain or increase our market share. In particular, much of our success depends on our ability to attract early-stage or start-up companies as clients and to retain those companies as clients as they grow and mature successfully through the various stages of their life cycles. As a result, we adapt our products and services to evolving industry standards as well as introduce new products and services beyond industry standards in order to serve our clients, who are innovators themselves. A failure to achieve market acceptance for any new products or services we introduce, a failure to introduce products or services that the market demands, or the costs associated with developing, introducing and providing new products and services could have an adverse effect on our business, results of operations, growth prospects and financial condition.

We face risks in connection with our strategic undertakings and new business initiatives.

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

We are focused on our long-term growth and have undertaken various strategic activities and business initiatives, many of which involve activities that are new to us, or in some cases, are experimental in nature. For example, we are expanding our global presence and may engage in activities in jurisdictions where we have limited experience from a business, legal and/or regulatory perspective. With the acquisition of SVB Leerink, we have also expanded into new lines of business, namely, investment banking and M&A advisory services. We are also expanding our payments processing capabilities to better serve our clients, including innovating new electronic payment processing solutions, developing new payments technologies, and supporting new or evolving disruptive payments systems. We may also serve clients that deal with new or evolving industries or business activities, such as digital currencies. Given our evolving geographic and product diversification, and our innovative product solutions, these payment-related initiatives may subject us to, among other risks, increased business, reputational and operational risk, as well as more complex legal, regulatory and compliance costs and risks.

Our ability to execute strategic activities and new business initiatives successfully will depend on a variety of factors. These factors likely will vary based on the nature of the activity but may include our success in integrating an acquired company or a new internally-developed growth initiative into our business, operations, services, products, personnel and systems, operating effectively with any partner with whom we elect to do business, meeting applicable regulatory requirements and obtaining applicable regulatory licenses or other approvals, hiring or retaining key employees, achieving anticipated synergies, meeting

management's expectations, actually realizing the anticipated benefits of the activities, and overall general market conditions. Our ability to address these matters successfully cannot be assured. In addition, our strategic efforts may divert resources or management's attention from ongoing business operations and may subject us to additional regulatory scrutiny and potential liability. If we do not successfully execute a strategic undertaking, it could adversely affect our business, financial condition, results of operations, reputation or growth prospects. In addition, if we were to conclude that the value of an acquired business had decreased and that the related goodwill had been impaired, that conclusion would result in an impairment of goodwill charge to us, which would adversely affect our results of operations.

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

Our business reputation and relationships are important and any damage to them could have a material adverse effect on our business.

Our reputation is very important in sustaining our business and we rely on our relationships with our current, former and potential clients and stockholders, the venture capital and private equity communities, and other actors in the industries that we serve. Any damage to our reputation, whether arising from regulatory, supervisory or enforcement actions, matters affecting our financial reporting or compliance with SEC and exchange listing requirements, negative publicity, the way in which we conduct our business or otherwise could strain our existing relationships and make it difficult for us to develop new relationships. Any such damage to our reputation and relationships could in turn lead to a material adverse effect on our business.

An ineffective risk management framework could have a material adverse effect on our strategic planning and our ability to mitigate risks and/or losses and could have adverse regulatory consequences.

We have implemented a risk management framework to identify and manage our risk exposure. This framework is comprised of various processes, systems and strategies, and is designed to manage the types of risk to which we are subject, including, among others, credit, market, liquidity, operational, capital, compliance, strategic and reputational risks. Our framework also includes financial, analytical, forecasting, or other modeling methodologies, which involves management assumptions and judgment. In addition, our Board of Directors, in consultation with management, has adopted a risk appetite statement, which sets forth certain thresholds and limits to govern our overall risk profile. However, there is no assurance that our risk management framework, including the risk metrics under our risk appetite statement, will be effective under all circumstances or that it will adequately identify, manage or mitigate any risk or loss to us. If our risk management framework is not effective, we could suffer unexpected losses and become subject to regulatory consequences, as a result of which our business, financial condition, results of operations or prospects could be materially adversely affected. In addition, if we grow to total average consolidated assets of $50 billion or greater or cross the Advanced Approaches Thresholds (or if the Tailoring Proposal and Capital and Liquidity Thresholds Proposal are adopted as proposed, and we grow to total average consolidated assets of $100 billion or more), we will become subject to more stringent risk management requirements that could increase our compliance costs and require us to further enhance our risk management framework and practices. See the section "Business-Supervision and Regulation-Enhanced Prudential Standards" under this Part I, Item 1 of this report.

We rely on quantitative models to measure risks and to estimate certain financial values.

Quantitative models may be used to help manage certain aspects of our business and to assist with certain business decisions, including estimating probable loan losses, measuring the fair value of financial instruments when reliable market prices are unavailable, estimating the effects of changing interest rates and other market measures on our financial condition and result of operations, and managing risk. However, all models have certain limitations. For example, our measurement methodologies rely on many assumptions, historical analyses and correlations. These assumptions may not capture or fully incorporate conditions leading to losses, particularly in times of market distress, and the historical correlations on which we rely may no longer be relevant. Additionally, as businesses and markets evolve, our measurements may not accurately reflect the changing environment. Further, even if the underlying assumptions and historical correlations used in our models are adequate, our models may be deficient due to errors in computer code, bad data, misuse of data, or the use of a model for a purpose outside the scope of the model’s design. Although we employ strategies to manage and govern the risks associated with our use of models, they may not be effective or fully reliable. As a result, our models may not capture or fully express the risks we face, suggest that we have sufficient capitalization when we do not, lead us to misjudge the business and economic environment in which we operate and ultimately cause planning failures or the reporting of incorrect information to our regulators. Any such occurrence or the perception of such occurrence by our regulators, investors or clients could in turn have a material adverse effect on our business, operations and financial conditions.

Our capital stress testing processes rely on analytical and forecasting models that may prove to be inadequate or inaccurate, which could adversely affect the effectiveness of our strategic planning and our ability to pursue certain corporate goals.

In accordance with the Dodd-Frank Act and the Federal Reserve's regulations thereunder, banking organizations with $10 billion to $50 billion in assets are required to perform annual capital stress tests. Under the Tailoring Proposal, banking organizations with $100 billion or more in assets are required to perform annual capital stress tests. The results of any capital stress tests to which we are subject may require us to increase our regulatory capital, raise additional capital or take or decline to take certain other capital-related actions under certain circumstances. Our stress testing processes also rely on our use of analytical and forecasting models. These models reflect assumptions that may not be accurate, particularly in times of market stress or other unforeseen circumstances. Furthermore, even if our assumptions are accurate predictors of future performance, the models they are based on may prove to be inadequate or inaccurate because of other flaws in their design or implementation. Also, the assumptions we utilize for our stress tests may not be met with regulatory approval, which could result in our stress tests receiving a failing grade. In addition to adversely affecting our reputation, failing our stress tests would likely preclude or delay the possibility of our growth through acquisition, and would limit our ability to pay any cash dividends.

We could be adversely affected by changes in tax laws and regulations or the interpretations of such laws and regulations.

We are subject to the income tax laws of the United States, its constituent states and municipalities and those of the foreign jurisdictions in which we have business operations. These tax laws are complex and may be subject to different interpretations. We must make judgments and interpretations about the application of these inherently complex tax laws when determining our provision for income taxes, our deferred tax assets and liabilities, and our valuation allowance. Changes to the tax laws, administrative rulings or court decisions could increase our provision for income taxes and reduce our net income.

The price of our common stock may be volatile or may decline.

The trading price of our common stock may fluctuate as a result of a number of factors, many of which are outside our control. In addition, the stock market is subject to fluctuations in trading volumes that affect the market prices of the shares of many companies. These broad market fluctuations could adversely affect the market price of our common stock. Among the factors that could affect our stock price are:

- actual or anticipated quarterly fluctuations in our operating results and financial condition;
- changes in revenue or earnings estimates or publication of research reports and recommendations by financial analysts;
- failure to meet analysts' revenue or earnings estimates;
- speculation in the press or investment community;
- strategic actions by us or our competitors;
- actions by institutional stockholders;
- fluctuations in the stock price and operating results of our competitors;
- general market conditions and, in particular, developments related to market conditions for the financial services industry;
- actual or anticipated changes in interest rates;
- market perceptions about the innovation economy, including levels of funding or "exit" activities of companies in the industries we serve;
- proposed or adopted regulatory changes or developments;
- anticipated or pending investigations, proceedings or litigation that involve or affect us; and
- domestic and international economic factors unrelated to our performance.

The trading price of the shares of our common stock and the value of our other securities will further depend on many factors, which may change from time to time, including, without limitation, our financial condition, performance, creditworthiness and prospects, and future sales of our equity or equity-related securities. In some cases, the markets have produced downward pressure on stock prices and credit availability for certain issuers without regard to those issuers' underlying financial strength. A significant decline in our stock price could result in substantial losses for individual stockholders and could lead to costly and disruptive securities litigation, as well as the loss of key employees.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our corporate headquarters facility consists of three buildings and is located at 3003 Tasman Drive, Santa Clara, California. The total square footage of the premises leased under the current lease arrangement is approximately 213,625 square feet. The lease will expire on September 30, 2024, unless terminated earlier or extended.

We currently operate 27 regional offices, including an administrative office, in the United States as well as offices outside the United States. We operate throughout the Silicon Valley with offices in Santa Clara, Menlo Park and Palo Alto. Other regional

offices in California include Irvine, Napa, San Diego, San Francisco, Sherman Oaks, St. Helena, Santa Monica and Santa Rosa. Office locations outside of California but within the United States include: Phoenix/Tempe, Arizona; Denver/Broomfield, Colorado; Atlanta, Georgia; Chicago, Illinois; Boston/Newton, Massachusetts; New York, New York; Raleigh/Morrisville, North Carolina; Portland, Oregon; Philadelphia/West Conshohocken, Pennsylvania; Austin, Texas; Dallas, Texas; Houston, Texas; Salt Lake City/Cottonwood Heights, Utah; Arlington, Virginia; and Seattle, Washington. Our international offices include those located in: Hong Kong; Beijing and Shanghai, China; Frankfurt, Germany; Bangalore, India; Herzliya Pituach, Israel; and London, England. All of our properties are occupied under leases, which expire at various dates through 2030, and in most instances include options to renew or extend at market rates and terms. We also own leasehold improvements, equipment, furniture, and fixtures at our offices, all of which are used in our business activities.

Our Global Commercial Bank operations are principally conducted out of our corporate headquarters in Santa Clara and our office in Phoenix/Tempe, and our lending teams operate out of the various regional and international offices. SVB Private Bank and SVB Capital principally operate out of our Menlo Park offices.

We believe that our properties are in good condition and suitable for the conduct of our business.

ITEM 3. LEGAL PROCEEDINGS

The information set forth under Note 25—"Legal Matters" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report is incorporated herein by reference.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II.

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

Market Information

Our common stock is traded on the NASDAQ Global Select Market under the symbol "SIVB". As of December 31, 2018, SVB Financial had no preferred stock outstanding.

Holders

As of February 5, 2019, there were 603 registered holders of our common stock, and we believe there were approximately 134,625 beneficial holders of common stock whose shares were held in the name of brokerage firms or other financial institutions. We are not provided with the number or identities of all of these stockholders, but we have estimated the number of such stockholders from the number of stockholder documents requested by these brokerage firms for distribution to their customers.

Dividends

SVB Financial does not currently pay cash dividends on our common stock. We have not paid any cash dividends since 1992. Our Board of Directors periodically evaluates whether to pay cash dividends, taking into consideration such factors as it considers relevant, including our current and projected financial performance, our projected sources and uses of capital, general economic conditions, considerations relating to our current and potential stockholder base, applicable regulatory requirements, and relevant tax laws. Our ability to pay cash dividends is also limited by generally applicable corporate and banking laws and regulations. See “Business-Supervision and Regulation-Restrictions on Dividends” under Part I, Item 1 of this report.

Securities Authorized for Issuance under Equity Compensation Plans

The information required by this Item regarding equity compensation plans is incorporated by reference to the information set forth in Part III, Item 12 of this report.

Repurchases of Equity Securities by the Issuer and Affiliated Purchasers

Stock repurchase activity during the three months ended December 31, 2018 was as follows:

Period ended	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced programs	Maximum dollar value that may yet be purchased under the programs (1)
October 31, 2018	—	—	—	
November 30, 2018	—	—	—	
December 31, 2018	715,207	$ 205.71	715,207	$ 352,874,768
Total	715,207	$ 205.71	715,207	$ 352,874,768

(1) On November 13, 2018, the Company announced that its Board of Directors had authorized a $500 million common stock repurchase program (the “Stock Repurchase Program”) pursuant to which the Company may, from time to time and on or before the program’s expiration date, repurchase shares of its outstanding common stock in the open market, in privately-negotiated transactions, or otherwise, subject to applicable laws and regulations. The extent to which the Company repurchases its shares, and the timing of such repurchases, will depend upon a variety of factors, including market conditions, regulatory requirements, availability of funds, and other relevant considerations, as determined by the Company. The Company may, in its discretion, begin, suspend or terminate repurchases at any time prior to the program’s expiration, without any prior notice. Repurchases may also be made pursuant to a trading plan under Rule 10b5-1 under the Exchange Act, which would permit shares to be repurchased when the Company might otherwise be precluded from doing so because of self-imposed trading blackout periods or other regulatory restrictions. The Stock Repurchase Program expires on November 15, 2019.

During the three months ended December 31, 2018, we repurchased 715,207 shares of our common stock totaling $147.1 million under the Stock Repurchase Program. At December 31, 2018, $352.9 million represents the maximum amount available to repurchase shares under the Stock Repurchase Program.

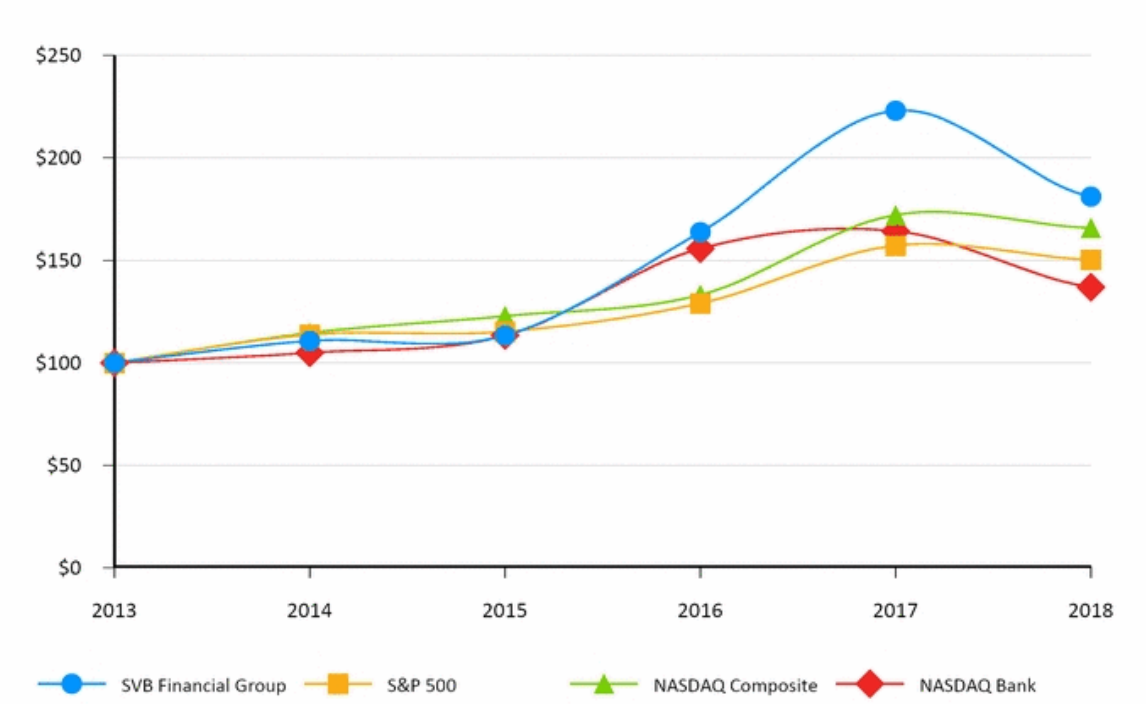
Performance Graph

The following information is not deemed to be "soliciting material" or "filed" with the SEC or subject to the liabilities of Section 18 of the Exchange Act, and the report shall not be deemed to be incorporated by reference into any prior or subsequent filing by the Company under the Securities Act or the Exchange Act.

The following graph compares, for the period from December 31, 2013 through December 31, 2018, the cumulative total stockholder return on the common stock of the Company with (i) the cumulative total return of the Standard and Poor's 500 ("S&P 500") Index, (ii) the cumulative total return of the NASDAQ Composite index, and (iii) the cumulative total return of the NASDAQ Bank Index. The graph assumes an initial investment of $100 and reinvestment of dividends. The graph is not necessarily indicative of future stock price performance.

Comparison of 5 Year Cumulative Total Return*

Among SVB Financial Group, the S&P 500 Index, the NASDAQ Composite Index and the NASDAQ Bank Index



* $100 invested on 12/31/13 in stock or index, including reinvestment of dividends.
Fiscal year ended December 31st.
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	December 31,					
	2013	2014	2015	2016	2017	2018
SVB Financial Group	$ 100.00	$ 110.69	$ 113.39	$ 163.70	$ 222.94	$ 181.12
S&P 500	100.00	113.69	115.26	129.05	157.22	150.33
NASDAQ Composite	100.00	114.62	122.81	133.19	172.11	165.84
NASDAQ Bank	100.00	104.89	113.29	155.71	164.24	136.99

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ITEM 6. SELECTED CONSOLIDATED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with our consolidated financial statements and supplementary data as presented under Part II, Item 8 of this report. Information as of and for the years ended December 31, 2018, 2017 and 2016 is derived from audited financial statements presented separately herein, while information as of and for the years ended December 31, 2015 and 2014 is derived from audited financial statements not presented separately within.

	Year ended December 31,				
(Dollars in thousands, except per share amounts and ratios)	2018	2017	2016	2015	2014
Income statement summary:					
Net interest income	$ 1,893,988	$ 1,420,369	$ 1,150,523	$ 1,006,425	$ 856,595
Provision for credit losses	(87,870)	(92,304)	(106,679)	(95,683)	(65,997)
Noninterest income	744,984	557,231	456,552	472,794	572,239
Noninterest expense	(1,188,193)	(1,010,655)	(859,797)	(779,962)	(700,669)
Income before income tax expense	1,362,909	874,641	640,599	603,574	662,168
Income tax expense	(351,561)	(355,463)	(250,333)	(228,754)	(183,508)
Net income before noncontrolling interests	1,011,348	519,178	390,266	374,820	478,660
Net income attributable to noncontrolling interests	(37,508)	(28,672)	(7,581)	(30,916)	(214,790)
Net income available to common stockholders	$ 973,840	$ 490,506	$ 382,685	$ 343,904	$ 263,870
Common share summary:					
Earnings per common share—basic	$ 18.35	$ 9.33	$ 7.37	$ 6.70	$ 5.39
Earnings per common share—diluted	18.11	9.20	7.31	6.62	5.31
Book value per common share	97.29	79.11	69.71	61.97	55.24
Weighted average shares outstanding—basic	53,078	52,588	51,915	51,318	48,931
Weighted average shares outstanding—diluted	53,772	53,306	52,349	51,916	49,662
Year-end balance sheet summary:					
Available-for-sale securities	$ 7,790,043	$ 11,120,664	$ 12,620,411	$ 16,380,748	$ 13,540,655
Held-to-maturity securities	15,487,442	12,663,455	8,426,998	8,790,963	7,421,042
Loans, net of unearned income	28,338,280	23,106,316	19,899,944	16,742,070	14,384,276
Total assets	56,927,979	51,214,467	44,683,660	44,686,703	39,337,869
Deposits	49,328,900	44,254,075	38,979,868	39,142,776	34,343,499
Short-term borrowings	631,412	1,033,730	512,668	774,900	7,781
Long-term debt	696,465	695,492	795,704	796,702	451,362
SVBFG stockholders' equity	5,116,209	4,179,795	3,642,554	3,198,134	2,813,072
Average balance sheet summary:					
Available-for-sale securities	$ 9,789,211	$ 12,424,137	$ 13,331,315	$ 14,436,140	$ 12,907,135
Held-to-maturity securities	14,997,846	9,984,610	8,192,183	7,829,177	3,696,417
Loans, net of unearned income	25,630,520	21,159,394	18,283,591	14,762,941	11,502,941
Total assets	55,229,060	48,380,272	43,987,451	40,846,377	32,961,936
Deposits	48,075,344	42,745,148	38,759,059	36,293,362	28,320,825
Short-term borrowings	643,886	48,505	220,251	23,226	6,264
Long-term debt	695,938	766,943	796,302	770,848	452,215
SVBFG stockholders' equity	4,734,417	3,961,405	3,509,526	3,075,371	2,523,235
Capital ratios:					
SVBFG CET 1 risk-based capital ratio	13.41%	12.78%	12.80%	12.28%	—%
SVBFG total risk-based capital ratio	14.45	13.96	14.21	13.84	13.92
SVBFG tier 1 risk-based capital ratio	13.58	12.97	13.26	12.83	12.91
SVBFG tier 1 leverage ratio	9.06	8.34	8.34	7.63	7.74
SVBFG tangible common equity to tangible assets (1)	8.99	8.16	8.15	7.16	7.15
SVBFG tangible common equity to risk-weighted assets (1)	13.28	12.77	12.89	12.34	12.93
Bank CET 1 risk-based capital ratio	12.41	12.06	12.65	12.52	—
Bank total risk-based capital ratio	13.32	13.04	13.66	13.60	12.12
Bank tier 1 risk-based capital ratio	12.41	12.06	12.65	12.52	11.09
Bank tier 1 leverage ratio	8.10	7.56	7.67	7.09	6.64
Bank tangible common equity to tangible assets (1)	8.13	7.47	7.77	6.95	6.38
Bank tangible common equity to risk-weighted assets (1)	12.28	11.98	12.75	12.59	11.19
Average SVBFG stockholders' equity to average assets	8.57	8.19	7.98	7.53	7.65
Selected financial results:					
Return on average assets	1.76%	1.01%	0.87%	0.84%	0.80%

Return on average common SVBFG stockholders' equity	20.57	12.38	10.90	11.18	10.46
Net interest margin	3.57	3.05	2.72	2.57	2.81
Gross loan charge-offs to average total gross loans	0.26	0.31	0.53	0.34	0.37
Net loan charge-offs to average total gross loans	0.22	0.27	0.46	0.30	0.32
Nonperforming assets as a percentage of total assets	0.17	0.23	0.27	0.28	0.10
Allowance for loan losses as a percentage of total gross loans	0.99	1.10	1.13	1.29	1.14

(1) See "Management's Discussion and Analysis of Financial Condition and Results of Operations-Capital Resources-Capital Ratios" under Part II, Item 7 of this report for a reconciliation of non-GAAP tangible common equity to tangible assets and tangible common equity to risk-weighted assets.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with "Selected Consolidated Financial Data" under Part II, Item 6 and our audited consolidated financial statements and supplementary data as presented under Part II, Item 8 of this report. Certain prior period amounts have been reclassified to conform to current period presentations.

The following discussion and analysis of our financial condition and results of operations contains forward-looking statements. These statements are based on current expectations and assumptions, which are subject to risks and uncertainties. See our cautionary language at the beginning of this report under "Forward-Looking Statements". Actual results could differ materially because of various factors, including but not limited to those discussed in "Risk Factors," under Part I, Item 1A of this report.

Our fiscal year ends December 31st and, unless otherwise noted, references to years or fiscal years are for fiscal years ended December 31st.

Overview of Company Operations

SVB Financial is a diversified financial services company, as well as a bank holding company and a financial holding company. SVB Financial was incorporated in the state of Delaware in March 1999. Through our various subsidiaries and divisions, we offer a variety of banking and financial products and services. For more than 35 years, we have been dedicated to helping innovative companies and their investors succeed, especially in the technology, life science/healthcare, private equity/venture capital and premium wine industries. We provide our clients of all sizes and stages with a diverse set of products and services to support them through all stages of their life cycles, and key innovation markets around the world.

We offer commercial and private banking products and services through our principal subsidiary, the Bank, which is a California-state chartered bank founded in 1983 and a member of the Federal Reserve System. Through its subsidiaries, the Bank also offers asset management, private wealth management and other investment services. In addition, through SVB Financial's other subsidiaries and divisions, we also offer investment banking services and non-banking products and services, such as funds management, M&A advisory services and venture capital and private equity investment.

Management's Overview of 2018 Financial Performance

Overall, we had an outstanding year in 2018, which was marked by higher net interest and core fee income, increased investment securities and equity warrant gains, strong total client funds growth, healthy loan growth and stable credit quality. Additionally, we saw higher noninterest expense, primarily from increased compensation and benefits expenses, as well as increased professional services expenses reflective of increased expenses to support our domestic and global expansion initiatives, including our acquisition of SVB Leerink which closed on January 4, 2019, as well as investments made in projects, systems, and technology to support our revenue growth and related initiatives and other operating costs. In addition, we benefited from tax relief legislation which lowered our federal corporate tax rate by fourteen basis points.

Our core business continued to perform well as a result of our ongoing focus on innovation companies and their investors and continued efforts to secure client relationships. We saw continued success in working with private equity/venture capital firms and life science/healthcare clients as well as clients in our private banking division.

Results for the fiscal year ended, and as of, December 31, 2018 (compared to the fiscal year ended, and as of, December 31, 2017, where applicable):

BALANCE SHEET

Assets. $55.2 billion in average total assets (up 14.2%). $56.9 billion in period-end total assets (up 11.2%).

Loans. $25.6 billion in average total loan balances, net of unearned income (up 21.1%). $28.3 billion in period-end total loan balances, net of unearned income (up 22.6%).

Total Client Funds. (on-balance sheet deposits and off-balance sheet client investment funds). $123.1 billion in average total client fund balances (up 30.6%). $135.3 billion in period-end total client fund balances (up 29.4%).

AFS/HTM Fixed Income Investments. $24.8 billion in average fixed income investment securities (up 10.6%). $23.3 billion in period-end fixed income investment securities (down 2.1%).

EARNINGS

EPS. Earnings per diluted share of $18.11 (up 96.8%).

Net Income. Consolidated net income available to common stockholders of $973.8 million (up 98.5%).

- Net interest income of $1.9 billion (up 33.3%).
- Net interest margin of 3.57% (up 52bps).
- Noninterest income of $745.0 million, with non- GAAP core fee income[+] of $515.9 million (up 36.1%).
- Noninterest expense of $1.2 billion (up 17.6%).

ROE. Return on average equity ("*ROE*") performance of 20.57%.

Operating Efficiency Ratio. Operating efficiency ratio of 45.02% with a non-GAAP core operating efficiency ratio of 48.27%[++].

CAPITAL

Capital. Continued strong capital, with all capital ratios considered "well-capitalized" under banking regulations, SVBFG and SVB capital ratios, respectively, were:

- CET 1 risk-based capital ratio of 13.41% and 12.41%.
- Tier 1 risk-based capital ratio of 13.58% and 12.41%.
- Total risk-based capital ratio of 14.45% and 13.32%. - Tier 1 leverage ratio of 9.06% and 8.10%.

CREDIT QUALITY

Credit Quality. Continued disciplined underwriting.

- Allowance for loan losses of 0.99% as a percentage of period-end total gross loans.
- Provision for loan losses of 0.30% as a percentage of total gross loans.
- Net loan charge-offs of 0.22% as a percentage of average total gross loans.

[+] Consists of fee income for foreign exchange, credit cards, deposit services, client investments, letters of credit and lending related activities. This is a non-GAAP financial measure. (See the non-GAAP reconciliation under "Results of Operations—Noninterest Income").

[++] This ratio excludes certain financial line items where performance is typically subject to market or other conditions beyond our control. It is calculated by dividing noninterest expense by total revenue, after adjusting for gains or losses on investment securities and equity warrant assets. This is a non-GAAP financial measure. (See the non-GAAP reconciliation under "Results of Operations—Noninterest Expense").

A summary of our performance in 2018 compared to 2017 is as follows:

(Dollars in thousands, except per share amounts and ratios)	Year ended December 31, 2018	2017	% Change
Income Statement:			
Diluted earnings per share	$ 18.11	$ 9.20	96.8 %
Net income available to common stockholders	973,840	490,506	98.5
Net interest income	1,893,988	1,420,369	33.3
Net interest margin	3.57%	3.05%	52 bps
Provision for credit losses	$ 87,870	$ 92,304	(4.8) %
Noninterest income	744,984	557,231	33.7
Noninterest expense	1,188,193	1,010,655	17.6
Non-GAAP core fee income (1)	515,890	378,963	36.1
Non-GAAP noninterest income, net of noncontrolling interests (1)	706,984	527,779	34.0
Non-GAAP noninterest expense, net of noncontrolling interests (2)	1,187,671	1,009,842	17.6
Balance Sheet:			
Average available-for-sale-securities	$ 9,789,211	$ 12,424,137	(21.2) %
Average held-to-maturity securities	14,997,846	9,984,610	50.2
Average loans, net of unearned income	25,630,520	21,159,394	21.1
Average noninterest-bearing demand deposits	39,633,118	35,235,200	12.5
Average interest-bearing deposits	8,442,226	7,509,948	12.4
Average total deposits	48,075,344	42,745,148	12.5
Earnings Ratios:			
Return on average assets (3)	1.76%	1.01%	74.3 %
Return on average common SVBFG stockholders' equity (4)	20.57	12.38	66.2
Asset Quality Ratios:			
Allowance for loan losses as a percentage of total period-end gross loans	0.99%	1.10%	(11) bps
Allowance for loan losses for performing loans as a percentage of total gross performing loans	0.86	0.92	(6)
Gross loan charge-offs as a percentage of average total gross loans	0.26	0.31	(5)
Net loan charge-offs as a percentage of average total gross loans	0.22	0.27	(5)
Capital Ratios:			
SVBFG CET 1 risk-based capital ratio	13.41%	12.78%	63 bps
SVBFG total risk-based capital ratio	14.45	13.96	49
SVBFG tier 1 risk-based capital ratio	13.58	12.97	61
SVBFG tier 1 leverage ratio	9.06	8.34	72
SVBFG tangible common equity to tangible assets (5)	8.99	8.16	83
SVBFG tangible common equity to risk-weighted assets (5)	13.28	12.77	51
Bank CET 1 risk-based capital ratio	12.41	12.06	35
Bank total risk-based capital ratio	13.32	13.04	28
Bank tier 1 risk-based capital ratio	12.41	12.06	35
Bank tier 1 leverage ratio	8.10	7.56	54
Bank tangible common equity to tangible assets (5)	8.13	7.47	66
Bank tangible common equity to risk-weighted assets (5)	12.28	11.98	30
Other Ratios:			
GAAP operating efficiency ratio (6)	45.02%	51.11%	(11.9) %
Non-GAAP operating efficiency ratio (2)	45.50	51.76	(12.1)
Non-GAAP core operating efficiency ratio (2)	48.27	54.38	(11.2)
Book value per common share (7)	$ 97.29	$ 79.11	23.0
Other Statistics:			
Average full-time equivalent employees	2,685	2,396	12.1 %
Period-end full-time equivalent employees	2,900	2,438	18.9

(1) See "Results of Operations–Noninterest Income" below for a description and reconciliation of non-GAAP core fee income and noninterest income.
(2) See "Results of Operations–Noninterest Expense" below for a description and reconciliation of non-GAAP noninterest expense, non-GAAP operating efficiency ratio and non-GAAP core operating efficiency ratio.

(3) Ratio represents consolidated net income available to common stockholders divided by average assets.
(4) Ratio represents consolidated net income available to common stockholders divided by average SVBFG stockholders' equity.
(5) See "Capital Resources–Capital Ratios" for a reconciliation of non-GAAP tangible common equity to tangible assets and tangible common equity to risk-weighted assets.
(6) The operating efficiency ratio is calculated by dividing total noninterest expense by total net interest income plus noninterest income.
(7) Book value per common share is calculated by dividing total SVBFG stockholders' equity by total outstanding common shares at period-end.

Critical Accounting Policies and Estimates

Our accounting policies are fundamental to understanding our financial condition and results of operations. We have identified three policies as being critical because they require us to make particularly difficult, subjective and/or complex judgments about matters that are inherently uncertain, and because it is likely that materially different amounts would be reported under different conditions or using different assumptions. We evaluate our estimates and assumptions on an ongoing basis and we base these estimates on historical experiences and various other factors and assumptions that are believed to be reasonable under the circumstances. Actual results may differ materially from these estimates under different assumptions or conditions.

Our critical accounting policies include those that address the adequacy of the allowance for loan losses and allowance for unfunded credit commitments, measurements of fair value, and the valuation of equity warrant assets. Our senior management has discussed and reviewed the development, selection, application and disclosure of these critical accounting policies with the Audit Committee of our Board of Directors.

We disclose our method and approach for each of our critical accounting policies in Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

Allowance for Loan Losses and Allowance for Unfunded Credit Commitments

Allowance for Loan Losses

The allowance for loan losses is management's estimate of credit losses inherent in the loan portfolio at the balance sheet date. We consider our accounting policy for the allowance for loan losses to be critical as our estimation of the allowance involves material estimates by us and is particularly susceptible to significant changes in the near-term. Determining the allowance for loan losses requires us to make forecasts that are highly uncertain and require a high degree of judgment. Our loan loss reserve methodology is applied to our loan portfolio and we maintain the allowance for loan losses at levels that we believe are appropriate to absorb estimated probable losses inherent in our loan portfolio. A committee comprised of senior management evaluates the adequacy of the allowance for loan losses.

Our allowance for loan losses is established for loan losses that are probable and incurred but not yet realized. The process of anticipating loan losses is inherently imprecise. We apply a systematic process for the evaluation of individual loans and pools of loans for inherent risk of loan losses. At the time of approval, each loan in our portfolio is assigned a credit risk rating through an evaluation process, which includes consideration of such factors as payment status, the financial condition of the borrower, borrower compliance with loan covenants, underlying collateral values, potential loan concentrations, and general economic conditions. The credit risk ratings for each loan are monitored and updated on an ongoing basis.

The allowance for loan losses is based on a formula allocation for similarly risk-rated loans by client industry sector and individually for impaired loans. Our formula allocation is determined on a quarterly basis by utilizing a historical loan loss migration model, which is a statistical model used to estimate an appropriate allowance for outstanding loan balances by calculating the likelihood of a loan being charged-off based on its credit risk rating using historical loan performance data from our portfolio. The formula allocation provides the average loan loss experience for each portfolio segment, which considers our quarterly historical loss experience since the year 2000, both by risk-rating category and client industry sector. The resulting loan loss factors for each risk-rating category and client industry sector are ultimately applied to the respective period-end client loan balances for each corresponding risk-rating category by client industry sector to provide an estimation of the allowance for loan losses.

We also supplement our allowance by applying qualitative allocations to the results we obtained through our historical loan loss migration model to ascertain the total allowance for loan losses. These qualitative allocations are based upon management's assessment of the risks that may lead to a loan loss experience different from our historical loan loss experience. These risks are aggregated to become our qualitative allocation. Refer to Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for a summary of the factors management considers for its qualitative allocation as part of management's estimate of the changing risks in the lending environment. In 2016, we made certain enhancements to factors included in our qualitative allocation. We changed from a total loan portfolio weighted average loss factor to a portfolio segment specific loss factor for our estimated reserve floor for portfolio segments that would not draw a minimum reserve based on the lack of historical loan loss experience. Additionally, in response

to increased average borrowing amounts by our clients, we increased our definition of a large loan used for our qualitative reserve for large funded loan exposure.

Allowance for Unfunded Credit Commitments

The allowance for unfunded credit commitments is determined using a methodology that is inherently similar to the methodology used for calculating the allowance for loan losses adjusted for factors specific to binding commitments, including the probability of funding and exposure at funding. Our reserve methodology for unfunded loan commitments applies segment specific historical loss experience for our funded loan portfolio and segment specific probability of funding factors to estimate the allowance for unfunded credit commitments. The allowance for unfunded credit commitments also includes certain qualitative allocations as deemed appropriate by management. We consider our accounting policy for the allowance for unfunded credit commitments to be critical as estimation of the reserve involves material estimates by management and is susceptible to changes in the near term. The allowance for unfunded credit commitments equals management's best estimate of probable credit losses that are inherent in the portfolio at the balance sheet date.

Fair Value Measurements

We use fair value measurements to record fair value for certain financial instruments and to determine fair value disclosures. We disclose our method and approach for fair value measurements of assets and liabilities in Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

ASC 820, Fair Value Measurements and Disclosures, establishes a three-level hierarchy for disclosure of assets and liabilities recorded at fair value. The classification of assets and liabilities within the hierarchy is based on whether the significant inputs to the valuation methodology used for measurement are observable or unobservable and the significance of the level of the input to the entire measurement. Observable inputs reflect market-derived or market-based information obtained from independent sources, while unobservable inputs reflect our estimates about market data. The three levels for measuring fair value are defined in Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

The degree of management judgment involved in determining the fair value of a financial instrument is dependent upon the availability of quoted market prices or observable market parameters. For financial instruments that trade actively and have quoted market prices or observable market parameters, there is minimal subjectivity involved in measuring fair value (Level 1 measurements). When observable market prices and parameters are not fully available, management judgment is necessary to estimate fair value. For inactive markets, there is little information, if any, to evaluate if individual transactions are orderly. Accordingly, we are required to estimate, based upon all available facts and circumstances, the degree to which orderly transactions are occurring and provide more weighting to price quotes that are based upon orderly transactions (Level 2 measurements). In addition, changes in the market conditions may reduce the availability of quoted prices or observable data. For example, reduced liquidity in the capital markets or changes in secondary market activities could result in observable market inputs becoming unavailable. Therefore, when market data is not available, we use valuation techniques requiring more management judgment to estimate the appropriate fair value measurement (Level 3 measurements). Significant judgment is required to determine whether certain assets measured at fair value are included in Level 2 or Level 3. When making this judgment, we consider available information and our understanding of the valuation techniques and significant inputs used. The classification of Level 2 or Level 3 is based upon the specific facts and circumstances of each instrument or instrument category and judgments are made regarding the significance of the Level 3 inputs to the instrument's fair value measurement in its entirety. If Level 3 inputs are considered significant, the instrument is classified as Level 3. Accordingly, the degree of judgment exercised by management in determining fair value is greater for financial assets and liabilities categorized as Level 3.

The following table summarizes our financial assets and liabilities that are measured at fair value on a recurring basis and the amounts measured using significant Level 3 inputs at December 31, 2018 and 2017:

	December 31,			
	2018		2017	
(Dollars in thousands)	Total Balance	Level 3	Total Balance	Level 3
Assets carried at fair value	$ 8,388,011	$ 146,278	$ 11,481,237	$ 122,250
As a percentage of total assets	14.7%	0.3%	22.4%	0.2%
Liabilities carried at fair value	$ 98,050	$ —	$ 108,581	$ —
As a percentage of total liabilities	0.2%	—%	0.2%	—%
As a percentage of assets carried at fair value		1.7		1.1

Financial assets valued using Level 3 measurements consist of our non-marketable securities (investments in venture capital) and equity warrant assets (rights to shares of private and public company capital stock). The valuation techniques of our non-marketable securities carried under fair value accounting and equity warrant assets involve a significant degree of management judgment. Refer to Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for a summary of the valuation techniques and significant inputs used for each class of Level 3 assets.

The inherent uncertainty in the process of valuing securities for which a ready market does not exist may cause our estimated values of these securities to differ significantly from the values that would have been derived had a ready market for the securities existed, and those differences could be material. The timing and amount of changes in fair value, if any, of these financial instruments depend upon factors beyond our control, including the performance of the underlying companies, fluctuations in the market prices of the preferred or common stock of the underlying companies, general volatility and interest rate market factors, and legal and contractual restrictions. The timing and amount of actual net proceeds, if any, from the disposition of these financial instruments depend upon factors beyond our control, including investor demand for IPOs, levels of M&A activity, legal and contractual restrictions on our ability to sell, and the perceived and actual performance of portfolio companies. All of these factors are difficult to predict and there can be no assurances that we will realize the full value of these securities, which could result in significant losses.

During 2018, the Level 3 assets that are measured at fair value on a recurring basis experienced net realized and unrealized gains of $88.4 million (which is inclusive of noncontrolling interest), primarily due to gains on exercised warrant assets. During 2017 and 2016, the Level 3 assets that are measured at fair value on a recurring basis experienced net realized and unrealized gains of $55.2 million and $38.1 million (which is inclusive of noncontrolling interest), respectively.

Derivative Assets-Equity Warrant Assets

As discussed above, the valuation of our equity warrant assets is a Level 3 measurement, which requires a significant degree of management judgment in order to value the assets. Our equity warrant asset policy is also considered a critical policy due to the variability of returns from our shares of private and public companies and due to the degree of management judgment in selecting a valuation technique for our equity warrant assets.

The timing and value realized from the disposition of equity warrant assets depend upon factors beyond our control, including the performance of the underlying portfolio companies, investor demand for IPOs, fluctuations in the price of the underlying common stock of these private and public companies, levels of M&A activity, and legal and contractual restrictions on our ability to sell the underlying securities. All of these factors are difficult to predict. Many equity warrant assets may be terminated or may expire without compensation and may incur valuation losses from lower-priced funding rounds. We are unable to predict future gains or losses with accuracy, and gains or losses could vary materially from period to period.

Additionally, while management has selected the valuation methodology that it believes provides the best estimate of fair value, there are several acceptable valuation techniques as well as alternative approaches for the calculation of significant inputs for the valuation technique. In the event that a different valuation technique or approach for calculating a significant input were to be used, then the estimated values of these assets could differ significantly from the existing values recorded. Further, the inherent uncertainty of valuing assets for which a ready market is unavailable may cause our estimated values of these assets to differ significantly from the values that would have been derived had a ready market for the assets existed, and those differences could be material and ultimately, the recorded fair value of equity warrant assets may never be realized, which could result in significant losses.

Results of Operations

Net Interest Income and Margin (Fully Taxable Equivalent Basis)

Net interest income is defined as the difference between: (i) interest earned from loans, fixed income investments in our available-for-sale and held-to-maturity securities portfolios and short-term investment securities, and, (ii) interest paid on funding sources. Net interest margin is defined as net interest income, on a fully taxable equivalent basis, as a percentage of average interest-earning assets. Net interest income and net interest margin are presented on a fully taxable equivalent basis to consistently reflect income from taxable loans and securities and tax-exempt securities based on the federal statutory tax rate of 21.0 percent for 2018 and 35.0 percent for 2017.

Analysis of Net Interest Income Changes Due to Volume and Rate (Fully Taxable Equivalent Basis)

Net interest income is affected by changes in the amount and mix of interest-earning assets and interest-bearing liabilities, referred to as "volume change." Net interest income is also affected by changes in yields earned on interest-earning assets and rates paid on interest-bearing liabilities, referred to as "rate change." The following table sets forth changes in interest income

for each major category of interest-earning assets and interest expense for each major category of interest-bearing liabilities. The table also reflects the amount of simultaneous changes attributable to both volume and rate changes for the years indicated. For this table, changes that are not solely due to either volume or rate are allocated in proportion to the percentage changes in average volume and average rate.

	2018 compared to 2017			2017 compared to 2016		
	Change due to			Change due to		
(Dollars in thousands)	Volume	Rate	Total	Volume	Rate	Total
Interest income:						
Federal Reserve deposits, federal funds sold, securities purchased under agreements to resell and other short-term investment securities	$ (3,606)	$ 17,309	$ 13,703	$ 3,952	$ 7,483	$ 11,435
Fixed income investment portfolio (taxable)	53,911	75,561	129,472	27,671	37,525	65,196
Fixed income investment portfolio (non-taxable)	35,132	(105)	35,027	6,627	(1,274)	5,353
Loans, net of unearned income	236,981	95,711	332,692	139,416	52,217	191,633
Increase in interest income, net	322,418	188,476	510,894	177,666	95,951	273,617
Interest expense:						
Interest bearing checking and savings accounts	118	11	129	90	(2)	88
Money market deposits	3,634	16,308	19,942	(5)	3,071	3,066
Money market deposits in foreign offices	(5)	(3)	(8)	22	(4)	18
Time deposits	24	28	52	(11)	—	(11)
Sweep deposits in foreign offices	(81)	596	515	(86)	(10)	(96)
Total increase in deposits expense	3,690	16,940	20,630	10	3,055	3,065
Short-term borrowings	13,481	555	14,036	(1,922)	1,378	(544)
3.50% Senior Notes	12	—	12	12	—	12
5.375% Senior Notes	35	—	35	32	—	32
7.0% Junior Subordinated Debentures	(3,096)	—	(3,096)	(106)	(122)	(228)
6.05% Subordinated Notes	(467)	—	(467)	(693)	254	(439)
Total increase (decrease) in borrowings expense	9,965	555	10,520	(2,677)	1,510	(1,167)
Increase (decrease) in interest expense, net	13,655	17,495	31,150	(2,667)	4,565	1,898
Increase in net interest income	$ 308,763	$ 170,981	$ 479,744	$ 180,333	$ 91,386	$ 271,719

Net Interest Income (Fully Taxable Equivalent Basis)

2018 compared to 2017

Net interest income increased by $479.7 million to $1.9 billion in 2018, compared to $1.4 billion in 2017. Overall, the increase in our net interest income was due primarily to both higher average loan and investment portfolio balances as well as higher interest rates.

The main factors affecting interest income and interest expense for 2018, compared to 2017, are discussed below:

- *Interest income* for 2018 increased by $510.9 million primarily due to:
  - A $332.7 million increase in interest income from loans to $1.4 billion in 2018, compared to $1.0 billion in 2017. This increase was reflective of an increase in average loan balances of $4.5 billion and an increase in the overall yield on our loan portfolio of 45 basis points to 5.30 percent from 4.85 percent. Gross loan yields, excluding loan interest recoveries and loan fees, increased by 55 basis points to 4.77 percent from 4.22 percent, reflective of the benefit of interest rate increases, partially offset by the strong growth of our lower yielding private equity/venture capital loan portfolio. Our private equity/venture capital loan portfolio represented 49.5 percent and 42.8 percent of our total gross loan portfolio at December 31, 2018 and 2017, respectively,
  - A $164.5 million increase in interest income from our fixed income investment securities to $585.4 million in 2018, compared to $420.9 million in 2017. The increase was reflective of an increase of $2.4 billion in average fixed income investment balances as a result of strong deposit growth in 2018 and an increase in our fixed income securities yield of 48 basis points to 2.36 percent from 1.88 percent. The increase in our fixed income securities yield was primarily from higher reinvestment yields on maturing fixed income investments as well as higher yields on new purchases due to interest rate increases, and

- A $13.7 million increase in interest income from our Federal Reserve deposits to $35.2 million, compared to $21.5 million in 2017. The increase was due primarily to higher yields as a result of rate increases in 2018.

- *Interest expense* for 2018 increased to $75.9 million, compared to $44.8 million for 2017, primarily due to:
  - A $20.6 million increase in deposits interest expense, due primarily to an increase in interest paid on our interest-bearing money market deposits as a result of market rate adjustments, and
  - A $10.5 million increase in borrowings interest expense, due primarily to an increase in our average short-term borrowings balance during 2018 to fund loan growth as a result of the timing of loan funding and deposit activities. The increase in interest expense from short-term borrowings was partially offset by a decrease in interest expense from long-term debt reflective of the repayment of our 6.05% Subordinated Notes and the redemption of our Junior Subordinated Debentures in 2017.

2017 compared to 2016

Net interest income increased by $271.7 million to $1.4 billion in 2017, compared to $1.2 billion in 2016. Overall, the increase in our net interest income was due primarily to higher average loan balances.

The main factors affecting interest income and interest expense for 2017, compared to 2016, are discussed below:

- *Interest income* for 2017 increased by $273.6 million primarily due to:
  - A $191.6 million increase in interest income from loans to $1.0 billion in 2017, compared to $834.2 million in 2016. This increase was reflective of an increase in average loan balances of $2.9 billion and an increase in the overall yield on our loan portfolio of 29 basis points to 4.85 percent from 4.56 percent. Gross loan yields, excluding loan interest recoveries and loan fees, increased to 4.22 percent from 3.97 percent, reflective of the benefit of interest rate increases, partially offset by the strong growth of our lower yielding private equity/ venture capital and Private Bank loan portfolios. Our private equity/venture capital portfolio represented 42.8 percent and 38.7 percent of our total gross loan portfolio at December 31, 2017 and 2016, respectively. Our Private Bank loan portfolio represented 11.3 percent and 10.8 percent of our total gross loan portfolio at December 31, 2017 and 2016, respectively,
  - A $70.5 million increase in interest income from our fixed income investment securities to $420.9 million in 2017, compared to $350.4 million in 2016. The increase was primarily reflective of an increase in our fixed income investment securities yield of 25 basis points to 1.88 percent from 1.63 percent resulting primarily from higher reinvestment yields on maturing fixed income investments as well as higher yields on new purchases due to interest rate increases. Interest income from our fixed income securities also benefited from an increase of $0.9 billion in average investment security balances as a result of strong deposit growth in 2017, and
  - An $11.4 million increase in interest income from our Federal Reserve deposits to $21.5 million, compared to $10.1 million in 2016. The increase was due primarily to higher yields as a result of rate increases in 2017, as well as higher average interest-earning cash balances in 2017.
- *Interest expense* for 2017 increased to $44.8 million, compared to $42.9 million for 2016, due primarily to:
  - A $3.1 million increase in deposits interest expense, due primarily to an increase in interest paid on our interest- bearing money market deposits as a result of market rate adjustments, and
  - A $1.2 million decrease in borrowings interest expense, due to the repayment of our 6.05% Subordinated Notes and the redemption of our Junior Subordinated Debentures in 2017.

Net Interest Margin (Fully Taxable Equivalent Basis)

Our net interest margin increased by 52 basis points to 3.57 percent in 2018, compared to 3.05 percent in 2017 and 2.72 percent in 2016.

2018 compared to 2017

The increase in our net interest margin in 2018 was reflective primarily of the impact of rising interest rates and the continued shift in the mix of average interest-earning assets towards our higher yielding loan portfolio. For the year ended December 31, 2018, our loan portfolio comprised 48 percent of our average interest-earning assets, an increase from 45 percent for the year ended December 31, 2017.

2017 compared to 2016

The increase in our net interest margin in 2017 was reflective primarily of the impact of rising interest rates and a shift in the mix of average interest-earning assets towards our higher yielding loan portfolio. For the year ended December 31, 2017, our loan portfolio comprised 45 percent of our average interest-earning assets, an increase from 43 percent for the year ended December 31, 2016.

Average Balances, Yields and Rates Paid (Fully Taxable Equivalent Basis)

The average yield earned on interest-earning assets is the amount of fully taxable equivalent interest income expressed as a percentage of average interest-earning assets. The average rate paid on funding sources is the amount of interest expense expressed as a percentage of average funding sources. The following tables set forth average assets, liabilities, noncontrolling interests and SVBFG stockholders' equity, interest income, interest expense, annualized yields and rates, and the composition of our net interest margin in 2018, 2017 and 2016:

Average Balances, Yields and Rates Paid for the Years Ended December 31, 2018, 2017 and 2016

	Year ended December 31,								
	2018			2017			2016		
(Dollars in thousands)	Average Balance	Interest Income/ Expense	Yield/ Rate	Average Balance	Interest Income/ Expense	Yield/ Rate	Average Balance	Interest Income/ Expense	Yield/ Rate
Interest-earning assets:									
Federal Reserve deposits, federal funds sold, securities purchased under agreements to resell and other short-term investment securities (1)	$ 2,820,883	$ 35,208	1.25%	$ 3,109,840	$ 21,505	0.69%	$ 2,538,362	$ 10,070	0.40%
Investment Securities: (2)									
Available-for-sale securities:									
Taxable	9,789,211	185,120	1.89	12,424,137	199,423	1.61	13,331,315	185,981	1.40
Held-to-maturity securities:									
Taxable	13,727,745	356,485	2.60	9,732,869	212,710	2.19	8,130,221	160,956	1.98
Non-taxable (3)	1,270,101	43,817	3.45	251,741	8,790	3.49	61,962	3,437	5.55
Total loans, net of unearned income (4) (5)	25,630,520	1,358,480	5.30	21,159,394	1,025,788	4.85	18,283,591	834,155	4.56
Total interest-earning assets	53,238,460	1,979,110	3.71	46,677,981	1,468,216	3.15	42,345,451	1,194,599	2.82
Cash and due from banks	480,900			374,811			325,415		
Allowance for loan losses	(282,489)			(247,004)			(236,936)		
Other assets (6)	1,792,189			1,574,484			1,553,521		
Total assets	$ 55,229,060			$ 48,380,272			$ 43,987,451		
Funding sources:									
Interest-bearing liabilities:									
Interest bearing checking and savings accounts	$ 583,295	$ 463	0.08%	$ 433,966	$ 334	0.08%	$ 318,381	$ 246	0.08%
Money market deposits	6,609,873	27,713	0.42	5,743,083	7,771	0.14	5,746,892	4,705	0.08
Money market deposits in foreign offices	192,128	76	0.04	203,775	84	0.04	152,388	66	0.04
Time deposits	62,570	111	0.18	48,818	59	0.12	58,071	70	0.12
Sweep deposits in foreign offices	994,360	943	0.09	1,080,306	428	0.04	1,294,109	524	0.04
Total interest-bearing deposits	8,442,226	29,306	0.35	7,509,948	8,676	0.12	7,569,841	5,611	0.07
Short-term borrowings	643,886	14,579	2.26	48,505	543	1.12	220,251	1,087	0.49
3.50% Senior Notes	347,458	12,586	3.62	347,128	12,574	3.62	346,810	12,562	3.62
5.375% Senior Notes	348,480	19,450	5.58	347,862	19,415	5.58	347,277	19,383	5.58
7.0% Junior Subordinated Debentures	—	—	—	52,775	3,096	5.87	54,588	3,324	6.09
6.05% Subordinated Notes	—	—	—	19,178	467	2.44	47,627	906	1.90
Total interest-bearing liabilities	9,782,050	75,921	0.78	8,325,396	44,771	0.54	8,586,394	42,873	0.50
Portion of noninterest-bearing funding sources	43,456,410			38,352,585			33,759,057		
Total funding sources	53,238,460	75,921	0.14	46,677,981	44,771	0.10	42,345,451	42,873	0.10
Noninterest-bearing funding sources:									
Demand deposits	39,633,118			35,235,200			31,189,218		
Other liabilities	937,199			721,432			571,205		
SVBFG stockholders' equity	4,734,417			3,961,405			3,509,526		
Noncontrolling interests	142,276			136,839			131,108		
Portion used to fund interest-earning assets	(43,456,410)			(38,352,585)			(33,759,057)		
Total liabilities and total equity	$ 55,229,060			$ 48,380,272			$ 43,987,451		
Net interest income and margin		$ 1,903,189	3.57%		$ 1,423,445	3.05%		$ 1,151,726	2.72%
Total deposits	$ 48,075,344			$ 42,745,148			$ 38,759,059		
Reconciliation to reported net interest income:									
Adjustments for taxable equivalent basis		(9,201)			(3,076)			(1,203)	
Net interest income, as reported		$ 1,893,988			$ 1,420,369			$ 1,150,523	

(1) Includes average interest-earning deposits in other financial institutions of$0.8 billion, $1.1 billion and $0.7 billion in 2018, 2017 and 2016, respectively. For 2018, 2017 and 2016, balances also include $1.6 billion, $1.9 billion and $1.8 billion, respectively, deposited at the FRB, earning interest at the Federal Funds target rate.
(2) Yields on interest-earning investment securities do not give effect to changes in fair value that are reflected in other comprehensive income.
(3) Interest income on non-taxable investment securities is presented on a fully taxable equivalent basis using the federal statutory income tax rate of 21.0 percent for 2018 and 35.0 percent for 2017 and 2016.
(4) Nonaccrual loans are reflected in the average balances of loans.
(5) Interest income includes loan fees of $136.6 million, $128.1 million and $104.9 million in 2018, 2017 and 2016, respectively.
(6) Average investment securities of $773 million, $683 million, and $786 million in 2018, 2017 and 2016, respectively, were classified as other assets as they were noninterest-earning assets. These investments primarily consisted of non-marketable and other equity securities.

Provision for Credit Losses

The following table summarizes our allowance for loan losses and the allowance for unfunded credit commitments for 2018, 2017 and 2016, respectively:

	Year ended December 31,		
(Dollars in thousands)	**2018**	**2017**	**2016**
Allowance for loan losses, beginning balance	$ 255,024	$ 225,366	$ 217,613
Provision for loan losses (1)	84,292	85,939	95,697
Gross loan charge-offs	(67,917)	(66,682)	(96,857)
Loan recoveries	11,636	8,538	12,212
Foreign currency translation adjustments	(2,132)	1,863	(3,299)
Allowance for loan losses, ending balance	$ 280,903	$ 255,024	$ 225,366
Allowance for unfunded credit commitments, beginning balance	51,770	45,265	34,415
Provision for unfunded credit commitments (1)	3,578	6,365	10,982
Foreign currency translation adjustments	(165)	140	(132)
Allowance for unfunded credit commitments, ending balance (2)	$ 55,183	$ 51,770	$ 45,265
Ratios and other information:			
Provision for loan losses as a percentage of period-end total gross loans	0.30%	0.37%	0.48%
Gross loan charge-offs as a percentage of average total gross loans	0.26	0.31	0.53
Net loan charge-offs as a percentage of average total gross loans	0.22	0.27	0.46
Allowance for loan losses as a percentage of period-end total gross loans	0.99	1.10	1.13
Provision for credit losses (1)	$ 87,870	$ 92,304	$ 106,679
Period-end total gross loans	28,511,312	23,254,153	20,024,662
Average total gross loans	25,790,949	21,287,336	18,396,256

(1) Our consolidated statement of income for the year ended December 31, 2016 was modified from prior period's presentation to conform to the current period presentation, which reflect our provision for loan losses and provision for unfunded credit commitments together as our “provision for credit losses.”
(2) The “allowance for unfunded credit commitments” is included as a component of “Other liabilities.”

The provision for credit losses is the combination of both the provision for loan losses and the provision for unfunded credit commitments. Our provision for loan losses is a function of our reserve methodology, which is used to determine an appropriate allowance for loan losses for the period. Our reserve methodology is based on our evaluation of the existing allowance for loan losses in relation to total gross loans using historical and other objective information, and on our qualitative assessment of the inherent and identified credit risk of the loan portfolio. Our provision for unfunded credit commitments is determined using a methodology that is similar to the methodology used for calculating the allowance for loan losses, adjusted for factors specific to binding commitments, including the probability of funding and exposure at funding. Our provision for credit losses equals our best estimate of probable credit losses that are inherent in the portfolios at the balance sheet date. For a more detailed discussion of credit quality and the allowance for loan losses, see “Critical Accounting Policies and Estimates” above, “Consolidated Financial Condition-Credit Quality and the Allowance for Loan Losses” below and Note 9—“Loans, Allowance for Loan Losses and Allowance for Unfunded Credit Commitments” of the “Notes to the Consolidated Financial Statements” under Part II, Item 8 of this report for further details on our allowance for loan losses.

Provision for Loan Losses

We had a provision for loan losses of $84.3 million in 2018, compared to a provision of $85.9 million in 2017 and a provision of $95.7 million in 2016. The provision for loan losses of $84.3 million in 2018 was reflective primarily of $46.6 million from period-end loan growth, $39.0 million in net new specific reserves for nonaccrual loans and $26.7 million from charge-offs not specifically reserved for, partially offset by a benefit of $20.7 million from overall improved credit quality of our loan portfolio reflective of the increase of our private equity/venture capital loans, which tend to be of higher credit quality.

The provision for loan losses of $85.9 million in 2017 was reflective primarily of $62.7 million in net new specific reserves for nonaccrual loans and $29.1 million from period-end loan growth, partially offset by a benefit from overall improved credit quality of our loan portfolio reflective of the increase of our private equity/venture capital loans, which tend to be of higher credit quality.

The provision for loan losses of $95.7 million in 2016 was reflective primarily of $37.9 million for charge-offs that did not previously have a specific reserve, $30.9 million for specific reserves on new nonaccrual loans, $29.5 million for period-end loan growth of $3.2 billion, partially offset by a $7.9 million decrease due to enhancements to our loan loss reserve methodology during 2016.

Provision for Unfunded Credit Commitments

We recorded a provision for unfunded credit commitments of $3.6 million in 2018, compared to a provision of $6.4 million in 2017 and $11.0 million in 2016. Our provision for unfunded credit commitments in 2018 was driven primarily by increased reserves of $7.9 million from growth in unfunded credit commitments, partially offset by a benefit of $4.7 million from overall improved credit quality of our loan portfolio as mentioned above.

We recorded a provision for unfunded credit commitments of $6.4 million in 2017. Our provision for unfunded credit commitments in 2017 was driven primarily by qualitative allocations based on our loan portfolio being comprised of larger loans and additional reserves as a result of the increase in unfunded credit commitments.

We recorded a provision for unfunded credit commitments of $11.0 million in 2016. Our provision for unfunded credit commitments in 2016 reflected enhancements in factors used to estimate our allowance for unfunded credit commitments. These enhancements increased our allowance for unfunded credit commitments by $8.1 million, net. The increase was primarily due to higher loss and conversion factors for our software and internet and hardware loan portfolios, partially offset by lower loss factors for our private equity/venture capital loan portfolio.

Noninterest Income

For the year ended December 31, 2018, noninterest income was $745.0 million, compared to $557.2 million and $456.6 million for the comparable 2017 and 2016 periods, respectively. For the year ended December 31, 2018, non-GAAP noninterest income, net of noncontrolling interests was $707.0 million, compared to $527.8 million and $448.5 million for the comparable 2017 and 2016 periods, respectively. For the year ended December 31, 2018, non-GAAP core fee income was $515.9 million, compared to $379.0 million and $316.2 million for the comparable 2017 and 2016 periods, respectively. (See reconciliations of non-GAAP measures used below under "Use of Non-GAAP Financial Measures".)

Use of Non-GAAP Financial Measures

To supplement our audited consolidated financial statements presented in accordance with GAAP, we use certain non-GAAP measures of financial performance (including, but not limited to, non-GAAP core fee income, non-GAAP noninterest income and non-GAAP net gains on investment securities). These supplemental performance measures may vary from, and may not be comparable to, similarly titled measures by other companies in our industry. Non-GAAP financial measures are not in accordance with, or an alternative for, GAAP. Generally, a non-GAAP financial measure is a numerical measure of a company's performance that either excludes or includes amounts that are not normally excluded or included in the most directly comparable measure calculated and presented in accordance with GAAP. A non-GAAP financial measure may also be a financial metric that is not required by GAAP or other applicable requirement.

We believe these non-GAAP financial measures, when taken together with the corresponding GAAP financial measures, provide meaningful supplemental information regarding our performance by excluding items that represent income attributable to investors other than us and our subsidiaries and certain other non-recurring items. Our management uses, and believes that investors benefit from referring to, these non-GAAP financial measures in assessing our operating results and when planning, forecasting and analyzing future periods. However, these non-GAAP financial measures should be considered in addition to, and not as a substitute for or preferable to, financial measures prepared in accordance with GAAP.

Included in noninterest income is income and expense attributable to noncontrolling interests. We recognize, as part of our investment funds management business through SVB Capital, the entire income or loss from funds consolidated in accordance with ASC Topic 810 as discussed in Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report. We are required under GAAP to consolidate 100% of the results of

these entities, even though we may own less than 100% of such entities. The relevant amounts attributable to investors other than us are reflected under "Net Income Attributable to Noncontrolling Interests" on our statements of income. Where applicable, the tables below for noninterest income and net gains on investment securities exclude noncontrolling interests.

Core fee income is a non-GAAP financial measure, which represents GAAP noninterest income, but excludes certain line items where performance is typically subject to market or other conditions beyond our control, primarily our net gains (losses) on investment securities and equity warrant assets. Core fee income includes foreign exchange fees, credit card fees, deposit service charges, lending related fees, client investment fees and letters of credit fees.

The following table provides a reconciliation of GAAP noninterest income to non-GAAP noninterest income, net of noncontrolling interests for 2018, 2017 and 2016, respectively:

	Year ended December 31,				
(Dollars in thousands)	2018	2017	% Change 2018/2017	2016	% Change 2017/2016
GAAP noninterest income	$ 744,984	$ 557,231	33.7%	$ 456,552	22.1%
Less: income attributable to noncontrolling interests, including carried interest allocation	38,000	29,452	29.0	8,039	NM
Non-GAAP noninterest income, net of noncontrolling interests	$ 706,984	$ 527,779	34.0	$ 448,513	17.7

NM—Not meaningful

The following table provides a reconciliation of GAAP noninterest income to non-GAAP core fee income for 2018, 2017 and 2016, respectively:

	Year ended December 31,				
(Dollars in thousands)	2018	2017	% Change 2018/2017	2016	% Change 2017/2016
GAAP noninterest income	$ 744,984	$ 557,231	33.7 %	$ 456,552	22.1%
Less: gains on investment securities, net	88,094	64,603	36.4	51,740	24.9
Less: gains on equity warrant assets, net	89,142	54,555	63.4	37,892	44.0
Less: other noninterest income	51,858	59,110	(12.3)	50,750	16.5
Non-GAAP core fee income (1)	$ 515,890	$ 378,963	36.1	$ 316,170	19.9

(1) Non-GAAP core fee income represents noninterest income, but excludes certain line items where performance is typically subject to market or other conditions beyond our control and includes foreign exchange fees, credit card fees, deposit service charges, lending related fees, client investment fees and letters of credit fees.

Gains on Investment Securities, Net

Net gains on investment securities include gains and losses from our non-marketable and other equity securities, which include public equity securities held as a result of exercised equity warrant assets, as well as gains and losses from sales of our AFS debt securities portfolio, when applicable.

Our non-marketable and other equity securities portfolio primarily represents investments in venture capital and private equity funds, SPD Silicon Valley Bank Co., Ltd. (the Bank's joint venture bank in China ("SPD-SVB")), debt funds, private and public portfolio companies and investments in qualified affordable housing projects. We experience variability in the performance of our non-marketable and other equity securities from period to period, which results in net gains or losses on investment securities (both realized and unrealized). This variability is due to a number of factors, including unrealized changes in the values of our investments, changes in the amount of realized gains and losses from distributions, changes in liquidity events and general economic and market conditions. Unrealized gains or losses from non-marketable and other equity securities for any single period are typically driven by valuation changes, and are therefore subject to potential increases or decreases in future periods. Such variability may lead to volatility in the gains or losses from investment securities. As such, our results for a particular period are not necessarily indicative of our expected performance in a future period.

The extent to which any unrealized gains or losses will become realized is subject to a variety of factors, including, among other things, the expiration of certain sales restrictions to which these equity securities may be subject to (e.g. lock-up agreements), changes in prevailing market prices, market conditions, the actual sales or distributions of securities, and the timing

of such actual sales or distributions, which, to the extent such securities are managed by our managed funds, are subject to our funds' separate discretionary sales/distributions and governance processes.

Our AFS securities portfolio is a fixed income investment portfolio that is managed with the objective of earning an appropriate portfolio yield over the long-term while maintaining sufficient liquidity and credit diversification as well as addressing our asset/liability management objectives. Though infrequent, sales of debt securities in our AFS securities portfolio may result in net gains or losses and are conducted pursuant to the guidelines of our investment policy related to the management of our liquidity position and interest rate risk.

In 2018, we had net gains on investment securities of $88.1 million, compared to $64.6 million and $51.7 million in 2017 and 2016, respectively. Non-GAAP net gains on investment securities, net of noncontrolling interests were $49.9 million in 2018, compared to $35.4 million and $43.4 million in 2017 and 2016, respectively. Net gains on investment securities, net of noncontrolling interests of $49.9 million in 2018 were driven by the following:

- Gains of $39.9 million from our strategic and other investments portfolio, primarily driven by net unrealized valuation increases in both private and public company investments held in our strategic venture capital funds,
- Gains of $29.1 million from our managed funds of funds portfolio, related primarily to net unrealized valuation increases in both private and public company investments held by the funds in the portfolio, and
- Losses of $25.2 million from our public equity securities portfolio primarily reflective of net losses on sales of shares of Roku, Inc. ("Roku"), from exercised warrants in 2017, which were sold in the first quarter of 2018.

In 2017, we had net gains on investment securities of $64.6 million, compared to $51.7 million in 2016. Non-GAAP net gains on investment securities, net of noncontrolling interests were $35.4 million in 2017, compared to $43.4 million in 2016. Net gains on investment securities, net of noncontrolling interests of $35.4 million in 2017 were driven by the following:

- Gains of $17.9 million from our strategic and other investments portfolio, primarily driven by distribution gains from our strategic venture capital fund investments and $3.4 million related to the sale of certain shares relating to one of our direct equity investments,
- Gains of $13.0 million from our managed funds of funds portfolio, related primarily to net unrealized valuation increases in the investments held by the funds driven by IPO, M&A and private equity-backed financing activity,
- Gains of $9.0 million from our debt funds portfolio, related to net unrealized valuation increases in the investments held by the funds primarily driven by gains of $9.5 million related to the fund's holdings of Roku, which had an IPO during the third quarter of 2017, and
- Losses of $5.2 million from our AFS securities portfolio primarily reflective of $8.8 million of net losses on the sale of approximately $0.6 billion of mortgage-backed securities during the fourth quarter of 2017, partially offset by net gains on sales of shares from exercised warrants in public companies upon expiration of lock-up periods during the quarter.

The following table provides a reconciliation of GAAP total gains (losses) on investment securities, net, to non-GAAP net gains (losses) on investment securities, net of noncontrolling interests, for 2018, 2017 and 2016:

(Dollars in thousands)	Managed Funds of Funds	Managed Direct Venture Funds	Public Equity Securities (1)	Debt Funds	Sales of AFS Securities (1)	Strategic and Other Investments	Total
Year ended December 31, 2018							
GAAP gains (losses) on investment securities, net	$ 62,019	$ 11,502	$ (25,158)	$ 541	$ (740)	$ 39,930	$ 88,094
Less: gains attributable to noncontrolling interests, including carried interest allocation	32,938	5,245	—	—	—	—	38,183
Non-GAAP net gains (losses) on investment securities, net of noncontrolling interests	$ 29,081	$ 6,257	$ (25,158)	$ 541	$ (740)	$ 39,930	$ 49,911
Year ended December 31, 2017							
GAAP gains (losses) on investment securities, net	$ 41,140	$ 1,823	$ —	$ 8,950	$ (5,189)	$ 17,879	$ 64,603
Less: gains attributable to noncontrolling interests, including carried interest allocation	28,108	1,079	—	—	—	—	29,187
Non-GAAP net gains (losses) on investment securities, net of noncontrolling interests	$ 13,032	$ 744	$ —	$ 8,950	$ (5,189)	$ 17,879	$ 35,416
Year ended December 31, 2016							
GAAP gains (losses) on investment securities, net	$ 10,139	$ (171)	$ —	$ 948	$ 12,195	$ 28,629	$ 51,740
Less: gains attributable to noncontrolling interests, including carried interest allocation	8,220	92	—	—	—	—	8,312
Non-GAAP net gains (losses) on investment securities, net of noncontrolling interests	$ 1,919	$ (263)	$ —	$ 948	$ 12,195	$ 28,629	$ 43,428

(1) Effective January 1, 2018, we adopted Accounting Standards Update ("ASU") 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities, resulting in the reclassification of public equity securities out of our AFS securities portfolio into our non-marketable and other equity securities portfolio. This guidance was adopted using the modified retrospective method with a cumulative adjustment to opening retained earnings. As such, prior period amounts have not been restated.

Gains on Equity Warrant Assets, Net

Gains on equity warrant assets, net, were $89.1 million in 2018, compared to $54.6 million in 2017 and $37.9 million in 2016. Net gains on equity warrant assets of $89.1 million in 2018 were primarily due to the following:

- Net gains on $58.2 million from the exercises of equity warrant assets in 2018, compared to net gains of $48.3 million in 2017, driven by increased M&A and IPO activity during 2018, and
- Net gains of $36.9 million from changes in warrant valuations in 2018, compared to net gains of $10.7 million in 2017, driven by valuation increases in our private company warrant portfolio and reflective of increased M&A activity during 2018.

Gains on equity warrant assets, net, of $54.6 million in 2017 were primarily due to the following:

- Net gains on $48.3 million from the exercises of equity warrant assets in 2017, compared to net gains of $31.2 million in 2016, driven by net gains of $20.7 million from Roku warrants and from increased M&A and IPO activity during 2017, and
- Net gains of $10.7 million from changes in warrant valuations in 2017, compared to net gains of $9.7 million in 2016, driven by changes in valuations from our private company warrant portfolio during 2017.

A summary of gains on equity warrant assets, net, for 2018, 2017 and 2016 is as follows:

	Year ended December 31,				
(Dollars in thousands)	2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Equity warrant assets (1):					
Gains on exercises, net	$ 58,186	$ 48,275	20.5%	$ 31,197	54.7%
Terminations	(5,964)	(4,422)	34.9	(3,015)	46.7
Changes in fair value, net	36,920	10,702	NM	9,710	10.2
Total gains on equity warrant assets, net	$ 89,142	$ 54,555	63.4	$ 37,892	44.0

NM—Not meaningful

(1) At December 31, 2018, we held warrants in 2,095 companies, compared to 1,868 companies at December 31, 2017 and 1,739 companies at December 31, 2016. The total value of our warrant portfolio was $149.2 million at December 31, 2018, $123.8 million at December 31, 2017, and $131.1 million at December 31, 2016. Warrants in 18 companies each had fair values greater than $1.0 million and collectively represented $46.9 million, or 31.4 percent, of the fair value of the total warrant portfolio at December 31, 2018.

Non-GAAP Core Fee Income

	Year ended December 31,				
(Dollars in thousands)	**2018**	**2017**	**% Change 2018/2017**	**2016**	**% Change 2017/2016**
Non-GAAP core fee income (1):					
Foreign exchange fees	$ 138,812	$ 115,760	19.9 %	$ 104,183	11.1%
Credit card fees	94,072	76,543	22.9	68,205	12.2
Deposit service charges	76,097	58,715	29.6	52,524	11.8
Client investment fees	130,360	56,136	132.2	32,219	74.2
Lending related fees	41,949	43,265	(3.0)	33,395	29.6
Letters of credit and standby letters of credit fees	34,600	28,544	21.2	25,644	11.3
Total non-GAAP core fee income (1)	$ 515,890	$ 378,963	36.1	$ 316,170	19.9

(1) This non-GAAP measure represents noninterest income, but excludes certain line items where performance is typically subject to market or other conditions beyond our control. See "Use of Non-GAAP Measures" above.

Foreign Exchange Fees

Foreign exchange fees were $138.8 million in 2018, compared to $115.8 million and $104.2 million in 2017 and 2016, respectively. The increases in foreign exchange fees were due primarily to increased trade volumes driven by the continuing increase in the number of clients actively managing currency exposure.

	Year ended December 31,				
(Dollars in thousands)	**2018**	**2017**	**% Change 2018/2017**	**2016**	**% Change 2017/2016**
Foreign exchange fees by instrument type:					
Spot contract commissions	$ 127,459	$ 104,344	22.2 %	$ 89,354	16.8 %
Forward contract commissions	10,940	10,934	0.1	14,004	(21.9)
Option premium fees	413	482	(14.3)	825	(41.6)
Total foreign exchange fees	$ 138,812	$ 115,760	19.9	$ 104,183	11.1

Credit Card Fees

Credit card fees were $94.1 million in 2018, compared to $76.5 million and $68.2 million in 2017 and 2016, respectively. The increases reflect increased client utilization of our credit card products and custom payment solutions provided to new and existing clients. The increase in client utilization reflects initiatives implemented in 2018, which included the simplification of our business credit card and multi-card product offerings and the automation of certain of our credit card processes. The increase in gross revenue generated was partially offset by higher rebate/rewards expense.

(Dollars in thousands)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Credit card fees by instrument type:					
Card interchange fees, net	$ 74,381	$ 60,224	23.5%	$ 51,513	16.9 %
Merchant service fees	14,420	11,584	24.5	12,783	(9.4)
Card service fees	5,271	4,735	11.3	3,909	21.1
Total credit card fees	$ 94,072	$ 76,543	22.9	$ 68,205	12.2

Deposit Service Charges

Deposit service charges were $76.1 million in 2018, compared to $58.7 million and $52.5 million in 2017 and 2016, respectively. The increase in deposit service charges was attributable to the increase in the number of deposit clients as well as increases in transaction volumes from existing clients and was reflective of the introduction of new product solutions in 2018 as well as enhanced product pricing.

Client Investment Fees

We offer a variety of investment products on which we earn fees. These products include money market mutual funds, overnight repurchase agreements and sweep money market funds available through the Bank, client-directed accounts offered through SVB Securities, our broker dealer subsidiary, and fixed income management services offered through SVB Asset Management and SVB Wealth Advisory, our investment advisory subsidiaries.

Client investment fees were $130.4 million in 2018, compared to $56.1 million and $32.2 million in 2017 and 2016, respectively. The increases were reflective primarily of the large increase in average client investment funds of $23.5 billion and $8.2 billion in 2018 and 2017, respectively, driven by our clients' increased utilization of our off-balance sheet sweep money market funds and products managed by SVB Asset Management. Client investment fees in 2018 also benefited from improved spreads on our client investment funds due to increases in general market rates and the reintroduction of fees, associated with our repurchase agreement program, which had been previously waived due to the low rate environment.

(Dollars in thousands)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Client investment fees by type:					
Sweep money market fees	$ 75,654	$ 28,485	165.6%	$ 15,147	88.1%
Asset management fees	23,882	16,831	41.9	15,389	9.4
Repurchase agreement fees	30,824	10,820	184.9	1,683	NM
Total client investment fees	$ 130,360	$ 56,136	132.2	$ 32,219	74.2

NM—Not meaningful

The following table summarizes average client investment funds for 2018, 2017 and 2016:

(Dollars in millions)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Sweep money market funds	$ 32,232	$ 19,718	63.5%	$ 15,122	30.4 %
Client investment assets under management (1)	34,754	25,417	36.7	21,287	19.4
Repurchase agreements	8,086	6,390	26.5	6,948	(8.0)
Total average client investment funds (2)	$ 75,072	$ 51,525	45.7	$ 43,357	18.8

(1) These funds represent investments in third-party money market mutual funds and fixed income securities managed by SVB Asset Management.
(2) Client investment funds are maintained at third-party financial institutions and are not recorded on our balance sheet.

The following table summarizes period-end client investment funds at December 31, 2018, 2017 and 2016:

(Dollars in millions)	December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Sweep money market funds	$ 38,348	$ 23,911	60.4%	$ 17,173	39.2%
Client investment assets under management (1)	39,214	29,344	33.6	23,115	26.9
Repurchase agreements	8,422	7,074	19.1	5,510	28.4
Total period-end client investment funds (2)	$ 85,984	$ 60,329	42.5	$ 45,798	31.7

(1) These funds represent investments in third-party money market mutual funds and fixed income securities managed by SVB Asset Management.
(2) Client investment funds are maintained at third-party financial institutions and are not recorded on our balance sheet.

Lending Related Fees

Lending related fees were $41.9 million in 2018, compared to $43.3 million and $33.4 million in 2017 and 2016, respectively. The decrease in 2018 compared to 2017 was due primarily to an adjustment of $4.5 million, to increase unused commitment fees during 2017, related to fees earned in prior periods from unused lines of credit. Unused loan commitments were $16.7 billion at December 31, 2018, compared to $15.5 billion at December 31, 2017 and $15.0 billion at December 31, 2016.

(Dollars in thousands)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Lending related fees by instrument type:					
Unused commitment fees	$ 32,452	$ 34,110	(4.9)%	$ 25,654	33.0%
Other	9,497	9,155	3.7	7,741	18.3
Total lending related fees	$ 41,949	$ 43,265	(3.0)	$ 33,395	29.6

Letters of Credit and Standby Letters of Credit Fees

Letters of credit and standby letters of credit fees were $34.6 million in 2018, compared to $28.5 million and $25.6 million in 2017 and 2016, respectively. The increases were primarily reflective of larger standby letter of credit issuances with our Private Equity/Venture Capital and Corporate Finance clients as leading contributors in 2018. Additionally, we saw higher transaction counts and standby letter of credit renewals in 2018.

Other Noninterest Income

Total other noninterest income was $51.9 million in 2018, compared to income of $59.1 million in 2017 and $50.8 million in 2016. The decrease of $7.2 million in other noninterest income in 2018 was primarily due to a decrease of $5.2 million in service-based fees and other noninterest income reflective of the sale of our equity valuation services business during 2017.

The increase in total other noninterest income of $8.3 million in 2017 compared to 2016 was due to the following:

- Higher fund management fees of $21.2 million, as compared to fees of $19.2 million for the comparable 2016 period, attributable primarily to the addition of new managed funds at SVB Capital,
- An increase of $6.7 million from correspondent bank rebate income and FHLB/FRB stock dividend income, and
- Service-based fee income decreased $4.1 million during 2017 as compared to 2016 primarily due to the sale of our equity valuation services business during 2017.

A summary of other noninterest income for 2018, 2017 and 2016 is as follows:

(Dollars in thousands)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Fund management fees	$ 23,016	$ 21,214	8.5 %	$ 19,195	10.5 %
Net gains (losses) on revaluation of foreign currency instruments, net of foreign exchange forward contracts (1)	666	1,788	(62.8)	(1,999)	(189.4)
Other service revenue	28,176	36,108	(22.0)	33,554	7.6
Total other noninterest income	$ 51,858	$ 59,110	(12.3)	$ 50,750	16.5

(1) Represents the net revaluation of client and internal foreign currency denominated financial instruments. We enter into foreign exchange forward contracts to economically reduce our foreign exchange exposure related to client and internal foreign currency denominated financial instruments.

Noninterest Expense

A summary of noninterest expense for 2018, 2017 and 2016 is as follows:

(Dollars in thousands)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Compensation and benefits	$ 726,980	$ 606,402	19.9 %	$ 514,270	17.9%
Professional services	158,835	121,935	30.3	94,982	28.4
Premises and equipment	77,918	71,753	8.6	65,502	9.5
Net occupancy	54,753	48,397	13.1	39,928	21.2
Business development and travel	48,180	41,978	14.8	40,130	4.6
FDIC and state assessments	34,276	35,069	(2.3)	30,285	15.8
Correspondent bank fees	13,713	12,976	5.7	12,457	4.2
Other	73,538	72,145	1.9	62,243	15.9
Total noninterest expense (1)	$ 1,188,193	$ 1,010,655	17.6	$ 859,797	17.5

(1) Our consolidated statement of income for the year ended December 31, 2016 was modified from prior period's presentation to conform to the current period presentation, which reflect our provision for loan losses and provision for unfunded credit commitments together as our “provision for credit losses.” In prior periods, our provision for unfunded credit commitments were reported separately as a component of noninterest expense.

Included in noninterest expense is expense attributable to noncontrolling interests. See below for a description and reconciliation of non-GAAP noninterest expense and non-GAAP operating efficiency ratio, both of which exclude noncontrolling interests.

Non-GAAP Noninterest Expense

We use and report non-GAAP noninterest expense, non-GAAP taxable equivalent revenue and non-GAAP operating efficiency ratio, which excludes noncontrolling interests. We believe these non-GAAP financial measures, when taken together with the corresponding GAAP financial measures, provide meaningful supplemental information regarding our performance by: (i) excluding certain items that represent expenses attributable to investors other than us and our subsidiaries, or certain items that do not occur every reporting period; or (ii) providing additional information used by management that is not otherwise required by GAAP or other applicable requirements. Our management uses, and believes that investors benefit from referring to, these non-GAAP financial measures in assessing our operating results and when planning, forecasting and analyzing future periods. However, these non-GAAP financial measures should be considered in addition to, not as a substitute for or preferable to, financial measures prepared in accordance with GAAP.

The table below provides a summary of non-GAAP noninterest expense and non-GAAP operating efficiency ratio, both net of noncontrolling interests:

Non-GAAP operating efficiency ratio, net of noncontrolling interests (Dollars in thousands, except ratios)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
GAAP noninterest expense	$ 1,188,193	$ 1,010,655	17.6 %	$ 859,797	17.5 %
Less: expense attributable to noncontrolling interests	522	813	(35.8)	524	55.2
Non-GAAP noninterest expense, net of noncontrolling interests	$ 1,187,671	$ 1,009,842	17.6	$ 859,273	17.5
GAAP net interest income	$ 1,893,988	$ 1,420,369	33.3	$ 1,150,523	23.5
Adjustments for taxable equivalent basis	9,201	3,076	199.1	1,203	155.7
Non-GAAP taxable equivalent net interest income	$ 1,903,189	$ 1,423,445	33.7	$ 1,151,726	23.6
Less: net interest income attributable to noncontrolling interests	30	33	(9.1)	66	(50.0)
Non-GAAP taxable equivalent net interest income, net of noncontrolling interests	$ 1,903,159	$ 1,423,412	33.7	$ 1,151,660	23.6
GAAP noninterest income	$ 744,984	$ 557,231	33.7	$ 456,552	22.1
Less: income attributable to noncontrolling interests	38,000	29,452	29.0	8,039	NM
Non-GAAP noninterest income, net of noncontrolling interests	$ 706,984	$ 527,779	34.0	$ 448,513	17.7
GAAP total revenue	$ 2,638,972	$ 1,977,600	33.4	$ 1,607,075	23.1
Non-GAAP taxable equivalent revenue, net of noncontrolling interests	$ 2,610,143	$ 1,951,191	33.8	$ 1,600,173	21.9
GAAP operating efficiency ratio	45.02%	51.11%	(11.9)	53.50%	(4.5)
Non-GAAP operating efficiency ratio (1)	45.50	51.76	(12.1)	53.70	(3.6)

NM—Not meaningful

(1) The non-GAAP operating efficiency ratio is calculated by dividing non-GAAP noninterest expense, net of noncontrolling interests, by non-GAAP total taxable equivalent revenue, net of noncontrolling interests.

The table below provides a summary of non-GAAP core operating efficiency ratio, which excludes certain financial items where performance is typically subject to market or other conditions beyond our control:

Non-GAAP core operating efficiency ratio (Dollars in thousands, except ratios)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
GAAP noninterest expense	$ 1,188,193	$ 1,010,655	17.6 %	$ 859,797	17.5 %
GAAP net interest income	$ 1,893,988	$ 1,420,369	33.3	$ 1,150,523	23.5
GAAP noninterest income	$ 744,984	$ 557,231	33.7	$ 456,552	22.1
Less: gains on investment securities, net	88,094	64,603	36.4	51,740	24.9
Less: net gains on equity warrant assets	89,142	54,555	63.4	37,892	44.0
Non-GAAP noninterest income, net of gains on investment securities and equity warrant assets	$ 567,748	$ 438,073	29.6	$ 366,920	19.4
GAAP total revenue	$ 2,638,972	$ 1,977,600	33.4	$ 1,607,075	23.1
Non-GAAP total revenue, net of gains on investment securities and equity warrant assets	$ 2,461,736	$ 1,858,442	32.5	$ 1,517,443	22.5
GAAP operating efficiency ratio	45.02%	51.11%	(11.9)	53.50%	(4.5)
Non-GAAP, core operating efficiency ratio (1)	48.27	54.38	(11.2)	56.66	(4.0)

(1) The non-GAAP core operating efficiency ratio is calculated by dividing noninterest expense by total revenue, after adjusting for gains and losses on investment securities and equity warrant assets.

Compensation and Benefits Expense

The following table provides a summary of our compensation and benefits expense:

(Dollars in thousands, except employees)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Compensation and benefits:					
Salaries and wages	$ 324,971	$ 277,148	17.3%	$ 244,470	13.4%
Incentive compensation	200,871	144,626	38.9	119,589	20.9
ESOP	6,435	4,720	36.3	3,159	49.4
Other employee incentives and benefits (1)	194,703	179,908	8.2	147,052	22.3
Total compensation and benefits	$ 726,980	$ 606,402	19.9	$ 514,270	17.9
Period-end full-time equivalent employees	2,900	2,438	18.9	2,311	5.5
Average full-time equivalent employees	2,685	2,396	12.1	2,225	7.7

(1) Other employee incentives and benefits includes employer payroll taxes, group health and life insurance, share-based compensation, 401(k), warrant incentive and retention plans, agency fees and other employee-related expenses.

Compensation and benefits expense was $727.0 million in 2018, compared to $606.4 million in 2017 and $514.3 million in 2016. The key factors driving the increase in compensation and benefits expense in 2018 were as follows:

- An increase of $56.3 million in incentive compensation expense due primarily to our strong 2018 full-year performance and reflective of our improved ROE relative to our peers, which is one of our key plan performance metrics,
- An increase of $47.8 million in salaries and wages expense, reflective primarily of an increase in the number of average FTEs by 289 to 2,685 in 2018, compared to 2,396 in 2017, and annual pay raises. The increase in headcount was primarily to support our overall growth, and
- An increase of $14.8 million in other employee compensation and benefits, related to various expenses, particularly share-based compensation reflective of the increase in our stock price as well as employer payroll taxes and group health and life insurance reflective of our increased headcount in 2018. These increases were partially offset by a decrease in our warrant incentive plan expense in 2018 compared to 2017 primarily reflective of our exercise of Roku equity warrants in the fourth quarter of 2017 which resulted in a large accrual of warrant incentive compensation expense in 2017 and subsequent decline of Roku's common stock price, which was sold in 2018, resulting in a lower warrant incentive payout than previously accrued for.

The increase in compensation and benefits expense of $92.1 million in 2017, as compared to 2016, was due primarily to the following:

- An increase of $32.9 million in other employee compensation and benefits, related to various expenses, particularly personnel contracting expenses, to support our growth both domestically and globally, as well as group health and life insurance and employer payroll taxes reflective of our increased headcount since 2016. The increase in other employee incentives and benefits also includes an increase of $10.4 million in warrant incentive plan expenses reflective of our 2017 equity warrant portfolio performance,
- An increase of $32.7 million in salaries and wages expense, reflective primarily of an increase in the number of average FTEs by 171 to 2,396 in 2017, compared to 2,225 in 2016, and annual pay raises. The increase in headcount was primarily to support our overall growth, and
- An increase of $26.6 million in expenses related to incentive compensation plans and ESOP expense due to our strong 2017 full-year performance and reflective of our improved ROE relative to our peers, which is one of our key plan performance metrics.

Our variable compensation plans primarily consist of our Incentive Compensation Plan, Direct Drive Incentive Compensation Plan, 401(k) and ESOP Plan, Retention Program and Warrant Incentive Plan. Total costs incurred under these plans were $239.2 million in 2018, compared to $183.9 million in 2017 and $145.3 million in 2016. These amounts are included in total compensation and benefits expense discussed above.

Professional Services

Professional services expense was $158.8 million in 2018, compared to $121.9 million in 2017 and $95.0 million in 2016. The increase in 2018 was primarily related to enhancements in our regulatory, risk management and compliance infrastructure to support our growth both domestically and globally, as well as investments made in projects, systems and technology to support our revenue growth and related initiatives and other operating costs. Additionally, we incurred $8.8 million of legal and consulting fees in 2018 associated with the acquisition of SVB Leerink.

Premises and Equipment

Premises and equipment expense was $77.9 million in 2018, compared to $71.8 million in 2017 and $65.5 million in 2016. The increase related to investments in projects, systems and technology to support our revenue growth and related initiatives as well as other operating costs.

Net Occupancy

Net occupancy expense was $54.8 million in 2018, compared to $48.4 million in 2017 and $39.9 million in 2016. The increase was primarily due to lease renewals at higher costs, reflective of market conditions, and the expansion of certain offices to support our growth.

FDIC and State Assessments

FDIC and state assessments expense was $34.3 million in 2018, compared to $35.1 million in 2017 and $30.3 million in 2016. The decrease in FDIC and state assessments expense in 2018 was due primarily to the elimination of the FDIC surcharge for banks effective October 1, 2018, reflective of the deposit insurance fund reserve ratio reaching its minimum funding requirements.

Other Noninterest Expense

A summary of other noninterest expense for 2018, 2017 and 2016 is as follows:

	Year ended December 31,				
(Dollars in thousands)	2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Lending and other client related processing costs	$ 24,237	$ 23,768	2.0 %	$ 19,867	19.6 %
Telephone	9,404	10,647	(11.7)	9,793	8.7
Data processing services	10,811	10,251	5.5	9,014	13.7
Dues and publications	4,605	3,263	41.1	2,828	15.4
Postage and supplies	2,799	2,797	0.1	2,851	(1.9)
Other	21,682	21,419	1.2	17,890	19.7
Total other noninterest expense	$ 73,538	$ 72,145	1.9	$ 62,243	15.9

Net Income Attributable to Noncontrolling Interests

Included in net income is income and expense attributable to noncontrolling interests. The relevant amounts allocated to investors in our consolidated subsidiaries, other than us, are reflected under “net income attributable to noncontrolling interests” on our consolidated statements of income.

In the table below, noninterest income consists primarily of investment gains and losses from our consolidated funds. Noninterest expense is primarily related to management fees paid by our managed funds to SVB Financial's subsidiaries as the managed funds’ general partners. A summary of net income attributable to noncontrolling interests for 2018, 2017 and 2016 is as follows:

(Dollars in thousands)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Net interest income (1)	$ (30)	$ (33)	(9.1)%	$ (66)	(50.0)%
Noninterest income (1)	(22,342)	(25,789)	(13.4)	(5,434)	NM
Noninterest expense (1)	522	813	(35.8)	524	55.2
Carried interest allocation (2)	(15,658)	(3,663)	NM	(2,605)	40.6
Net income attributable to noncontrolling interests	$ (37,508)	$ (28,672)	30.8	$ (7,581)	NM

NM—Not meaningful
(1) Represents noncontrolling interests' share in net interest income, noninterest income and noninterest expense.
(2) Represents the preferred allocation of income (or change in income) earned by us as the general partner of certain consolidated funds.

Net income attributable to noncontrolling interests was $37.5 million in 2018, compared to $28.7 million in 2017. Net income attributable to noncontrolling interests of $37.5 million for 2018 was primarily a result of the following:

- Net gains on investment securities (including carried interest allocation) attributable to noncontrolling interests of $38.2 million ($22.5 million excluding carried interest allocation) primarily from our managed funds of funds portfolio, related primarily to net unrealized valuation increases in both private and public company investments held by the funds in the portfolio, and
- Noninterest expense of $0.5 million, primarily related to management fees paid by the noncontrolling interests to our subsidiaries that serve as the general partner.

Net income attributable to noncontrolling interests was $28.7 million in 2017, compared to $7.6 million in 2016. Net income attributable to noncontrolling interests of $28.7 million for 2017 was primarily a result of the following:

- Net gains on investment securities (including carried interest allocation) attributable to noncontrolling interests of $29.2 million ($25.5 million excluding carried interest allocation) primarily driven by gains in our managed funds of funds portfolio due to unrealized valuation increases driven by IPO, M&A and private equity-backed financing activity, and
- Noninterest expense of $0.8 million, primarily related to management fees paid by the noncontrolling interests to our subsidiaries that serve as the general partner.

Income Taxes

On December 22, 2017, the H.R.1, known as the Tax Cuts and Jobs Act (the "TCJ Act"), was signed into law. The TCJ Act amends the Internal Revenue Code to, among other things, reduce tax rates, and make changes to credits and deductions for individuals and businesses. For businesses, the TCJ Act permanently lowers the federal corporate tax rate to 21.0 percent from the existing maximum rate of 35.0 percent, effective for tax years including or commencing January 1, 2018.

The Company has also considered the provisions of the TCJ Act related to non-U.S. operations which would potentially impact the Company's income tax provision. Such provisions include the one-time transition tax ("TT") on foreign earnings and the new base erosion anti-avoidance tax ("BEAT"). Based on analyses performed by the Company as of December 31, 2018, the impact of both of these provisions continue to have an immaterial impact on the Company's income tax provision.

Our effective income tax expense rate was 26.5 percent in 2018, compared to 42.0 percent in 2017 and 39.5 percent in 2016. Our effective tax rate is calculated by dividing income tax expense by the sum of income before income tax expense and the net income attributable to noncontrolling interests. The components of our effective tax rates for 2018, 2017 and 2016 are discussed in Note 16—"Income Taxes" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

The reduction in our effective tax rate for 2018 was primarily due to the lower Federal corporate tax rate as a result of the TCJ Act effective January 1, 2018. The effective tax rate for each of 2018 and 2017 included the recognition of tax benefits of $18.0 million due to the adoption of ASU 2016-09.

The increase in our effective tax rate for 2017 was due primarily to one-time increases to tax expense of $33.8 million related to the revaluation of our deferred tax assets and $3.8 million related to investments in low income housing tax credit funds, incorporating the new federal tax rate related to the TCJ Act. The effective tax rate for the 2017 year also included the recognition of a tax benefit of $18.0 million due to the adoption and implementation of ASU 2016-09, Improvements to Employee

Share-Based Payment Accounting, in the first quarter of 2017. ASU 2016-09 requires tax impacts from employee share-based transactions to be recognized in the provision for income taxes rather than additional paid-in-capital in stockholders' equity required under the previous guidance.

Operating Segment Results

We have three segments for which we report our financial information: Global Commercial Bank ("GCB"), SVB Private Bank and SVB Capital.

We report segment information based on the "management" approach. The management approach designates the internal reporting used by management for making decisions and assessing performance as the source of our reporting segments. Refer to Note 22—"Segment Reporting" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

The following is our reportable segment information for 2018, 2017 and 2016:

Global Commercial Bank

	Year ended December 31,				
(Dollars in thousands)	2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Net interest income	$ 1,623,488	$ 1,274,366	27.4 %	$ 1,040,712	22.5 %
Provision for credit losses	(80,953)	(81,553)	(0.7)	(93,885)	(13.1)
Noninterest income	444,647	363,759	22.2	318,366	14.3
Noninterest expense	(793,159)	(707,666)	12.1	(630,655)	12.2
Income before income tax expense	$ 1,194,023	$ 848,906	40.7	$ 634,538	33.8
Total average loans, net of unearned income	$ 22,354,305	$ 18,479,793	21.0	$ 16,047,545	15.2
Total average assets	53,012,381	46,302,350	14.5	41,495,332	11.6
Total average deposits	46,039,570	41,043,731	12.2	37,301,483	10.0

Income before income tax expense from our GCB increased to $1.2 billion in 2018, compared to $848.9 million in 2017 and $634.5 million in 2016, which reflected the continued growth of our core commercial business and clients. The key components of GCB's performance are discussed below:

2018 compared to 2017

Net interest income from GCB increased by $349.1 million in 2018, due primarily to an increase in loan interest income resulting from an increase in average loan balances and higher loan yields as well as an increase in FTP earned for an increase in average deposits.

Noninterest income increased by $80.9 million in 2018, related primarily to an increase in our core fees (higher client investment fees, foreign exchange fees, credit card fees and deposit service charges). The increase in client investment fees was due to higher client investment fund balances as well as from improved spreads on our client investment funds due to increases in general market rates. The increase in foreign exchange fees was due primarily to an increase in our client count as well as volume related to increased client engagement. The increase in credit card fees was primarily reflective of increased client utilization of our credit card products and custom payment solutions provided to new and existing clients, partially offset by higher rebate/rewards expense. The increase in deposit service charges was reflective of higher deposit client counts, as well as higher transaction volumes from existing clients.

Noninterest expense increased by $85.5 million in 2018, due primarily to increased expenses for compensation and benefits. Compensation and benefits expenses increased as a result of higher salaries and wages expenses, higher incentive compensation and higher other employee compensation and benefits. The increase in GCB salaries and wages expenses was due primarily to an increase in the average number of FTEs at GCB, which increased by 183 to 2,022 FTEs in 2018, compared to 1,839 FTEs in 2017. The increase in GCB incentive compensation expense was due to our strong 2018 full-year performance and reflective of our improved ROE relative to our peers, which is one of our key plan performance metrics. The increase in total other employee benefits was related to various expenses, particularly share-based compensation as well as employer payroll taxes and group health and life insurance reflective of our increased headcount in 2018.

2017 compared to 2016

Net interest income from GCB increased by $233.7 million in 2017, primarily due to an increase in loan interest income resulting mainly from an increase in average loan balances and higher loan yields.

Noninterest income increased by $45.4 million in 2017, related primarily to an increase in our core fees (higher foreign exchange fees, client investment fees and credit card fees). The increase in foreign exchange fees was due primarily to an increase in our client count as well as volume related to increased client engagement. The increase in client investment fees was due to higher client investment fund balances, as well as from improved spreads on our client investment funds due to increases in general market rates and the reintroduction of fees that had been previously waived due to the low rate environment. The increase in credit card fees was primarily reflective of increased client utilization of our credit card products and custom payment solutions provided to new and existing clients, partially offset by higher rebate/rewards expense.

Noninterest expense increased by $77.0 million in 2017, due primarily to increased expenses for compensation and benefits and professional services. Compensation and benefits expenses increased as a result of higher salaries and wages expenses, higher incentive compensation and higher other employee compensation and benefits. The increase in GCB salaries and wages expenses was due primarily to an increase in the average number of FTEs at GCB, which increased by 89 to 1,839 FTEs in 2017, compared to 1,750 FTEs in 2016. The increase in GCB incentive compensation expense was due to our strong 2017 full-year performance. Professional services expense also increased in 2017 and was primarily related to enhancements in our regulatory, risk management and compliance infrastructure to support our growth both domestically and globally as well as investments made in projects, systems and technology to support our revenue growth and related initiatives and other operating costs.

SVB Private Bank

	Year ended December 31,				
(Dollars in thousands)	2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Net interest income	$ 64,902	$ 58,131	11.6 %	$ 53,582	8.5 %
Provision for credit losses	(3,339)	(4,386)	(23.9)	(1,812)	142.1
Noninterest income	2,281	2,175	4.9	2,713	(19.8)
Noninterest expense	(25,064)	(17,693)	41.7	(12,379)	42.9
Income before income tax expense	$ 38,780	$ 38,227	1.4	$ 42,104	(9.2)
Total average loans, net of unearned income	$ 2,850,271	$ 2,423,078	17.6	$ 2,025,381	19.6
Total average assets	2,546,904	2,449,763	4.0	2,047,513	19.6
Total average deposits	1,502,308	1,303,542	15.2	1,133,425	15.0

Income before income tax expense from SVB Private Bank increased to $38.8 million in 2018, compared to $38.2 million in 2017. Income before income tax expense was $42.1 million in 2016. The key drivers of SVB Private Bank's performance are discussed below:

2018 compared to 2017

Net interest income increased by $6.8 million in 2018, due primarily to an increase in loan interest income from an increase in average loan balances and higher loan yields.

Noninterest expense increased by $7.4 million in 2018, primarily as a result of higher salaries and wages expenses as we continue to increase the number of average FTEs at SVB Private Bank, which increased by 16 to 67 FTEs in 2018, compared to 51 FTEs in 2017, and due to higher incentive compensation reflective of our strong 2018 full-year performance.

2017 compared to 2016

Net interest income increased by $4.5 million in 2017, due primarily to an increase in loan interest income from an increase in average loan balances and higher loan yields.

Noninterest expense increased by $5.3 million in 2017, primarily as a result of higher salaries and wages expenses as we increased the number of FTEs at SVB Private Bank, and due to higher incentive compensation reflective of our 2017 full-year performance.

SVB Capital

(Dollars in thousands)	Year ended December 31, 2018	2017	% Change 2018/2017	2016	% Change 2017/2016
Net interest income (expense)	$ 23	$ 48	(52.1)%	$ (49)	(198.0)%
Noninterest income	101,181	58,992	71.5	49,365	19.5
Noninterest expense	(22,792)	(19,340)	17.8	(15,546)	24.4
Income before income tax expense	$ 78,412	$ 39,700	97.5	$ 33,770	17.6
Total average assets	$ 380,543	$ 325,939	16.8	$ 338,848	(3.8)

SVB Capital's components of noninterest income primarily include net gains and losses on non-marketable and other equity securities, carried interest and fund management fees. All components of income before income tax expense discussed below are net of noncontrolling interests.

We experience variability in the performance of SVB Capital from period to period due to a number of factors, including changes in the values of our funds' underlying investments, changes in the amount of distributions and general economic and market conditions. Such variability may lead to volatility in the gains and losses from investment securities and cause our results to differ from period to period.

Income before income tax expense from SVB Capital was $78.4 million in 2018, compared to $39.7 million in 2017 and $33.8 million in 2016. The key drivers of SVB Capital's performance are discussed below:

2018 compared to 2017

Noninterest income increased $42.2 million to $101.2 million in 2018 reflective of higher net gains on investment securities and fund management fees compared to 2017. SVB Capital's components of noninterest income primarily include the following:

- Net gains on investment securities of $69.8 million in 2018, compared to net gains of $35.8 million in 2017. The net gains on investment securities of $69.8 million in 2018 were related to net unrealized valuation increases in both private and public company investments held in our strategic venture capital funds as well as in our managed funds of funds portfolio driven by IPO and M&A activity in 2018, and
- Fund management fees of $23.0 million for 2018, compared to $21.2 million in 2017.

2017 compared to 2016

Noninterest income increased $9.6 million to $59.0 million in 2017 reflective of higher net gains on investment securities and fund management fees compared to 2016. SVB Capital's components of noninterest income primarily include the following:

- Net gains on investment securities of $35.8 million in 2017, compared to net gains of $23.5 million in 2016. The net gains on investment securities of $35.8 million in 2017 were related to gains from distributions from our strategic venture capital fund investments and net unrealized valuation increases in the investments held by the funds in our managed funds of funds portfolio driven by IPO and M&A activity in 2017, and
- Fund management fees of $21.2 million for 2017, compared to $19.2 million in 2016.

Consolidated Financial Condition

Our total assets were $56.9 billion at December 31, 2018, $51.2 billion at December 31, 2017 and $44.7 billion at December 31, 2016. Refer below to a summary of the individual components driving the changes in total assets, total liabilities and stockholders' equity.

Cash and Cash Equivalents

Cash and cash equivalents totaled $3.6 billion at December 31, 2018, an increase of $0.7 billion, or 22.2 percent, compared to $2.9 billion at December 31, 2017. As of December 31, 2018, $1.7 billion of our cash and due from banks was deposited at the FRB and was earning interest at the Federal Funds target rate, and interest-earning deposits in other financial institutions were $1.2 billion. As of December 31, 2017, $0.6 billion, of our cash and due from banks was deposited at the FRB and was earning interest at the Federal Funds target rate, and interest-earning deposits in other financial institutions were $1.1 billion.

Investment Securities

Investment securities totaled $24.2 billion at December 31, 2018, a decrease of $0.2 billion, or 0.9 percent, compared to $24.4 billion at December 31, 2017, which increased by $2.7 billion or 12.8 percent, compared to $21.7 billion at December 31, 2016. Our investment securities portfolio consists primarily of: (i) an AFS securities portfolio and a HTM securities portfolio, both of which consist of interest-earning fixed income investment securities; and (ii) a non-marketable and other equity securities portfolio, which represents primarily investments managed as part of our funds management business as well as public equity securities held as a result of exercised equity warrant assets. The major components of the change are explained below.

The following table presents a profile of our investment securities portfolio at December 31, 2018, 2017 and 2016:

	December 31,		
(Dollars in thousands)	2018	2017	2016
Available-for-sale securities, at fair value:			
U.S. Treasury securities	$ 4,738,258	$ 6,840,502	$ 8,909,491
U.S. agency debentures	1,084,117	1,567,128	2,078,375
Foreign government debt securities	5,812	—	—
Residential mortgage-backed securities:			
Agency-issued collateralized mortgage obligations—fixed rate	1,880,218	2,267,035	1,152,665
Agency-issued collateralized mortgage obligations—variable rate	81,638	373,730	474,283
Equity securities	—	72,269	5,597
Total available-for-sale securities	7,790,043	11,120,664	12,620,411
Held-to-maturity securities, at amortized cost:			
U.S. agency debentures	640,990	659,979	622,445
Residential mortgage-backed securities:			
Agency-issued mortgage-backed securities	8,103,638	6,304,969	2,896,179
Agency-issued collateralized mortgage obligations—fixed rate	2,183,204	2,829,979	3,362,598
Agency-issued collateralized mortgage obligations—variable rate	214,483	255,782	312,665
Agency-issued commercial mortgage-backed securities	2,769,706	1,868,985	1,151,363
Municipal bonds and notes	1,575,421	743,761	81,748
Total held-to-maturity securities	15,487,442	12,663,455	8,426,998
Non-marketable and other equity securities:			
Non-marketable securities (fair value accounting):			
Consolidated venture capital and private equity fund investments	118,333	128,111	143,689
Unconsolidated venture capital and private equity fund investments	201,098	98,548	114,606
Other investments without a readily determinable fair value	25,668	27,680	27,700
Other equity securities in public companies (fair value accounting)	20,398	310	753
Non-marketable securities (equity method accounting):			
Venture capital and private equity fund investments	129,485	89,809	82,823
Debt funds	5,826	21,183	17,020
Other investments	121,721	111,198	123,514
Investments in qualified affordable housing projects, net	318,575	174,214	112,447
Total non-marketable and other equity securities	941,104	651,053	622,552
Total investment securities	$ 24,218,589	$ 24,435,172	$ 21,669,961

Available-for-Sale Securities

Period-end AFS securities were $7.8 billion at December 31, 2018, compared to $11.1 billion at December 31, 2017, and $12.6 billion at December 31, 2016. The decrease of $3.3 billion in 2018 was primarily due to $3.4 billion in paydowns, scheduled maturities and called maturities and sales of $0.5 billion of U.S. Treasury notes and agency backed collateralized mortgage obligations, partially offset by purchases of new investments of $0.7 billion. Securities classified as available-for-sale are carried at fair value with changes in fair value recorded as unrealized gains or losses in a separate component of stockholders' equity.

Period-end AFS securities at December 31, 2017 decreased $1.5 billion compared to 2016 primarily due to $3.3 billion in paydowns, scheduled maturities and called maturities and sales of $0.6 billion of agency backed collateralized mortgage obligations, partially offset by purchases of new investments of $2.4 billion. The paydowns, scheduled maturities and called maturities of $3.3 billion were comprised of $3.2 billion of fixed-rate securities and $0.1 billion in variable-rate securities. The purchases of new investments of $2.4 billion were primarily comprised of agency backed mortgage securities and U.S. Treasury securities.

The following table summarizes the remaining contractual principal maturities and fully taxable equivalent yields on fixed income securities, carried at fair value, classified as AFS as of December 31, 2018. The weighted average yield is computed using the amortized cost of fixed income investment securities, which are reported at fair value. For U.S. Treasury securities and U.S. agency debentures, the expected maturity is the actual contractual maturity of the notes. Expected remaining maturities for certain U.S. agency debentures may occur earlier than their contractual maturities because the note issuers have the right to call outstanding amounts ahead of their contractual maturity. Expected maturities for mortgage-backed securities may differ significantly from their contractual maturities because mortgage borrowers have the right to prepay outstanding loan obligations with or without penalties. Mortgage-backed securities classified as AFS typically have original contractual maturities from 10 to 30 years whereas expected average lives of these securities tend to be significantly shorter and vary based upon structure and prepayments in lower interest rate environments. The weighted average yield on mortgage-backed securities is based on prepayment assumptions at the purchase date. Actual yields earned may differ significantly based upon actual prepayments.

	December 31, 2018									
	Total		One Year or Less		After One Year to Five Years		After Five Years to Ten Years		After Ten Years	
(Dollars in thousands)	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield	Carrying Value	Weighted Average Yield
U.S. Treasury securities	$ 4,738,258	1.81 %	$1,765,333	1.47%	$2,524,484	1.85 %	$ 448,441	2.95%	$ —	—%
U.S. agency debentures	1,084,117	1.83	665,750	1.49	418,367	2.36	—	—	—	—
Foreign government debt securities	5,812	(0.65)	—	—	5,812	(0.65)	—	—	—	—
Residential mortgage-backed securities:										
Agency-issued collateralized mortgage obligations - fixed rate	1,880,218	2.59	—	—	—	—	16,030	2.76	1,864,188	2.58
Agency-issued collateralized mortgage obligations - variable rate	81,638	0.73	—	—	—	—	—	—	81,638	0.73
Total	$ 7,790,043	1.99	$2,431,083	1.48	$2,948,663	1.92	$ 464,471	2.94	$1,945,826	2.51

Held-to-Maturity Securities

Period-end HTM securities were $15.5 billion at December 31, 2018, an increase of $2.8 billion, or 22.3 percent, compared to $12.7 billion at December 31, 2017. The increase was due to new purchases of $4.7 billion, with $3.9 billion of agency backed mortgage securities purchases and $0.8 billion of municipal bond purchases, partially offset by $1.9 billion in portfolio paydowns and maturities.

Period-end HTM securities were $12.7 billion at December 31, 2017, an increase of $4.3 billion, or 50.3 percent, compared to $8.4 billion at December 31, 2016. The increase was due to new purchases of $6.0 billion, primarily comprised of agency backed mortgage securities, partially offset by paydowns and scheduled maturities of $1.7 billion.

Securities classified as HTM are accounted for at cost with no adjustments for changes in fair value. For securities re-designated as HTM from AFS, the unrealized gains at the date of transfer will continue to be reported as a separate component of shareholders' equity and are being amortized over the life of the securities in a manner consistent with the amortization of a premium or discount.

The following table summarizes the remaining contractual principal maturities and fully taxable equivalent yields on fixed income investment securities classified as HTM as of December 31, 2018. Interest income on certain municipal bonds and notes (non-taxable investments) are presented on a fully taxable equivalent basis using the federal statutory tax rate of 21.0 percent. The weighted average yield is computed using the amortized cost of fixed income investment securities. For U.S. agency debentures, the expected maturity is the actual contractual maturity of the notes. Expected maturities for mortgage-backed securities may differ significantly from their contractual maturities because mortgage borrowers have the right to prepay outstanding loan obligations with or without penalties. Mortgage-backed securities classified as HTM typically have original contractual maturities from 10 to 30 years whereas expected average lives of these securities tend to be significantly shorter and vary based upon structure and prepayments in lower interest rate environments. The weighted average yield on mortgage-backed securities is based on prepayment assumptions at the purchase date. Actual yields earned may differ significantly based upon actual prepayments.

	December 31, 2018									
	Total		One Year or Less		After One Year to Five Years		After Five Years to Ten Years		After Ten Years	
(Dollars in thousands)	Amortized Cost	Weighted Average Yield	Amortized Cost	Weighted Average Yield	Amortized Cost	Weighted Average Yield	Amortized Cost	Weighted Average Yield	Amortized Cost	Weighted Average Yield
U.S. agency debentures	$ 640,990	2.65%	$ —	—%	$ 104,550	2.63%	$ 536,440	2.66%	$ —	—%
Residential mortgage-backed securities:										
Agency-issued mortgage-backed securities	8,103,638	2.88	—	—	155,257	2.06	885,622	2.48	7,062,759	2.95
Agency-issued collateralized mortgage obligations - fixed rate	2,183,204	1.78	—	—	—	—	483,043	1.59	1,700,161	1.83
Agency-issued collateralized mortgage obligations - variable rate	214,483	0.74	—	—	—	—	—	—	214,483	0.74
Agency-issued commercial mortgage-backed securities	2,769,706	2.99	—	—	—	—	—	—	2,769,706	2.99
Municipal bonds and notes	1,575,421	3.60	9,725	2.80	75,379	2.06	307,184	2.73	1,183,133	3.94
Total	$15,487,442	2.78	$ 9,725	2.80	$ 335,186	2.24	$2,212,289	2.36	$12,930,242	2.87

Portfolio duration is a standard measure used to approximate changes in the market value of fixed income instruments due to a change in market interest rates. The measure is an estimate based on the level of current market interest rates, expectations for changes in the path of forward rates and the effect of forward rates on mortgage prepayment speed assumptions. As such, portfolio duration will fluctuate with changes in market interest rates. Changes in portfolio duration are also impacted by changes in the mix of longer versus shorter term-to-maturity securities. At December 31, 2018, our estimated fixed income securities portfolio weighted-average duration was 3.8 years, compared to 3.0 and 2.5 years at December 31, 2017 and 2016, respectively.

Non-Marketable and Other Equity Securities

Non-marketable and other equity securities were $941.1 million at December 31, 2018, an increase of $290.0 million, or 44.6 percent, compared to $651.1 million at December 31, 2017, which increased by $28.5 million, or 4.6 percent, compared to $622.6 million at December 31, 2016. Included in our non-marketable and other equity securities carried under fair value accounting are amounts that are attributable to noncontrolling interests. We are required under GAAP to consolidate certain SVB Capital funds, even though we may own less than 100 percent of such entities. See below for a summary of the carrying value (as reported) of non-marketable and other equity securities compared to the amounts attributable to SVBFG.

The increase in non-marketable and other equity securities of $290.0 million in 2018 was related primarily to new investments and the adoption of ASU 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities, which required equity investments (except those accounted for under the equity method of accounting) to be measured at fair value and eliminated the cost method of accounting. As part of this adoption we recorded an adjustment to opening retained earnings for cost method investments measured at NAV and increased the carrying value of our unconsolidated venture capital and private equity fund investments by $103.1 million. Additionally, we increased our investments in qualified affordable housing projects by $144.4 million, net of amortization.

The increase in non-marketable and other equity securities of $28.5 million in 2017 was related primarily to a $61.8 million net increase in investments in our qualified affordable housing projects portfolio, offset by sales of, and distributions in, our strategic and other investments.

The following table summarizes the carrying value (as reported) of non-marketable and other equity securities compared to the amounts attributable to SVBFG (which generally represents the carrying value times our ownership percentage) at December 31, 2018, 2017 and 2016:

	December 31,					
	2018		2017		2016	
(Dollars in thousands)	Carrying value (as reported)	Amount attributable to SVBFG	Carrying value (as reported)	Amount attributable to SVBFG	Carrying value (as reported)	Amount attributable to SVBFG
Non-marketable and other equity securities:						
Non-marketable securities (fair value accounting):						
Consolidated venture capital and private equity fund investments (1)	$ 118,333	$ 30,235	$ 128,111	$ 33,044	$ 143,689	$ 40,682
Unconsolidated venture capital and private equity fund investments (2)	201,098	201,098	98,548	98,548	114,606	114,606
Other investments without a readily determinable fair value (3)	25,668	25,668	27,680	27,680	27,700	27,700
Other equity securities in public companies (fair value accounting) (4)	20,398	20,098	310	103	753	138
Non-marketable securities (equity method accounting) (5):						
Venture capital and private equity fund investments	129,485	82,921	89,809	64,675	82,823	64,030
Debt funds	5,826	5,826	21,183	21,183	17,020	17,020
Other investments	121,721	121,721	111,198	111,198	123,514	123,514
Investments in qualified affordable housing projects, net	318,575	318,575	174,214	174,214	112,447	112,447
Total non-marketable and other equity securities	$ 941,104	$ 806,142	$ 651,053	$ 530,645	$ 622,552	$ 500,137

(1) The following table shows the amounts of venture capital and private equity fund investments held by the following consolidated funds and amounts attributable to SVBFG for each fund at December 31, 2018, 2017 and 2016:

(Dollars in thousands)	December 31, 2018 Carrying value (as reported)	2018 Amount attributable to SVBFG	2017 Carrying value (as reported)	2017 Amount attributable to SVBFG	2016 Carrying value (as reported)	2016 Amount attributable to SVBFG
Strategic Investors Fund, LP	$ 12,452	$ 1,564	$ 14,673	$ 1,843	$ 18,459	$ 2,319
Capital Preferred Return Fund, LP	53,957	11,629	54,147	11,670	57,627	12,420
Growth Partners, LP	50,845	16,927	58,372	19,432	59,718	19,880
Other private equity funds (i)	—	—	—	—	5,845	5,845
CP I, LP	1,079	115	919	99	2,040	218
Total consolidated venture capital and private equity fund investments	$ 118,333	$ 30,235	$ 128,111	$ 33,044	$ 143,689	$ 40,682

(i) On January 3, 2017, the other private equity fund was closed resulting in an immaterial impact on the Company's financial statements.

(2) The carrying values represented investments in 213 and 235 funds (primarily venture capital funds) at December 31, 2018 and December 31, 2017, respectively, where our ownership interest is typically less than 5% of the voting interests of each such fund and in which we do not have the ability to exercise significant influence over the partnerships operating activities and financial policies. Effective January 1, 2018, we adopted ASU 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities which eliminated the concept of cost method accounting. On a prospective basis, we will carry our unconsolidated venture capital and private equity fund investments at fair value based on the fund investments' net asset values per share as obtained from the general partners of the investments. For each fund investment, we adjust the net asset value per share for differences between our measurement date and the date of the fund investment's net asset value by using the most recently available financial information from the investee general partner, for example June 30th, for our September 30th consolidated financial statements, adjusted for any contributions paid, distributions received from the investment, and significant fund transactions or market events during the reporting period. We recorded a cumulative adjustment to opening retained earnings on January 1, 2018 for the difference between fair value and cost for these fund investments. The estimated fair value and carrying value of these venture capital and private equity fund investments was $201.1 million as of December 31, 2018. As of December 31, 2017, these investments were carried at cost and had a carrying value of $98.5 million.

(3) Effective January 1, 2018, we adopted ASU 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities, which eliminated the concept of cost method accounting. On a prospective basis, we will report our other investments in the line item "Other investments without a readily determinable fair value." These investments include direct equity investments in private companies. The carrying value is based on the price at which the investment was acquired plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments. We consider a range of factors when adjusting the fair value of these investments, including, but not limited to, the term and nature of the investment, local market conditions, values for comparable securities, current and projected operating performance, exit strategies, financing transactions subsequent to the acquisition of the investment and a discount for certain investments that have lock-up restrictions or other features that indicate a discount to fair value is warranted. For further details on the carrying value of these investments refer to Note 8—"Investment Securities" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

(4) Investments classified as other equity securities (fair value accounting) represent shares held in public companies as a result of exercising public equity warrant assets and direct equity investments in public companies held by our consolidated funds. Effective January 1, 2018 we adopted ASU 2016-01 Recognition and Measurement of Financial Assets and Financial Liabilities, which requires equity securities to be measured at fair value with changes in the fair value recognized through net income. Prior to January 1, 2018, we reported equity securities in public companies that we held as a result of exercising public equity warrant assets in available-for-sale securities. On a prospective basis, these equity securities will be reported in non-marketable and other equity securities.

(5) The following table shows the carrying value and our ownership percentage of each investment at December 31, 2018 and 2017 (equity method accounting):

(Dollars in thousands)	December 31, 2018		December 31, 2017		December 31, 2016	
	Carrying value (as reported)	Amount attributable to SVBFG	Carrying value (as reported)	Amount attributable to SVBFG	Carrying value (as reported)	Amount attributable to SVBFG
Venture capital and private equity fund investments:						
Strategic Investors Fund II, LP	$ 4,670	$ 4,366	$ 6,342	$ 5,971	$ 7,720	$ 7,366
Strategic Investors Fund III, LP	17,396	14,059	18,758	15,211	20,449	17,036
Strategic Investors Fund IV, LP	28,974	24,388	25,551	21,739	24,530	21,504
Strategic Investors Fund V funds	28,189	14,799	16,856	8,849	12,029	6,326
CP II, LP (i)	7,122	4,308	6,700	4,056	7,798	4,871
Other venture capital and private equity fund investments	43,134	21,001	15,602	8,849	10,297	6,927
Total venture capital and private equity fund investments	$ 129,485	$ 82,921	$ 89,809	$ 64,675	$ 82,823	$ 64,030
Debt funds:						
Gold Hill Capital 2008, LP (ii)	$ 3,901	$ 3,901	$ 18,690	$ 18,690	$ 13,557	$ 13,557
Other debt funds	1,925	1,925	2,493	2,493	3,463	3,463
Total debt funds	$ 5,826	$ 5,826	$ 21,183	$ 21,183	$ 17,020	$ 17,020
Other investments:						
SPD Silicon Valley Bank Co., Ltd.	$ 76,412	$ 76,412	$ 75,337	$ 75,337	$ 75,296	$ 75,296
Other investments	45,309	45,309	35,861	35,861	48,218	48,218
Total other investments	$ 121,721	$ 121,721	$ 111,198	$ 111,198	$ 123,514	$ 123,514

(i) Our ownership includes direct ownership interest of 1.3 percent and indirect ownership interest of 3.8 percent through our investments in Strategic Investors Fund II, LP.

(ii) Our ownership includes direct ownership interest of 11.5 percent in the fund and an indirect interest in the fund through our investment in Gold Hill Capital 2008, LLC of 4.0 percent.

Volcker Rule

On June 6, 2017, we received notice that the Board of Governors of the Federal Reserve approved the Company's application for an extension of the permitted conformance period for the Company's investments in "illiquid" covered funds. The approval extends the deadline by which the Company must sell, divest, restructure or otherwise conform such investments to the provisions of the Volcker Rule until the earlier of (i) July 21, 2022 or (ii) the date by which each fund matures by its terms or is otherwise conformed to the Volcker Rule.

As implemented under the Dodd-Frank Wall Street Reform and Consumer Protection Act, the Volcker Rule prohibits, subject to certain exceptions, a banking entity, such as the Company, from sponsoring or investing in covered funds, defined to include many venture capital and private equity funds. As noted above, the Company currently maintains certain investments deemed to be prohibited investments in "illiquid" covered funds, which are now covered under the approved extension. As of December 31, 2018, such prohibited investments had an estimated aggregate carrying value and fair value of approximately $247 million. (For more information about the Volcker Rule, see "Business - Supervision and Regulatory - Proprietary Trading and Certain Relationships with Hedge Funds and Private Equity Funds" under Part I, Item I of this report.)

Loans

The following table details the composition of the loan portfolio, net of unearned income, as of the five most recent year-ends:

(Dollars in thousands)	December 31, 2018	2017	2016	2015	2014
Commercial loans:					
Software/internet (1)	$ 6,154,755	$ 6,172,531	$ 5,627,031	$ 5,437,915	$ 4,954,676
Hardware (1)	1,234,557	1,193,599	1,180,398	1,071,528	1,131,006
Private equity/venture capital	14,110,560	9,952,377	7,691,148	5,467,577	4,582,906
Life science/healthcare (1)	2,385,612	1,808,827	1,853,004	1,710,642	1,289,904
Premium wine	249,266	204,105	200,156	201,175	187,568
Other (1)	321,978	365,724	393,551	312,278	234,551
Total commercial loans	24,456,728	19,697,163	16,945,288	14,201,115	12,380,611
Real estate secured loans:					
Premium wine (2)	710,397	669,053	678,166	646,120	606,753
Consumer loans (3)	2,612,971	2,300,506	1,926,968	1,544,440	1,118,115
Other	40,435	42,068	43,487	44,830	39,651
Total real estate secured loans	3,363,803	3,011,627	2,648,621	2,235,390	1,764,519
Construction loans (4)	97,077	68,546	64,671	78,682	78,626
Consumer loans	420,672	328,980	241,364	226,883	160,520
Total loans, net of unearned income (5)(6)	$ 28,338,280	$ 23,106,316	$ 19,899,944	$ 16,742,070	$ 14,384,276

(1) Due to the diverse nature of energy and resource innovation products and services, for our loan-related reporting purposes, ERI-related loans are reported under our software/internet, hardware, life science/healthcare and other commercial loan categories, as applicable.
(2) Included in our premium wine portfolio are gross construction loans of $99 million, $100 million, $110 million, $121 million and $112 million at December 31, 2018, 2017, 2016, 2015 and 2014, respectively.
(3) Consumer loans secured by real estate at December 31, 2018, 2017, 2016, 2015 and 2014 were comprised of the following:

(Dollars in thousands)	December 31, 2018	2017	2016	2015	2014
Loans for personal residence	$ 2,251,292	$ 1,995,840	$ 1,655,349	$ 1,312,818	$ 918,629
Loans to eligible employees	290,194	243,118	199,291	156,001	133,568
Home equity lines of credit	71,485	61,548	72,328	75,621	65,918
Consumer loans secured by real estate	$ 2,612,971	$ 2,300,506	$ 1,926,968	$ 1,544,440	$ 1,118,115

(4) Construction loans consist of qualified affordable housing project loans made to fulfill our responsibilities under the Community Reinvestment Act and are primarily secured by real estate.
(5) Unearned income, net of deferred costs, was $173 million, $148 million, $125 million, $115 million and $104 million in 2018, 2017, 2016, 2015 and 2014, respectively.
(6) Included within our total loan portfolio are credit card loans of $335 million, $270 million, $224 million, $177 million, and$131 million at December 31, 2018, 2017, 2016, 2015 and 2014, respectively, and primarily represent corporate credit cards.

Both commercial and consumer loans increased from December 31, 2017 to December 31, 2018 with the largest increases coming from our private equity/venture capital, life science/healthcare and consumer real estate industry segments. The growth from our private equity/venture capital clients increase due to increased utilization from our capital call lines of credit and the growth in our life science/healthcare segment was reflective primarily of healthy new client acquisition. The growth in our consumer real estate came primarily from our SVB Private Bank.

Loan Concentration

Loan concentrations may exist when there are borrowers engaged in similar activities or types of loans extended to a diverse group of borrowers that could cause those borrowers or portfolios to be similarly impacted by economic or other conditions. A substantial percentage of our loans are commercial in nature. The breakdown of total gross loans and total loans as a percentage of gross loans by industry sector is as follows:

	December 31,			
	2018		2017	
(Dollars in thousands)	Amount	Percentage	Amount	Percentage
Commercial loans:				
Software/internet	$ 6,209,978	21.8%	$ 6,232,725	26.8%
Hardware	1,245,800	4.4	1,200,900	5.2
Private equity/venture capital	14,118,132	49.5	9,961,121	42.8
Life science/healthcare	2,461,076	8.6	1,867,960	8.0
Premium wine	249,316	0.9	204,257	0.9
Other	346,747	1.2	379,431	1.6
Commercial loans	24,631,049	86.4	19,846,394	85.3
Real estate secured loans:				
Premium wine	711,237	2.5	670,112	2.9
Consumer loans	2,609,645	9.2	2,297,857	9.9
Other	40,627	0.1	42,230	0.2
Real estate secured loans	3,361,509	11.8	3,010,199	13.0
Construction loans	98,034	0.3	69,108	0.3
Consumer loans	420,720	1.5	328,452	1.4
Total gross loans	$ 28,511,312	100.0%	$ 23,254,153	100.0%

The following table provides a summary of gross loans by size and category. The breakout of the categories is based on total client balances (individually or in the aggregate) as of December 31, 2018:

	December 31, 2018					
(Dollars in thousands)	Less than Five Million	Five to Ten Million	Ten to Twenty Million	Twenty to Thirty Million	Thirty Million or More	Total
Commercial loans:						
Software/internet	$ 1,515,096	$ 918,647	$ 1,520,634	$ 1,221,250	$ 1,034,351	$ 6,209,978
Hardware	292,022	152,061	196,763	386,288	218,666	1,245,800
Private equity/venture capital	836,894	1,012,605	2,120,918	2,135,279	8,012,436	14,118,132
Life science/healthcare	273,075	477,046	645,895	410,127	654,933	2,461,076
Premium wine	70,573	55,852	48,656	65,035	9,200	249,316
Other	246,011	18,921	10,911	70,904	—	346,747
Commercial loans	3,233,671	2,635,132	4,543,777	4,288,883	9,929,586	24,631,049
Real estate secured loans:						
Premium wine	168,130	173,882	263,093	83,945	22,187	711,237
Consumer loans	2,258,479	239,400	111,766	—	—	2,609,645
Other	7,506	—	33,121	—	—	40,627
Real estate secured loans	2,434,115	413,282	407,980	83,945	22,187	3,361,509
Construction loans	7,076	15,064	75,894	—	—	98,034
Consumer loans	148,391	55,401	51,409	93,690	71,829	420,720
Total gross loans	$ 5,823,253	$ 3,118,879	$ 5,079,060	$ 4,466,518	$ 10,023,602	$ 28,511,312

At December 31, 2018, gross loans equal to or greater than $20 million to any single client (individually or in the aggregate) totaled $14.5 billion, or 50.8 percent of our portfolio. These loans represented 361 clients, and of these loans, $27.5 million were on nonaccrual status as of December 31, 2018.

The following table provides a summary of gross loans by size and category. The breakout of the categories is based on total client balances (individually or in the aggregate) as of December 31, 2017:

	December 31, 2017					
(Dollars in thousands)	Less than Five Million	Five to Ten Million	Ten to Twenty Million	Twenty to Thirty Million	Thirty Million or More	Total
Commercial loans:						
Software/internet	$ 1,558,717	$ 974,959	$ 1,545,194	$ 1,190,247	$ 963,608	$ 6,232,725
Hardware	258,586	138,254	253,978	217,425	332,657	1,200,900
Private equity/venture capital	697,427	807,596	1,617,121	1,142,818	5,696,159	9,961,121
Life science/healthcare	321,738	450,445	576,926	313,656	205,195	1,867,960
Premium wine	60,663	37,845	64,062	32,423	9,264	204,257
Other	149,825	23,096	103,989	25,599	76,922	379,431
Commercial loans	3,046,956	2,432,195	4,161,270	2,922,168	7,283,805	19,846,394
Real estate secured loans:						
Premium wine	150,563	187,272	220,062	89,561	22,654	670,112
Consumer loans	1,989,973	224,825	83,059	—	—	2,297,857
Other	7,763	—	14,134	20,333	—	42,230
Real estate secured loans	2,148,299	412,097	317,255	109,894	22,654	3,010,199
Construction loans	12,178	34,029	—	22,901	—	69,108
Consumer loans	146,395	49,921	17,120	78,742	36,274	328,452
Total gross loans	$ 5,353,828	$ 2,928,242	$ 4,495,645	$ 3,133,705	$ 7,342,733	$ 23,254,153

At December 31, 2017, gross loans equal to or greater than $20 million to any single client (individually or in the aggregate) totaled $10.5 billion, or 45.3 percent of our portfolio. These loans represented 277 clients, and of these loans, $52 million were on nonaccrual status as of December 31, 2017.

The credit profile of our loan portfolio clients varies based on the nature of the lending we do for different market segments. Our three main market segments are (i) technology (software/internet and hardware) and life science/healthcare, (ii) private equity/venture capital, and (iii) SVB Private Bank.

(i) Technology and Life Science/Healthcare

Our technology and life science/healthcare loan portfolios include loans to clients at the various stages of their life cycles and represent the largest segments of our loan portfolio. The primary underwriting method for our technology and life science/healthcare portfolios are classified as investor dependent, balance sheet dependent, or cash flow dependent.

Investor dependent loans represented a relatively small percentage of our overall portfolio at 11 percent of total gross loans at both December 31, 2018 and December 31, 2017. These loans are made to companies in both our Accelerator (early-stage) and Growth practices. Investor dependent loans typically have modest or negative cash flows and no established record of profitable operations. Repayment of these loans may be dependent upon receipt by borrowers of additional equity financing from venture capital firms or others, or in some cases, a successful sale to a third party or an IPO. Venture capital firms may provide financing selectively, at reduced amounts, or on less favorable terms, which may have an adverse effect on our borrowers' ability to repay their loans to us. When repayment is dependent upon the next round of venture investment and there is an indication that further investment is unlikely or will not occur, it is often likely that the company would need to be sold to repay the debt in full. If reasonable efforts have not yielded a likely buyer willing to repay all debt at the close of the sale or on commercially viable terms, the account will most likely be deemed to be impaired.

Balance sheet dependent loans, which includes asset-based loans, represented eight percent of total gross loans at December 31, 2018 compared to 10 percent at December 31, 2017. Balance sheet dependent loans are structured to require constant current asset coverage (i.e. cash, cash equivalents, accounts receivable and, to a much lesser extent, inventory) in an amount that exceeds the outstanding debt. These loans are generally made to companies in our Growth and Corporate Finance practices. Our asset-based lending, which includes working capital lines and accounts receivable financing, represented two and one percent of total gross loans as of December 31, 2018 , respectively, and both represented three percent of total gross loans at December 31, 2017. The repayment of these arrangements is dependent on the financial condition, and payment ability, of third parties with whom our clients do business.

Cash flow dependent loans, which include sponsored buyout lending, represented 16 percent of total gross loans at December 31, 2018, compared to 19 percent of total gross loans at December 31, 2017. Cash flow dependent loans require the borrower to maintain cash flow from operations that is sufficient to service all debt. Borrowers must demonstrate normalized cash flow in excess of all fixed charges associated with operating the business. Sponsored buyout loans represented eight percent of total gross loans at December 31, 2018, compared to nine percent of total gross loans at December 31, 2017. These loans are typically used to assist a select group of experienced private equity sponsors with the acquisition of businesses, are larger in size, and repayment is generally dependent upon the cash flows of the acquired company. The acquired companies are typically established, later-stage businesses of scale and characterized by reasonable levels of leverage and loan structures that include meaningful financial covenants. The sponsor's equity contribution is often 50 percent or more of the acquisition price.

(ii) Private Equity/Venture Capital

We also provide financial services to clients in the private equity/venture capital community. At December 31, 2018, our lending to private equity/venture capital firms and funds represented 50 percent of total gross loans, compared to 43 percent of total gross loans at December 31, 2017. The vast majority of this portfolio consists of capital call lines of credit, the repayment of which is dependent on the payment of capital calls by the underlying limited partner investors in the funds managed by these firms. These facilities are generally governed by meaningful financial covenants oriented towards ensuring that the funds' remaining callable capital is sufficient to repay the loan, and larger commitments (typically provided to larger private equity funds) are often secured by an assignment of the general partner's right to call capital from the fund's limited partner investors.

(iii) SVB Private Bank

Our SVB Private Bank clients are primarily private equity/venture capital professionals and executive leaders of the innovation companies. Our lending to SVB Private Bank clients represented 11 percent of total gross loans at both December 31, 2018 and December 31, 2017. Many of these clients have mortgages, which represented 86 percent of this portfolio at December 31, 2018; the balance of this portfolio consisted of home equity lines of credit, restricted stock purchase loans, capital call lines of credit, and other secured and unsecured lending.

State Concentrations

Approximately 28 percent and 10 percent of our outstanding total gross loan balances as of December 31, 2018 were to borrowers based in California and New York, respectively, compared to 31 percent and 10 percent as of December 31, 2017. Other than California and New York, there are no states with gross loan balances greater than or equal to 10 percent.

See generally "Risk Factors—Credit Risks" set forth under Part I, Item 1A of this report.

As of December 31, 2018, 93 percent, or $26.4 billion, of our outstanding total gross loans were variable-rate loans that adjust at a prescribed measurement date upon a change in our prime-lending rate or other variable indices, compared to 91 percent, or $21.2 billion, as of December 31, 2017. The following table sets forth the remaining contractual maturity distribution of our gross loans by industry sector at December 31, 2018, for fixed and variable rate loans:

	Remaining Contractual Maturity of Gross Loans			
(Dollars in thousands)	One Year or Less	After One Year and Through Five Years	After Five Years	Total
Fixed-rate loans:				
Commercial loans:				
Software/internet	$ 288,771	$ 262,689	$ 11,879	$ 563,339
Hardware	61,464	44,566	—	106,030
Private equity/venture capital	11,737	7,905	10,913	30,555
Life science/healthcare	42,704	57,274	—	99,978
Premium wine	2,872	9,569	5,597	18,038
Other	260,241	—	—	260,241
Total commercial loans	667,789	382,003	28,389	1,078,181
Real estate secured loans:				
Premium wine	33,529	217,657	355,845	607,031
Consumer loans	—	7,925	266,559	274,484
Other	—	22,426	18,201	40,627
Total real estate secured loans	33,529	248,008	640,605	922,142
Construction loans	63,072	28,274	6,690	98,036
Consumer loans	698	4,738	—	5,436
Total fixed-rate loans	$ 765,088	$ 663,023	$ 675,684	$ 2,103,795
Variable-rate loans:				
Commercial loans:				
Software/internet	$ 1,412,873	$ 4,153,715	$ 80,051	$ 5,646,639
Hardware	227,272	782,272	130,226	1,139,770
Private equity/venture capital	13,389,154	641,903	56,520	14,087,577
Life science/healthcare	110,377	2,203,925	46,796	2,361,098
Premium wine	171,865	58,325	1,089	231,279
Other	25,168	61,336	—	86,504
Total commercial loans	15,336,709	7,901,476	314,682	23,552,867
Real estate secured loans:				
Premium wine	9,034	46,428	48,743	104,205
Consumer loans	1,300	8,582	2,325,279	2,335,161
Other	—	—	—	—
Total real estate secured loans	10,334	55,010	2,374,022	2,439,366
Construction loans	—	—	—	—
Consumer loans	138,492	171,213	105,579	415,284
Total variable-rate loans	15,485,535	8,127,699	2,794,283	26,407,517
Total gross loans	$ 16,250,623	$ 8,790,722	$ 3,469,967	$ 28,511,312

Upon maturity, loans satisfying our credit quality standards may be eligible for renewal. Such renewals are subject to the normal underwriting and credit administration practices associated with new loans. We do not grant loans with unconditional extension terms.

Loan Administration

The Credit Committee of our Board of Directors oversees our credit risks and strategies, as well as our key credit policies and lending practices.

Subject to the oversight of the Credit Committee, lending authority is delegated to the Chief Credit Officer and our management's Loan Committee, which consists of the Chief Credit Officer and other senior members of our lending management. Requests for new and existing credit extensions that meet certain size and underwriting criteria may be approved outside of our Loan Committee by designated senior lenders or jointly with a senior credit officer or division risk manager.

Credit Quality Indicators

As of both December 31, 2018 and December 31, 2017, our total criticized loans and impaired loans represented four percent of our total gross loans. Criticized loans and impaired loans to early-stage clients represented 19 percent and 22 percent of our total criticized loans and impaired loan balances at December 31, 2018 and December 31, 2017, respectively. Loans to early-stage clients represent a relatively small percentage of our overall portfolio at six percent of total gross loans at both December 31, 2018 and December 31, 2017. It is common for an early-stage client’s remaining liquidity to fall temporarily below the threshold for a pass-rated credit during its capital-raising period for a new round of funding. Based on our experience, for most early-stage clients, this situation typically lasts one to two quarters and generally resolves itself with a subsequent round of venture funding, though there are exceptions, from time to time. As a result, we expect that each of our early-stage clients will reside in our criticized portfolio during a portion of their life cycle.

Credit Quality and Allowance for Loan Losses

The following table presents a summary of the activity for the allowance for loan losses as of the five most recent year-ends:

	Year ended December 31,				
(Dollars in thousands)	**2018**	**2017**	**2016**	**2015**	**2014**
Allowance for loan losses, beginning balance	$ 255,024	$ 225,366	$ 217,613	$ 165,359	$ 142,886
Charge-offs:					
Commercial loans:					
Software/internet	(42,315)	(45,012)	(68,784)	(33,246)	(21,031)
Hardware	(16,148)	(10,414)	(13,233)	(5,145)	(15,265)
Venture capital/private equity	(112)	(323)	—	—	—
Life science/healthcare	(6,662)	(8,210)	(9,693)	(7,291)	(2,951)
Premium wine	—	—	—	—	(35)
Other	(2,391)	(1,156)	(5,045)	(4,990)	(3,886)
Total commercial loans	(67,628)	(65,115)	(96,755)	(50,672)	(43,168)
Consumer loans	(289)	(1,567)	(102)	(296)	—
Total charge-offs	(67,917)	(66,682)	(96,857)	(50,968)	(43,168)
Recoveries:					
Commercial loans:					
Software/internet	5,664	4,649	7,278	1,621	1,425
Hardware	1,849	487	1,667	3,332	2,238
Venture capital/private equity	13	—	—	—	—
Life science/healthcare	348	189	1,129	277	374
Premium wine	—	—	—	7	240
Other	3,275	1,850	1,880	809	1,748
Total commercial loans	11,149	7,175	11,954	6,046	6,025
Consumer loans	487	1,363	258	163	379
Total recoveries	11,636	8,538	12,212	6,209	6,404
Provision for loan losses	84,292	85,939	95,697	97,629	59,486
Foreign currency translation adjustments	(2,132)	1,863	(3,299)	(616)	(249)
Allowance for loan losses, ending balance	$ 280,903	$ 255,024	$ 225,366	$ 217,613	$ 165,359

In 2018, total charge-offs increased to $67.9 million compared to $66.7 million in 2017. Gross loan charge-offs in 2018 came primarily from our software/internet and hardware loan portfolios and consisted primarily of early-stage clients.

The following table summarizes the allocation of the allowance for loan losses among specific classes of loans as of the five most recent year-ends:

	December 31,									
	2018		2017		2016		2015		2014	
(Dollars in thousands)	ALLL Amount	Percent of Total Loans (1)	ALLL Amount	Percent of Total Loans (1)	ALLL Amount	Percent of Total Loans (1)	ALLL Amount	Percent of Total Loans (1)	ALLL Amount	Percent of Total Loans (1)
Commercial loans:										
Software/internet	$ 103,567	21.8%	$ 96,104	26.8%	$ 97,388	28.3%	$ 103,045	32.5%	$ 80,981	34.5%
Hardware	19,725	4.4	27,614	5.2	31,166	5.9	23,085	6.4	25,860	7.9
Private equity/venture capital	98,581	49.5	82,468	42.8	50,299	38.7	35,282	32.7	27,997	31.9
Life science/healthcare	32,180	8.6	24,924	8.0	25,446	9.3	36,576	10.2	15,208	9.0
Premium wine	3,355	3.4	3,532	3.8	4,115	4.5	5,205	5.1	4,473	5.5
Other	3,558	1.7	3,941	2.1	4,768	2.5	4,252	2.6	3,253	2.4
Total commercial loans	260,966	89.4	238,583	88.7	213,182	89.2	207,445	89.5	157,772	91.2
Consumer loans	19,937	10.6	16,441	11.3	12,184	10.8	10,168	10.5	7,587	8.8
Total	$ 280,903	100.0%	$ 255,024	100.0%	$ 225,366	100.0%	$ 217,613	100.0%	$ 165,359	100.0%

(1) Represents loan balances as a percentage of total gross loans at each respective year-end.

Nonperforming Assets

Nonperforming assets consist of loans on nonaccrual status, loans past due 90 days or more still accruing interest, and Other Real Estate Owned ("OREO") and other foreclosed assets. We measure all loans placed on nonaccrual status for impairment based on the fair value of the underlying collateral or the net present value of the expected cash flows. The table below sets forth certain data and ratios between nonperforming loans, nonperforming assets and the allowance for loan losses:

	December 31,				
(Dollars in thousands)	**2018**	**2017**	**2016**	**2015**	**2014**
Gross nonperforming, past due, and restructured loans:					
Nonaccrual loans	$ 94,142	$ 119,259	$ 118,979	$ 123,392	$ 38,137
Loans past due 90 days or more still accruing interest	1,964	191	33	—	1,302
Total nonperforming loans	96,106	119,450	119,012	123,392	39,439
OREO and other foreclosed assets	—	—	—	—	561
Total nonperforming assets	$ 96,106	$ 119,450	$ 119,012	$ 123,392	$ 40,000
Performing TDRs	$ 31,639	$ 71,468	$ 33,732	$ 10,635	$ 587
Nonperforming loans as a percentage of total gross loans	0.34%	0.51%	0.59%	0.73%	0.27%
Nonperforming assets as a percentage of total assets	0.17	0.23	0.27	0.28	0.10
Allowance for loan losses	$ 280,903	$ 255,024	$ 225,366	$ 217,613	$ 165,359
As a percentage of total gross loans	0.99%	1.10%	1.13%	1.29%	1.14%
As a percentage of total gross nonperforming loans	292.28	213.50	189.36	176.36	419.28
Allowance for loan losses for nonaccrual loans	$ 37,941	$ 41,793	$ 37,277	$ 51,844	$ 15,051
As a percentage of total gross loans	0.13%	0.18%	0.19%	0.31%	0.10%
As a percentage of total gross nonperforming loans	39.48	34.99	31.32	42.02	38.16
Allowance for loan losses for total gross performing loans	$ 242,962	$ 213,231	$ 188,089	$ 165,769	$ 150,308
As a percentage of total gross loans	0.85%	0.92%	0.94%	0.98%	1.04%
As a percentage of total gross performing loans	0.86	0.92	0.94	0.99	1.04
Total gross loans	$ 28,511,312	$ 23,254,153	$ 20,024,662	$ 16,857,131	$ 14,488,766
Total gross performing loans	28,415,206	23,134,703	19,905,650	16,733,739	14,449,327
Allowance for unfunded credit commitments (1)	55,183	51,770	45,265	34,415	36,419
As a percentage of total unfunded credit commitments	0.29%	0.30%	0.27%	0.22%	0.25%
Total unfunded credit commitments (2)	$ 18,913,021	$ 17,462,537	$ 16,743,196	$ 15,614,359	$ 14,705,785

(1) The "allowance for unfunded credit commitments" is included as a component of other liabilities and any provision is included in the "Provision for credit losses" in the statement of income. See "Provision for Credit Losses" for a discussion of the changes to the allowance.

(2) Includes unfunded loan commitments and letters of credit.

Our allowance for loan losses as a percentage of total gross loans decreased 11 basis points to 0.99 percent at December 31, 2018, compared to 1.10 percent at December 31, 2017. The decrease was reflective of a six basis point decrease in the reserves for gross performing loans and a five basis point decrease in the reserves for nonaccrual loans. Our reserve percentage for performing loans as a percentage of total gross performing loans decreased to 0.86 percent at December 31, 2018, compared to 0.92 percent at December 31, 2017, reflective of the continued shift in the mix of our overall loan portfolio to our higher quality private equity/venture capital loan portfolio. Our reserve percentage for nonaccrual loans as a percentage of total gross loans decreased to 0.13 percent at December 31, 2018, compared to 0.18 percent at December 31, 2017, primarily as a result of charge-offs of previously reserved nonaccrual loans.

Nonaccrual Loans

The following table presents a detailed composition of nonaccrual loans by industry sector as of the five most recent year-ends:

	December 31,				
(Dollars in thousands)	**2018**	**2017**	**2016**	**2015**	**2014**
Commercial loans:					
Software/internet	$ 66,781	$ 78,860	$ 76,605	$ 77,545	$ 33,287
Hardware	1,256	16,185	6,581	430	2,521
Private equity/venture capital	3,700	658	—	—	—
Life science/healthcare	17,791	20,520	31,783	44,107	475
Premium wine	284	401	491	1,167	1,304
Other	411	32	403	—	233
Total commercial loans	90,223	116,656	115,863	123,249	37,820
Consumer loans:					
Real estate secured loans	3,919	2,181	1,504	143	192
Other consumer loans	—	422	1,612	—	125
Total consumer loans	3,919	2,603	3,116	143	317
Total nonaccrual loans	$ 94,142	$ 119,259	$ 118,979	$ 123,392	$ 38,137

The following table presents a summary of changes in nonaccrual loans for the years ended December 31, 2018 and 2017:

	Year ended December 31,	
(Dollars in thousands)	**2018**	**2017**
Balance, beginning of period	$ 119,259	$ 118,979
Additions	85,499	102,183
Paydowns	(66,660)	(46,825)
Charge-offs	(43,857)	(55,076)
Other reductions	(99)	(2)
Balance, end of period	$ 94,142	$ 119,259

Our nonaccrual loan balance decreased $25.2 million to $94.1 million at December 31, 2018, compared to $119.3 million at December 31, 2017. The $25.2 million decrease was primarily attributable to our hardware and software/internet loan portfolios. Our hardware nonaccrual loan portfolio decreased $14.9 million primarily due to a $10.7 million charge-off for one client in our Growth practice. Our software/internet nonaccrual loan portfolio decreased $12.1 million primarily due to paydowns of $6.7 million for one client in our Growth practice and a $7.2 million decrease for one sponsored buyout loan primarily due to partial charge-offs during 2018.

Our nonaccrual loans as of December 31, 2018 included $73.1 million from five clients (three software/internet clients represented $56.0 million and two life science/healthcare clients represented $17.1 million). Two of these loans are sponsored buyout loans that were added to our nonaccrual portfolio in 2015, another is a Corporate Finance client that was added during 2016 and two are new nonaccrual loans added during 2018 in our Growth practice. The total credit exposure for these five largest nonaccrual loans was $73.4 million as of December 31, 2018, for which we have specifically reserved $28.0 million.

Average nonaccrual loans for the years ended December 31, 2018, 2017, 2016, 2015 and 2014 were $117.1 million, $123.8 million, $108.7 million, $80.3 million, and $24.5 million, respectively. The decrease in average nonaccrual loans was attributable to the decrease in nonaccrual loans from our software/internet and hardware loan portfolio related to charge-offs and paydowns for the three clients mentioned above. If the nonaccrual loans for the years ended December 31, 2018, 2017, 2016, 2015 and 2014 had not been nonperforming, $7.4 million, $7.7 million, $4.6 million, $4.5 million, and $1.2 million, respectively, in interest income would have been recorded.

Accrued Interest Receivable and Other Assets

A summary of accrued interest receivable and other assets at December 31, 2018 and 2017 is as follows:

	December 31,		
(Dollars in thousands)	2018	2017	% Change
Derivative assets (1)	$ 258,139	$ 232,152	11.2 %
Foreign exchange spot contract assets, gross	152,268	208,738	(27.1)
Accrued interest receivable	197,927	141,773	39.6
Net deferred tax assets	65,433	63,845	2.5
FHLB and Federal Reserve Bank stock	58,878	60,020	(1.9)
Accounts receivable	55,807	55,946	(0.2)
Other assets	162,809	113,772	43.1
Total accrued interest receivable and other assets	$ 951,261	$ 876,246	8.6

(1) See “Derivatives” section below.

Foreign Exchange Spot Contract Assets

The decrease of $56.5 million in foreign exchange spot contract assets was due to a lower number of unsettled client trades at December 31, 2018 as compared to December 31, 2017.

Accrued Interest Receivable

The increase of $56.2 million in accrued interest receivable was primarily reflective of the strong growth of our loans. Period-end loan balances were $28.3 billion, an increase of $5.2 billion, or 22.6 percent, as compared to December 31, 2017.

Other Assets

Other assets includes various asset amounts for other operational transactions. The increase of $49.0 million was primarily due to a $24.7 million increase in current tax receivable due to the payment in excess of the current quarter's tax provision. Prepaid assets also increased $18.1 million primarily due to the annual timing of prepaid software agreement renewals.

Derivatives

Derivative instruments are recorded as a component of other assets and other liabilities on the balance sheet. The following table provides a summary of derivative assets and liabilities at December 31, 2018 and 2017:

	December 31,		
(Dollars in thousands)	2018	2017	% Change
Assets:			
Equity warrant assets	$ 149,238	$ 123,763	20.6 %
Foreign exchange forward and option contracts	100,402	96,636	3.9
Client interest rate derivatives	8,499	11,753	(27.7)
Total derivatives assets	$ 258,139	$ 232,152	11.2
Liabilities:			
Foreign exchange forward and option contracts	$ 88,559	$ 96,641	(8.4)
Client interest rate derivatives	9,491	11,940	(20.5)
Total derivatives liabilities	$ 98,050	$ 108,581	(9.7)

Equity Warrant Assets

In connection with negotiating credit facilities and certain other services, we often obtain rights to acquire stock in the form of equity warrant assets in primarily private, venture-backed companies in the technology and life science/healthcare industries. At December 31, 2018, we held warrants in 2,095 companies, compared to 1,868 companies at December 31, 2017. Warrants in 18 companies each had values greater than $1.0 million and collectively represented $46.9 million, or 31.4 percent, of the fair value of the total warrant portfolio. The change in fair value of equity warrant assets is recorded in gains on equity

warrant assets, net, in noninterest income, a component of consolidated net income. The following table provides a summary of transactions and valuation changes for the years ended December 31, 2018 and 2017:

	Year ended December 31,	
(Dollars in thousands)	2018	2017
Balance, beginning of period	$ 123,763	$ 131,123
New equity warrant assets	18,021	15,201
Non-cash increases in fair value	36,920	10,702
Exercised equity warrant assets	(23,502)	(28,841)
Terminated equity warrant assets	(5,964)	(4,422)
Balance, end of period	$ 149,238	$ 123,763

Foreign Exchange Forward and Foreign Currency Option Contracts

We enter into foreign exchange forward contracts and foreign currency option contracts with clients involved in foreign activities, either as the purchaser or seller, depending upon the clients' need. For each forward or option contract entered into with our clients, we enter into an opposite way forward or option contract with a correspondent bank, which mitigates the risk of fluctuations in currency rates. We also enter into forward contracts with correspondent banks to economically reduce our foreign exchange exposure related to certain foreign currency denominated instruments. Net gains and losses on the revaluation of foreign currency denominated instruments are recorded in the line item "Other" as part of noninterest income, a component of consolidated net income. We have not experienced nonperformance by any of our counterparties and therefore have not incurred any related losses. Further, we anticipate performance by all counterparties. Our net exposure for foreign exchange forward and foreign currency option contracts, net of cash collateral, was $20.7 million at December 31, 2018 and $65.6 million at December 31, 2017. For additional information on our foreign exchange forward contracts and foreign currency option contracts, see Note 13—"Derivative Financial Instruments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

Client Interest Rate Derivatives

We sell interest rate contracts to clients who wish to mitigate their interest rate exposure. We economically reduce the interest rate risk from this business by entering into opposite way contracts with correspondent banks. Our net exposure for client interest rate derivative contracts, net of cash collateral, was $8.7 million at December 31, 2018 and $11.7 million at December 31, 2017. For information on our client interest rate derivatives, refer to Note 13—"Derivative Financial Instruments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

Deposits

The following table presents the composition of our deposits as of December 31, 2018, 2017 and 2016:

	December 31,		
(Dollars in thousands)	2018	2017	2016
Noninterest-bearing demand	$ 39,103,422	$ 36,655,497	$ 31,975,457
Interest bearing checking and savings accounts	648,468	556,121	375,710
Money market	7,498,205	5,975,220	5,331,054
Money market deposits in foreign offices	152,781	111,201	107,657
Sweep deposits in foreign offices	1,875,298	908,890	1,133,872
Time	50,726	47,146	56,118
Total deposits	$ 49,328,900	$ 44,254,075	$ 38,979,868

The increase in deposits of $5.1 billion in 2018 was driven primarily by a healthy equity funding environment across a majority of our market segments with robust activities in the IPO and secondary public offering markets as well as strong new client acquisition. No material portion of our deposits has been obtained from a single depositor and the loss of any one depositor would not materially affect our business. Approximately 16 percent, 14 percent and 12 percent of our total deposits at December 31, 2018, 2017 and 2016, respectively, were from our clients in Asia.

The increase in deposits of $5.3 billion in 2017 was driven primarily by increases in our noninterest-bearing demand and money market deposits with growth in our private equity/venture capital and China market segment portfolios.

At December 31, 2018, 21 percent of our total deposits were interest-bearing deposits, compared to 17 percent at December 31, 2017 and 18 percent at December 31, 2016.

At December 31, 2018, the aggregate balance of time deposit accounts individually equal to or greater than $100,000 totaled $46 million, compared to $41 million at December 31, 2017 and $61 million at December 31, 2016. At December 31, 2018, all time deposit accounts individually equal to or greater than $100,000 were scheduled to mature within one year. The maturity profile of our time deposits as of December 31, 2018 is as follows:

	December 31, 2018				
(Dollars in thousands)	Three months or less	More than three months to six months	More than six months to twelve months	More than twelve months	Total
Time deposits, $100,000 and over	$ 28,338	$ 2,158	$ 15,500	$ —	$ 45,996
Other time deposits	2,861	639	1,230	—	4,730
Total time deposits	$ 31,199	$ 2,797	$ 16,730	$ —	$ 50,726

Short-Term Borrowings

The following table summarizes our short-term borrowings that mature in one month or less:

	December 31,					
	2018		2017		2016	
(Dollars in thousands)	Amount	Rate	Amount	Rate	Amount	Rate
Short-term FHLB advances	$ 300,000	2.54%	$ 700,000	1.37%	$ 500,000	0.59%
Federal funds purchased	—	—	330,000	1.45	—	—
Securities sold under agreement to repurchase	319,414	2.70	—	—	—	—
Other short-term borrowings	11,998	2.39	3,730	1.33	12,668	0.57
Total short-term borrowings	$ 631,412	2.62	$ 1,033,730	1.39	$ 512,668	0.59

We had $0.6 billion in short-term borrowings at December 31, 2018, compared to $1.0 billion at December 31, 2017. As of December 31, 2018, short-term debt included $0.3 billion in advances from the FHLB and $0.3 billion in securities sold under an agreement to repurchase. For more information on our short-term debt, see Note 12—"Short-Term Borrowings and Long-Term Debt" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

Average daily balances and maximum month-end balances for our short-term borrowings in 2018, 2017 and 2016 were as follows:

(Dollars in thousands)	Year ended December 31, 2018	2017	2016
Average daily balances:			
Short-term FHLB advances	$ 424,384	$ 36,712	$ 147,716
Federal Funds purchased (1)	44,164	7,529	5,844
Securities sold under agreements to repurchase	164,938	—	63,464
Other short-term borrowings (2)	10,400	4,264	3,227
Total average short-term borrowings	$ 643,886	$ 48,505	$ 220,251
Weighted average interest rate during the year:			
Short-term FHLB advances	0.22%	1.02%	0.42%
Federal Funds purchased	8.86	1.36	0.44
Securities sold under agreements to repurchase	5.76	—	0.49
Other short-term borrowings	2.30	1.55	0.28
Maximum month-end balances:			
Short-term FHLB advances	$ 2,250,000	$ 700,000	$ 750,000
Federal Funds purchased	490,000	330,000	150,000
Securities sold under agreements to repurchase	394,592	—	304,000
Other short-term borrowings	19,770	8,470	15,082

(1) As part of our liquidity risk management practices, we periodically test availability and access to overnight borrowings in the Federal Funds market. These balances represent short-term borrowings.
(2) Represents cash collateral received from certain counterparties in relation to market value exposures of derivative contracts in our favor.

Long-Term Debt

The following table represents outstanding long-term debt at December 31, 2018, 2017 and 2016:

(Dollars in thousands)	Principal value at December 31, 2018	December 31, 2018	2017	2016
3.50% Senior Notes	$ 350,000	$ 347,639	$ 347,303	$ 346,979
5.375% Senior Notes	350,000	348,826	348,189	347,586
6.05% Subordinated Notes	—	—	—	46,646
7.0% Junior Subordinated Debentures	—	—	—	54,493
Total long-term debt	$ 700,000	$ 696,465	$ 695,492	$ 795,704

As of December 31, 2018, long-term debt included our 3.50% Senior Notes and 5.375% Senior Notes. For more information on our long-term debt outstanding at December 31, 2018, refer to Note 12—"Short-Term Borrowings and Long-Term Debt" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

Our 6.05% Subordinated Notes, issued by the Bank, were repaid on June 1, 2017. The interest rate swap agreement relating to this issuance was terminated upon repayment of the notes. On December 21, 2017, we redeemed in full the outstanding aggregate principal amount of $51.5 million of our 7.0% Junior Subordinated Debentures due October 15, 2033, relating to the 7.0% Cumulative Trust Preferred Securities issued by SVB Capital II.

Other Liabilities

A summary of other liabilities at December 31, 2018 and 2017 is as follows:

	December 31,		
(Dollars in thousands)	2018	2017	% Change
Foreign exchange spot contract liabilities, gross	$ 170,355	$ 202,807	(16.0)%
Accrued compensation	224,405	167,531	33.9
Derivative liabilities (1)	98,050	108,581	(9.7)
Allowance for unfunded credit commitments	55,183	51,770	6.6
Other liabilities	458,366	381,066	20.3
Total other liabilities	$ 1,006,359	$ 911,755	10.4

(1) See “Derivatives” section above.

Foreign Exchange Spot Contract Liabilities

The decrease of $32.5 million in foreign exchange spot contract liabilities was due to a lower number of unsettled client trades at December 31, 2018 as compared to December 31, 2017.

Accrued Compensation

Accrued compensation includes amounts for our Incentive Compensation Plan, Direct Drive Incentive Compensation Plan, Retention Program, Warrant Incentive Plan, ESOP and other compensation arrangements. The increase of $56.9 million was primarily the result of larger incentive compensation accruals at December 31, 2018 based on our financial performance for 2018 and the increase in period end full-time employees. For a description of our variable compensation plans, refer to Note 17—“Employee Compensation and Benefit Plans” of the “Notes to the Consolidated Financial Statements” under Part II, Item 8 of this report.

Other Liabilities

Other liabilities increased $77.3 million to $458.4 million at December 31, 2018, compared to $381.1 million at December 31, 2017, reflective primarily of a $104.8 million net increase in new commitments for our qualified affordable tax credit funds, partially offset by a decrease of $26.3 million in deferred fund management fees for our SVB Capital funds as a result of the adoption of new revenue recognition accounting guidance in the first quarter of 2018.

Noncontrolling Interests

Noncontrolling interests totaled $148.6 million and $139.6 million at December 31, 2018 and 2017, respectively. The increase was due to net income attributable to noncontrolling interests of $37.5 million partially offset by net capital distributions of $28.5 million primarily to investors in our managed funds of funds for the year ended December 31, 2018. For more information, refer to Note 2—“Summary of Significant Accounting Policies” of the “Notes to the Consolidated Financial Statements” under Part II, Item 8 of this report.

Capital Resources

We maintain an adequate capital base to support anticipated asset growth, operating needs, and credit and other business risks, and to provide for SVB Financial and the Bank to be in compliance with applicable regulatory capital guidelines, including the joint agency rules implementing the "Basel III" capital rules. Our primary sources of new capital include retained earnings and proceeds from the sale and issuance of our capital stock or other securities. In consultation with the Finance Committee of our Board of Directors, management engages in regular capital planning processes in an effort to optimize the use of the capital available to us and to appropriately plan for our future capital needs. The capital plan considers capital needs for the foreseeable future and allocates capital to both existing and future business activities. Expected future use or activities for which capital may be set aside include balance sheet growth and associated relative increases in market or credit exposure, investment activity, potential product and business expansions, acquisitions and strategic or infrastructure investments. In addition, we conduct capital stress tests as part of our annual capital planning process. The capital stress tests allow us to assess the impact of adverse changes in the economy and interest rates on our capital adequacy position.

Common Stock

On November 13, 2018, the Company announced the Stock Repurchase Program to purchase up to $500 million of our outstanding common stock. Under the Stock Repurchase Program, shares may be repurchased in privately negotiated and/or open market transactions, including under plans complying with Rule 10b5-1 under the Exchange Act. The extent to which the Company repurchases its shares, and the timing of such repurchases, will depend upon a variety of factors, including market conditions, regulatory requirements, availability of funds, and other relevant considerations, as determined by the Company. The Stock Repurchase Program expires on November 15, 2019. From time to time, we may implement a non-discretionary trading plan under Rule 10b5-1 of the Exchange Act, under which we will automatically repurchase shares of our common stock pursuant to a predetermined formula for a specific period of time.

Through December 31, 2018, we repurchased and retired 715,207 shares of our outstanding common stock totaling $147.1 million. At December 31, 2018, $352.9 million remains available to repurchase stock under the Stock Repurchase Program.

SVBFG Stockholders' Equity

SVBFG stockholders' equity totaled $5.1 billion at December 31, 2018, an increase of $936.4 million, or 22.4 percent compared to $4.2 billion at December 31, 2017. This increase was primarily the result of net income of $973.8 million in 2018, a net increase to equity of $68.8 million related to the adoption of new accounting guidance, and an increase in additional paid-in capital of $64.1 million reflective of the amortization of share-based compensation and the issuance of common stock under our equity incentive plans. These increases were partially offset by a decrease in retained earnings of $147.1 million related to the repurchase of shares of our outstanding common stock under the Stock Repurchase Program.

Funds generated through retained earnings are a significant source of capital and liquidity and are expected to continue to be so in the future.

Capital Ratios

Regulatory capital ratios for SVB Financial and the Bank exceeded minimum federal regulatory guidelines for a well-capitalized bank holding company and insured depository institution, respectively, as of December 31, 2018, 2017 and 2016. See Note 21—"Regulatory Matters" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for further information. Capital ratios for SVB Financial and the Bank, compared to the minimum regulatory ratios to be considered "well capitalized" and "adequately capitalized," are set forth below:

	December 31,			Minimum Ratios under Applicable Regulatory Capital Adequacy Requirements	
	2018	2017	2016	"Well Capitalized"	"Adequately Capitalized"
SVB Financial:					
CET 1 risk-based capital ratio	13.41%	12.78%	12.80%	6.5%	4.5%
Tier 1 risk-based capital ratio	13.58	12.97	13.26	8.0	6.0
Total risk-based capital ratio	14.45	13.96	14.21	10.0	8.0
Tier 1 leverage ratio	9.06	8.34	8.34	N/A	4.0
Tangible common equity to tangible assets ratio (1)(2)	8.99	8.16	8.15	N/A	N/A
Tangible common equity to risk-weighted assets ratio (1)(2)	13.28	12.77	12.89	N/A	N/A
Bank:					
CET 1 risk-based capital ratio	12.41%	12.06%	12.65%	6.5%	4.5%
Tier 1 risk-based capital ratio	12.41	12.06	12.65	8.0	6.0
Total risk-based capital ratio	13.32	13.04	13.66	10.0	8.0
Tier 1 leverage ratio	8.10	7.56	7.67	5.0	4.0
Tangible common equity to tangible assets ratio (1)(2)	8.13	7.47	7.77	N/A	N/A
Tangible common equity to risk-weighted assets ratio (1)(2)	12.28	11.98	12.75	N/A	N/A

(1) See below for a reconciliation of non-GAAP tangible common equity to tangible assets and tangible common equity to risk-weighted assets.
(2) The FRB has not issued any minimum guidelines for the tangible common equity to tangible assets ratio or the tangible common equity to risk-weighted assets ratio. However, we believe these ratios provide meaningful supplemental information regarding our capital levels and are therefore provided above.

2018 compared to 2017

Risk-based capital ratios (CET 1, tier 1, and total risk-based capital) for SVB Financial and the Bank increased as of December 31, 2018, compared to the same ratios as of December 31, 2017, primarily as a result of a proportionally higher increase in capital relative to the increase in our risk-weighted assets during 2018. The increase in capital was reflective primarily of net income of $973.8 million as well as a net increase of $68.8 million related to the adoption of new accounting guidance in 2018, partially offset by a decrease of $147.1 million related to the repurchase of our outstanding common stock under the Stock Repurchase Program. The increase in risk-weighted assets was due primarily to our robust loan growth in 2018.

Both SVB Financial and the Bank's tier 1 leverage ratios increased as of December 31, 2018, as compared to December 31, 2017, due to proportionally higher capital relative to average assets growth during 2018. All our reported capital ratios remain above the levels considered to be "well capitalized" under applicable banking regulations.

2017 compared to 2016

The total risk-based capital and tier 1 capital ratios for both SVB Financial and the Bank decreased as of December 31, 2017, as compared to December 31, 2016. The decreases were a result of the proportionally higher increase in our risk-weighted assets compared to the increases in capital during the year ended December 31, 2017. The growth in period-end risk-weighted assets was primarily from period-end loan growth and an increase in fixed income securities. Increased capital was reflective primarily of year-to-date earnings and issuance of common stock related to equity-based employee stock plans resulting from an increase in SVB Financial's stock price during 2017. SVB Financial's tier 1 leverage ratio held flat at 8.34 percent, while the Bank's tier 1 leverage ratio decreased 11 basis points as of December 31, 2017, compared to December 31, 2016. The decrease in tier 1 leverage ratio was reflective of an increase in average assets from period-end loan and investment growth relative to the increase in tier 1 capital, primarily from retained earnings. All of our reported capital ratios were above the levels considered to be "well capitalized" as of December 31, 2017 under applicable banking regulations.

Non-GAAP Tangible Common Equity to Tangible Assets and Non-GAAP Tangible Common Equity to Risk-weighted Assets

The tangible common equity to tangible assets ratio and the tangible common equity to risk-weighted assets ratios are not required by GAAP or applicable bank regulatory requirements. However, we believe these ratios provide meaningful supplemental information regarding our capital levels. Our management uses, and believes that investors benefit from referring to, these ratios in evaluating the adequacy of the Company's capital levels; however, this financial measure should be considered in addition to, not as a substitute for or preferable to, comparable financial measures prepared in accordance with GAAP. These ratios are calculated by dividing total SVBFG stockholder's equity, by total period-end assets and risk-weighted assets, after reducing both amounts by acquired intangibles, if any. The manner in which this ratio is calculated varies among companies. Accordingly, our ratio is not necessarily comparable to similar measures of other companies. The following table provides a reconciliation of non-GAAP financial measures with financial measures defined by GAAP:

Non-GAAP tangible common equity and tangible assets (Dollars in thousands, except ratios)	SVB Financial				
	December 31, 2018	December 31, 2017	December 31, 2016	December 31, 2015	December 31, 2014
GAAP SVBFG stockholders' equity	$ 5,116,209	$ 4,179,795	$ 3,642,554	$ 3,198,134	$ 2,813,072
Tangible common equity	$ 5,116,209	$ 4,179,795	$ 3,642,554	$ 3,198,134	$ 2,813,072
GAAP total assets	$ 56,927,979	$ 51,214,467	$ 44,683,660	$ 44,686,703	$ 39,337,869
Tangible assets	$ 56,927,979	$ 51,214,467	$ 44,683,660	$ 44,686,703	$ 39,337,869
Risk-weighted assets	$ 38,527,853	$ 32,736,959	$ 28,248,750	$ 25,919,594	$ 21,755,091
Non-GAAP tangible common equity to tangible assets	8.99%	8.16%	8.15%	7.16%	7.15%
Non-GAAP tangible common equity to risk-weighted assets	13.28	12.77	12.89	12.34	12.93

Non-GAAP tangible common equity and tangible assets (Dollars in thousands, except ratios)	Bank				
	December 31, 2018	December 31, 2017	December 31, 2016	December 31, 2015	December 31, 2014
Tangible common equity	$ 4,554,814	$ 3,762,542	$ 3,423,427	$ 3,059,045	$ 2,399,411
Tangible assets	$ 56,047,134	$ 50,383,774	$ 44,059,340	$ 44,045,967	$ 37,607,973
Risk-weighted assets	$ 37,104,080	$ 31,403,489	$ 26,856,850	$ 24,301,043	$ 21,450,480
Non-GAAP tangible common equity to tangible assets	8.13%	7.47%	7.77%	6.95%	6.38%
Non-GAAP tangible common equity to risk-weighted assets	12.28	11.98	12.75	12.59	11.19

2018 compared to 2017

SVB Financial's and the Bank's tangible common equity to tangible assets ratio increased due to the proportionally higher increase in tangible common equity relative to changes to tangible assets. Increased capital was reflective primarily of net income. SVB Financial's and the Bank's tangible common equity to risk-weighted assets increased due to the proportionally higher increase in tangible common equity, reflective primarily of net income, relative to changes in risk-weighted assets. The increase in the Bank's tangible common equity to tangible assets ratio was partially offset as a result of $140.0 million in cash dividends paid by the Bank to our bank holding company, SVB Financial, during 2018. See "SVBFG Stockholders' Equity" above for further details on changes to the individual components of our equity balance.

2017 compared to 2016

SVB Financial's tangible common equity to tangible assets ratio increased due to the proportionally higher increase in tangible common equity as compared to changes to tangible assets. Increased capital was reflective primarily of net income. The Bank's tangible common equity to tangible assets ratio decreased, primarily as a result of $90.0 million in cash dividends paid by the Bank to our bank holding company, SVB Financial, during 2017. SVB Financial's and the Bank's tangible common equity to risk-weighted assets decreased due to the proportionally higher increase in risk-weighted assets relative to the increase in tangible common equity. The growth in period-end risk-weighted assets was primarily due to period-end loan growth and higher investment and cash balances driven by increases in deposits. See "SVBFG Stockholders' Equity" above for further details on changes to the individual components of our equity balance.

Off-Balance Sheet Arrangements and Aggregate Contractual Obligations

In the normal course of business, we use financial instruments with off-balance sheet risk to meet the financing needs of our customers. These financial instruments include commitments to extend credit and commercial and standby letters of credit. These instruments involve, to varying degrees, elements of credit risk. Credit risk is defined as the possibility of sustaining a loss because other parties to the financial instrument fail to perform in accordance with the terms of the contract. The actual liquidity needs and the credit risk that we have experienced have historically been lower than the contractual amount of these commitments because a significant portion of these commitments expire without being drawn upon. Refer to the discussion of our off-balance sheet arrangements in Note 19—"Off-Balance Sheet Arrangements, Guarantees and Other Commitments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

The following table summarizes our unfunded commercial commitments as of December 31, 2018:

	Amount of Commitments Expiring per Period				
(Dollars in thousands)	Total	Less than 1 year	1-3 years	4-5 years	After 5 years
Commercial commitments:					
Loan commitments available for funding	$ 16,661,005	$ 13,182,605	$ 2,181,193	$ 919,829	$ 377,378
Standby letters of credit	2,214,342	2,177,026	31,753	2,868	2,695
Commercial letters of credit	37,674	37,323	300	51	—
Total unfunded credit commitments	$ 18,913,021	$ 15,396,954	$ 2,213,246	$ 922,748	$ 380,073

The following table summarizes our contractual obligations to make future payments as of December 31, 2018:

	Payments Due By Period				
(Dollars in thousands)	Total	Less than 1 year	1-3 years	4-5 years	After 5 years
SVBFG contractual obligations:					
Deposits (1) (2)	$ 49,328,900	$ 49,328,900	$ —	$ —	$ —
Borrowings (2)	1,327,877	631,412	348,826	—	347,639
Non-cancelable operating leases	223,672	38,609	73,429	62,563	49,071
Commitments to qualified affordable housing projects	205,685	55,662	133,621	3,933	12,469
Other obligations	16,655	7,484	9,171	—	—
Total obligations attributable to SVBFG	$ 51,102,789	$ 50,062,067	$ 565,047	$ 66,496	$ 409,179

(1) Includes time deposits and deposits with no defined maturity, such as noninterest-bearing demand, interest-bearing checking, savings, money market and sweep accounts.
(2) Amounts exclude contractual interest.

Excluded from the tables above are unfunded commitment obligations of $15.3 million to our managed funds of funds and other fund investments for which neither the payment, timing, nor eventual obligation is certain. Subject to applicable regulatory requirements, including the Volcker Rule (see "Business - Supervision and Regulation" under Part I, Item 1 of this report), we make commitments to invest in venture capital and private equity funds, which in turn make investments generally in, or in some cases make loans to, privately-held companies. Commitments to invest in these funds are generally made for a 10-year period from the inception of the fund. Although the limited partnership agreements governing these investments typically do not restrict the general partners from calling 100% of committed capital in one year, it is customary for these funds to generally call most of the capital commitments over 5 to 7 years; however in certain cases, the funds may not call 100% of committed capital over the life of the fund. The actual timing of future cash requirements to fund these commitments is generally dependent upon the investment cycle, overall market conditions, and the nature and type of industry in which the privately held companies operate. Additionally, our consolidated managed funds of funds have $5.8 million of remaining unfunded commitments to venture capital and private equity funds. See Note 8—"Investment Securities" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for further disclosure related to non-marketable and other equity securities. Additional discussion of our off-balance sheet arrangements for these fund investments is included in Note 19—"Off-Balance Sheet Arrangements, Guarantees and Other Commitments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

Liquidity

The objective of liquidity management is to ensure that funds are available in a timely manner to meet our financial obligations, including, as necessary, paying creditors, meeting depositors' needs, accommodating loan demand and growth, funding investments, repurchasing securities and other operating or capital needs, without incurring undue cost or risk, or causing a disruption to normal operating conditions.

We regularly assess the amount and likelihood of projected funding requirements through a review of factors such as historical deposit volatility and funding patterns, present and forecasted market and economic conditions, individual client funding needs, and existing and planned business activities. Our Asset/Liability Committee ("ALCO"), which is a management committee, provides oversight to the liquidity management process and recommends policy guidelines for the approval of the Finance Committee of our Board of Directors, and courses of action to address our actual and projected liquidity needs. Additionally, we routinely conduct liquidity stress testing as part of our liquidity management practices.

Our deposit base is, and historically has been, our primary source of liquidity. Our deposit levels and cost of deposits may fluctuate from time to time due to a variety of factors, including market conditions, prevailing interest rates, changes in client deposit behaviors, availability of insurance protection, and our offering of deposit products. At December 31, 2018, our period-end total deposit balances increased to $49.3 billion, compared to $44.3 billion at December 31, 2017.

Our liquidity requirements can also be met through the use of our portfolio of liquid assets. Our definition of liquid assets includes cash and cash equivalents in excess of the minimum levels necessary to carry out normal business operations, short-term investment securities maturing within one year, AFS securities eligible and available for financing or pledging purposes with a maturity in excess of one year and anticipated near-term cash flows from investments.

We have certain facilities in place to enable us to access short-term borrowings on a secured and unsecured basis. Our secured facilities include collateral pledged to the FHLB of San Francisco and the discount window at the FRB (using both fixed income securities and loans as collateral). Our unsecured facility consists of our uncommitted federal funds lines. As of December 31, 2018, collateral pledged to the FHLB of San Francisco was comprised primarily of fixed income investment securities and loans and had a carrying value of $4.4 billion, of which $3.7 billion was available to support additional borrowings. As of December 31, 2018, collateral pledged to the discount window at the FRB was comprised of fixed income investment securities and had a carrying value of $0.9 billion, all of which was unused and available to support additional borrowings. Our total unused and available borrowing capacity for our uncommitted federal funds lines totaled $1.8 billion at December 31, 2018. Our total unused and available borrowing capacity under our master repurchase agreements with various financial institutions totaled $2.9 billion at December 31, 2018.

On a stand-alone basis, SVB Financial's primary liquidity channels include dividends from the Bank, its portfolio of liquid assets, and its ability to raise debt and capital. The ability of the Bank to pay dividends is subject to certain regulations described in "Business—Supervision and Regulation—Restrictions on Dividends" under Part I, Item 1 of this report.

Consolidated Summary of Cash Flows

Below is a summary of our average cash position and statement of cash flows for 2018, 2017 and 2016, respectively: (For further details, see our Consolidated Statements of Cash Flows under "Consolidated Financial Statements and Supplementary Data" under Part II, Item 8 of this report.)

	Year ended December 31,		
(Dollars in thousands)	**2018**	**2017**	**2016**
Average cash and cash equivalents	$ 3,301,783	$ 3,484,651	$ 2,863,777
Percentage of total average assets	6.0%	7.2%	6.5%
Net cash provided by operating activities	$ 933,562	$ 646,865	$ 471,760
Net cash (used for) provided by investing activities	(4,800,375)	(5,970,496)	981,561
Net cash provided by (used for) financing activities	4,515,277	5,700,956	(410,828)
Net increase in cash and cash equivalents	$ 648,464	$ 377,325	$ 1,042,493

Average cash and cash equivalents decreased to $3.3 billion in 2018, compared to $3.5 billion for 2017. In 2018, our average deposits increased $5.3 billion and our average fixed income securities portfolio increased $2.4 billion which enabled us to grow our average loan portfolio by $4.5 billion in 2018.

2018

Cash provided by operating activities of $934 million in 2018 included net income before noncontrolling interests of $1.0 billion. These net inflows were offset by $20 million of adjustments to reconcile net income to net cash and $58 million from changes in other assets and liabilities.

Cash used for investing activities of $4.8 billion in 2018 included $5.2 billion of net outflows from the net increase in loans funded and $0.4 billion of net inflows from our fixed income securities portfolio, which had $5.8 billion of portfolio cash flows from sales, maturities, and paydowns, offset by $5.4 billion of purchases, during 2018.

Cash provided by financing activities of $4.5 billion in 2018 was driven primarily by the net increase in deposits of $5.1 billion, partially offset by a $0.4 billion decrease in short-term borrowings outstanding as of December 31, 2018 as well as $0.2 billion in cash outflows from the repurchase of our common stock under the Stock Repurchase Program.

Cash and cash equivalents at December 31, 2018 were $3.6 billion, compared to $2.9 billion at December 31, 2017.

2017

Cash provided by operating activities of $647 million in 2017 included net income before noncontrolling interests of $519 million. These net inflows also benefited from $83 million of adjustments to reconcile net income to net cash and $45 million from changes in other assets and liabilities.

Cash used for investing activities of $6.0 billion in 2017 included $3.2 billion of net outflows from the net increase in loans funded and $2.8 billion of net outflows from our fixed income securities portfolio, which had $8.4 billion of purchases, partially offset by $5.6 billion of portfolio cash flows from sales, maturities, and paydowns during 2017.

Cash provided by financing activities of $5.7 billion in 2017 was primarily from the net increase in deposits of $5.3 billion and a $521 million increase in short-term borrowings outstanding as of December 31, 2017.

Cash and cash equivalents at December 31, 2017 were $2.9 billion, compared to $2.5 billion at December 31, 2016.

2016

Cash provided by operating activities of $472 million in 2016 included net income before noncontrolling interests of $390 million. These net inflows also benefited from $57 million of adjustments to reconcile net income to net cash.

Cash provided by investing activities of $982 million in 2016 included $4.2 billion of net inflows from our fixed income securities, partially offset by $3.2 billion from the net increase in loans funded.

Cash used for financing activities of $411 million in 2016 included a $262 million decrease in short-term borrowings.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk Management

Market risk is defined as the risk of adverse fluctuations in the market value of financial instruments due to changes in market interest rates. Interest rate risk is our primary market risk and can result from timing and volume differences in the repricing of our rate-sensitive assets and liabilities, widening or tightening of credit spreads, changes in the general level of market interest rates and changes in the shape and level of the benchmark LIBOR/SWAP yield curve. Additionally, changes in interest rates can influence the rate of principal prepayments on mortgage securities, which affects the rate of amortization of purchase premiums and discounts. Other market risks include foreign currency exchange risk, equity price risk, including the effect of competition on product pricing. While all of these risks are important considerations, all are inherently difficult to predict, and it is equally difficult to assess the impact of each on the overall simulation results. Consequently, simulations used to analyze sensitivity of net interest income to interest rate risk will differ from actual results due to differences in the timing, frequency, and magnitude of changes in market rates, the impact of competition, fluctuating business conditions, and the impact of strategies taken by management to mitigate these risks.

Interest rate risk is managed by our ALCO. ALCO reviews the sensitivity of the market valuation on earning assets and funding liabilities and 12-month forward looking net interest income from changes in interest rates, structural changes in investment and funding portfolios, loan and deposit activity and current market conditions. Adherence with relevant metrics included in our Interest Rate Risk Policy, which is approved by the Finance Committee of our Board of Directors, is monitored on an ongoing basis.

Management of interest rate risk is carried out primarily through strategies involving our fixed income securities portfolio, available funding channels and capital market activities. In addition, our policies permit the use of off-balance sheet derivatives to assist in managing interest rate risk.

We utilize a simulation model to perform sensitivity analysis on the economic value of our equity and our net interest income under a variety of interest rate scenarios, balance sheet forecasts and business strategies. The simulation model provides a dynamic assessment of interest rate sensitivity embedded within our balance sheet which measures the potential variability in economic value and net interest income relating solely to changes in market interest rates over time. We review our interest rate risk position and sensitivity to market rates on a quarterly basis at a minimum.

Model Simulation and Sensitivity Analysis

A specific application of our simulation model involves measurement of the impact of changes in market interest rates on our economic value of equity (“EVE”). EVE is defined as the market value of assets, less the market value of liabilities. Another application of the simulation model measures the impact of changes in market interest rates on our net interest income (“NII”) assuming a static balance sheet as of the period-end reporting date. For the NII simulation, market rates as well as the size and composition of the balance sheet are held constant over the simulation horizon. Simulated cash flows during the scenario horizon are assumed to be replaced as they occur, which maintains the balance sheet at its current size and composition. Yield and spread assumptions on cash and investment balances reflect current market rates. Yield and spread assumptions on loans reflect recent market impacts on product pricing. Similarly, we make certain deposit decay rate assumptions on demand deposits and interest bearing deposits, which are replenished to hold the level and mix of funding liabilities constant. Changes in market interest rates that affect us are principally short-term interest rates and include the following benchmark indexes: (i) National Prime rates, (ii) 1-month and 3-month LIBOR, and (iii) the Federal Funds target rate. Changes in these short-term rates impact interest earned on our variable rate loans, variable rate investment securities and balances held as cash and cash equivalents. Additionally, simulated changes in deposit pricing relative to changes in market rates, commonly referred to as deposit beta, generally follow overall changes in short-term interest rates, although actual changes may lag in terms of timing and magnitude. Overall, the assumed weighted deposit beta on interest bearing deposits is approximately 35 percent, which means deposit repricing is assumed to be approximately 35 percent of a given change in short-term interest rates. This repricing is reflected as a change in interest expense on interest bearing deposit balances.

The following table presents our EVE and NII sensitivity exposure related to an instantaneous and sustained parallel shift in market interest rates of 100 and 200 basis points ("bps") at December 31, 2018 and at December 31, 2017:

Change in interest rates (bps) (Dollars in thousands)	Estimated EVE	Estimated Increase/(Decrease) In EVE		Estimated NII	Estimated Increase/ (Decrease) In NII	
		Amount	Percent		Amount	Percent
December 31, 2018:						
+200	$ 9,348,408	$ 504,405	5.7 %	$ 2,628,279	$ 543,959	26.1 %
+100	9,090,781	246,778	2.8	2,356,447	272,127	13.1
—	8,844,003	—	—	2,084,320	—	—
-100	8,470,501	(373,502)	(4.2)	1,807,559	(276,761)	(13.3)
-200	7,590,973	(1,253,030)	(14.2)	1,528,693	(555,627)	(26.7)
December 31, 2017:						
+200	$ 8,091,107	$ 805,624	11.1 %	$ 1,885,885	$ 400,127	26.9 %
+100	7,716,066	430,583	5.9	1,683,742	197,984	13.3
—	7,285,483	—	—	1,485,758	—	—
-100	6,637,588	(647,895)	(8.9)	1,252,063	(233,695)	(15.7)
-200	5,718,401	(1,567,082)	(21.5)	1,108,712	(377,046)	(25.4)

Economic Value of Equity

The estimated EVE in the preceding table is based on a combination of valuation methodologies including a discounted cash flow analysis and a multi-path lattice based valuation. Both methodologies use publicly available market interest rates to determine discounting factors on projected cash flows. The model simulations and calculations are highly assumption-dependent and will change regularly as the composition of earning assets and funding liabilities change (including the impact of changes in the value of interest rate derivatives, if any), as interest rate environments evolve, and as we change our assumptions in response to relevant market conditions, competition or business circumstances. These calculations do not reflect forecast changes in our balance sheet or changes we may make to reduce our EVE exposure as a part of our overall interest rate risk management strategy.

As with any method of measuring interest rate risk, certain limitations are inherent in the method of analysis presented in the preceding table. We are exposed to yield curve risk, prepayment risk, basis risk, and yield spread compression, which cannot be fully modeled and expressed using the above methodology. Accordingly, the results in the preceding table should not be relied upon as a precise indicator of actual results in the event of changing market interest rates. Additionally, the resulting EVE and NII estimates are not intended to represent, and should not be construed to represent our estimate of the underlying value of equity or forecast of NII.

Our base EVE as of December 31, 2018 increased from December 31, 2017 by $1.6 billion, driven by changes in balance sheet composition as well as rising interest rates. At December 31, 2018, as compared to December 31, 2017, total loan balances increased by $5.2 billion primarily in Prime and LIBOR indexed variable rate loans. At December 31, 2018, as compared to December 31, 2017, total fixed income securities decreased by $0.5 billion due primarily to the higher increase in total loan balances as compared to total deposit growth of $5.0 billion.

Higher LIBOR/swap rates and overall balance sheet growth contributed approximately $579 million and $979 million, respectively, to the overall $1.6 billion increase in base EVE. Higher rates and continued investment in mortgage-backed and municipal securities resulted in a $184 million decrease in EVE sensitivity in the +100 bps rate shock scenario compared to December 31, 2017. EVE in the -100 and -200 bps rate shock scenarios increased $274 million and $314 million, respectively.

12-Month Net Interest Income Simulation

Our static 12-month NII forecast at December 31, 2018 increased compared to December 31, 2017 by $599 million. The increase is primarily the result of the growth in the loan portfolio combined with increases in market rates, particularly Prime and LIBOR. As a majority of our loans are indexed to Prime and LIBOR, as rates rise, interest income on assets tied to variable rate indexes, primarily our variable rate loans, are expected to benefit our base 12-month NII projections. In addition, the 12-month NII simulations include repricing assumptions on our interest bearing deposit products which we set at our discretion based on client needs and our overall funding mix. Repricing of interest bearing deposits impacts estimated interest expense. As noted previously, repricing deposit rates are generally assumed to be less than one-half of the amount of simulated changes in short-term market interest rates.

NII sensitivity is measured as the percentage change in projected 12-month net interest income earned in +/-100 and +/-200 basis point interest rate shock scenarios compared to a base scenario where balances and interest rates are held constant over the forecast horizon. At December 31, 2018, NII sensitivity was 13.1 percent in the +100 bps interest rate scenario, compared to 13.3 percent at December 31, 2017. Our NII sensitivity in the +200 bps interest rate shock scenario was 26.1 percent compared to 26.9 percent at December 31, 2017. NII sensitivity in the -100 bps scenario of negative 13.3 percent was lower at December 31, 2018 compared to a negative 15.7 percent at December 31, 2017. The -200 bps scenario currently indicates a higher percentage change in NII at December 31, 2018 compared to December 31, 2017.

The changes in NII sensitivity are the result of an increase in the composition of longer duration securities in our fixed income portfolio, as well as wider implementation of rate floors in the loan portfolio. A majority of the growth in our balance sheet during 2018 was attributable to floating rate loans coupled with a large proportion of non-interest bearing deposit balances. The relatively high percentages of non-interest bearing demand deposits and floating rate loans are the primary drivers of NII sensitivity in the balance sheet.

The simulation model used in the above analysis incorporates embedded floors on loans, where present, in our interest rate scenarios, which prevent model benchmark rates from moving below zero percent in the down rate scenarios. The embedded floors are also a factor in the up rate scenarios to the extent a simulated increase in rates is needed before floored rates are cleared. In addition, we assume different deposit balance decay rates based on a historical deposit study of our clients. These assumptions may change in future periods based on changes in client behavior and at management's discretion. Actual changes in our deposit pricing strategies may differ from our current model assumptions and may have an impact on our actual sensitivity overall.

ITEM 8. CONSOLIDATED FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders
SVB Financial Group:

Opinions on the Consolidated Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of SVB Financial Group and subsidiaries (the Company) as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, stockholders' 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). We also have audited 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.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 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. Also 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.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, 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 consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

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

reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ KPMG LLP

We have served as the Company's auditor since 1994.

San Francisco, California
February 28, 2019

SVB FINANCIAL GROUP AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS

(Dollars in thousands, except par value and share data)	December 31, 2018	December 31, 2017
Assets		
Cash and cash equivalents	$ 3,571,539	$ 2,923,075
Available-for-sale securities, at fair value (cost of $7,862,311 and $11,131,008, respectively)	7,790,043	11,120,664
Held-to-maturity securities, at cost (fair value of $15,188,236 and $12,548,280, respectively)	15,487,442	12,663,455
Non-marketable and other equity securities	941,104	651,053
Total investment securities	24,218,589	24,435,172
Loans, net of unearned income	28,338,280	23,106,316
Allowance for loan losses	(280,903)	(255,024)
Net loans	28,057,377	22,851,292
Premises and equipment, net of accumulated depreciation and amortization	129,213	128,682
Accrued interest receivable and other assets	951,261	876,246
Total assets	$ 56,927,979	$ 51,214,467
Liabilities and total equity		
Liabilities:		
Noninterest-bearing demand deposits	$ 39,103,422	$ 36,655,497
Interest-bearing deposits	10,225,478	7,598,578
Total deposits	49,328,900	44,254,075
Short-term borrowings	631,412	1,033,730
Other liabilities	1,006,359	911,755
Long-term debt	696,465	695,492
Total liabilities	51,663,136	46,895,052
Commitments and contingencies (Note 19 and Note 25)		
SVBFG stockholders' equity:		
Preferred stock, $0.001 par value, 20,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.001 par value, 150,000,000 shares authorized; 52,586,498 shares and 52,835,188 shares issued and outstanding, respectively	53	53
Additional paid-in capital	1,378,438	1,314,377
Retained earnings	3,791,838	2,866,837
Accumulated other comprehensive loss	(54,120)	(1,472)
Total SVBFG stockholders' equity	5,116,209	4,179,795
Noncontrolling interests	148,634	139,620
Total equity	5,264,843	4,319,415
Total liabilities and total equity	$ 56,927,979	$ 51,214,467

See accompanying notes to the consolidated financial statements.

SVB FINANCIAL GROUP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME

(Dollars in thousands, except per share amounts)	Year ended December 31, 2018	2017	2016
Interest income:			
Loans	$ 1,358,480	$ 1,025,788	$ 834,155
Investment securities:			
Taxable	541,605	412,133	346,937
Non-taxable	34,616	5,714	2,234
Federal funds sold, securities purchased under agreements to resell and other short-term investment securities	35,208	21,505	10,070
Total interest income	1,969,909	1,465,140	1,193,396
Interest expense:			
Deposits	29,306	8,676	5,611
Borrowings	46,615	36,095	37,262
Total interest expense	75,921	44,771	42,873
Net interest income	1,893,988	1,420,369	1,150,523
Provision for credit losses (1)	87,870	92,304	106,679
Net interest income after provision for credit losses	1,806,118	1,328,065	1,043,844
Noninterest income:			
Gains on investment securities, net	88,094	64,603	51,740
Gains on equity warrant assets, net (2)	89,142	54,555	37,892
Foreign exchange fees	138,812	115,760	104,183
Credit card fees	94,072	76,543	68,205
Deposit service charges	76,097	58,715	52,524
Client investment fees	130,360	56,136	32,219
Lending related fees	41,949	43,265	33,395
Letters of credit and standby letters of credit fees	34,600	28,544	25,644
Other (2)	51,858	59,110	50,750
Total noninterest income	744,984	557,231	456,552
Noninterest expense:			
Compensation and benefits	726,980	606,402	514,270
Professional services	158,835	121,935	94,982
Premises and equipment	77,918	71,753	65,502
Net occupancy	54,753	48,397	39,928
Business development and travel	48,180	41,978	40,130
FDIC and state assessments	34,276	35,069	30,285
Correspondent bank fees	13,713	12,976	12,457
Other	73,538	72,145	62,243
Total noninterest expense (1)	1,188,193	1,010,655	859,797
Income before income tax expense	1,362,909	874,641	640,599
Income tax expense (3)	351,561	355,463	250,333
Net income before noncontrolling interests	1,011,348	519,178	390,266
Net income attributable to noncontrolling interests	(37,508)	(28,672)	(7,581)
Net income available to common stockholders (3)	$ 973,840	$ 490,506	$ 382,685
Earnings per common share—basic (3)	$ 18.35	$ 9.33	$ 7.37
Earnings per common share—diluted (3)	18.11	9.20	7.31

(1) Our consolidated statements of income for the year ended December 31, 2016 was modified from prior periods' presentation to conform to the current period's presentation, which reflects our provision for loan losses and provision for unfunded credit commitments together as our "provision for credit losses". In prior periods, our provision for unfunded credit commitments were reported separately as a component of noninterest expense.

(2) Our consolidated statements of income for the year ended December 31, 2016 was modified from prior periods' presentation to conform to the current period's presentation, which reflects a new line item to separately disclose net gains on equity warrant assets. In prior periods, net gains on equity warrant assets were reported as a component of net gains on derivative instruments. We removed the line item "gains on derivative instruments, net" and reclassified all other gains on derivative instruments, net to other noninterest income.

(3) Included in income tax expense, net income available to common stockholders, earnings per common share-basic and earnings for common share-diluted, for the years ended December 31, 2018 and 2017, are tax benefits recognized associated with the adoption of Accounting Standards Update ("ASU") 2016-09, Improvements to Employee Share-Based Payment Accounting in the first quarter of 2017. This guidance was adopted on a prospective basis with no change to prior period amounts.

See accompanying notes to the consolidated financial statements.

SVB FINANCIAL GROUP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Dollars in thousands)	Year ended December 31, 2018	2017	2016
Net income before noncontrolling interests	$ 1,011,348	$ 519,178	$ 390,266
Other comprehensive (loss) income, net of tax:			
Change in foreign currency cumulative translation gains and losses:			
Foreign currency translation (losses) gains	(5,999)	6,355	(5,245)
Related tax benefit (expense)	1,669	(2,587)	2,050
Change in unrealized gains and losses on available-for-sale securities:			
Unrealized holding (losses) gains	(22,348)	(47,161)	39,016
Related tax benefit (expense)	6,315	19,282	(15,911)
Reclassification adjustment for losses (gains) included in net income (1)	740	5,189	(12,195)
Related tax (benefit) expense (1)	(205)	(2,098)	4,963
Reclassification of unrealized gains on equity securities to retained earnings for ASU 2016-01 (1)	(40,316)	—	—
Related tax expense (1)	11,145	—	—
Amortization of unrealized gains on securities transferred from available-for-sale to held-to-maturity	(4,607)	(6,475)	(7,786)
Related tax benefit	1,277	2,593	3,134
Reclassification of stranded tax effect to retained earnings for ASU 2018-02 (1)	(319)	—	—
Other comprehensive (loss) income, net of tax	(52,648)	(24,902)	8,026
Comprehensive income	958,700	494,276	398,292
Comprehensive income attributable to noncontrolling interests	(37,508)	(28,672)	(7,581)
Comprehensive income attributable to SVBFG	$ 921,192	$ 465,604	$ 390,711

(1) See Note 2- "Summary of Significant Accounting Policies" of the "Notes to Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

See accompanying notes to the consolidated financial statements.

SVB FINANCIAL GROUP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY

(Dollars in thousands, except share data)	Common Stock Shares	Common Stock Amount	Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Total SVBFG Stockholders' Equity	Noncontrolling Interests	Total Equity
Balance at December 31, 2015	**51,610,226**	**$ 52**	**$ 1,189,032**	**$ 1,993,646**	**$ 15,404**	**$ 3,198,134**	**$ 135,097**	**$ 3,333,231**
Common stock issued under employee benefit plans, net of restricted stock cancellations	600,683	—	21,819	—	—	21,819	—	21,819
Common stock issued under ESOP	43,165	—	4,328	—	—	4,328	—	4,328
Income tax effect from stock options exercised, vesting of restricted stock and other (1)	—	—	(3,640)	—	—	(3,640)	—	(3,640)
Net income	—	—	—	382,685	—	382,685	7,581	390,266
Capital calls and distributions, net	—	—	—	—	—	—	(8,195)	(8,195)
Net change in unrealized gains and losses on AFS securities, net of tax	—	—	—	—	15,873	15,873	—	15,873
Amortization of unrealized gains on securities transferred from AFS to HTM, net of tax	—	—	—	—	(4,652)	(4,652)	—	(4,652)
Foreign currency translation adjustments, net of tax	—	—	—	—	(3,195)	(3,195)	—	(3,195)
Share-based compensation, net	—	—	31,202	—	—	31,202	—	31,202
Balance at December 31, 2016	**52,254,074**	**$ 52**	**$ 1,242,741**	**$ 2,376,331**	**$ 23,430**	**$ 3,642,554**	**$ 134,483**	**$ 3,777,037**
Common stock issued under employee benefit plans, net of restricted stock cancellations	570,276	1	24,908	—	—	24,909	—	24,909
Common stock issued under ESOP	10,838	—	2,094	—	—	2,094	—	2,094
Income tax effect from stock options exercised, vesting of restricted stock and other (1)	—	—	—	—	—	—	—	—
Net income	—	—	—	490,506	—	490,506	28,672	519,178
Capital calls and distributions, net	—	—	—	—	—	—	(23,535)	(23,535)
Net change in unrealized gains and losses on AFS securities, net of tax	—	—	—	—	(24,788)	(24,788)	—	(24,788)
Amortization of unrealized gains on securities transferred from AFS to HTM, net of tax	—	—	—	—	(3,882)	(3,882)	—	(3,882)
Foreign currency translation adjustments, net of tax	—	—	—	—	3,768	3,768	—	3,768
Share-based compensation, net	—	—	44,634	—	—	44,634	—	44,634
Balance at December 31, 2017	**52,835,188**	**$ 53**	**$ 1,314,377**	**$ 2,866,837**	**$ (1,472)**	**$ 4,179,795**	**$ 139,620**	**$ 4,319,415**
Cumulative adjustment for ASU 2014-09, net of tax (2)	—	—	—	(5,802)	—	(5,802)	—	(5,802)
Cumulative adjustment for ASU 2016-01, net of tax (2)	—	—	—	103,766	(29,171)	74,595	—	74,595
Reclassification of stranded tax effect for ASU 2018-02 (2)	—	—	—	319	(319)	—	—	—
Common stock issued under employee benefit plans, net of restricted stock cancellations	456,845	1	15,809	—	—	15,810	—	15,810
Common stock issued under ESOP	9,672	—	2,577	—	—	2,577	—	2,577
Income tax effect from stock options exercised, vesting of restricted stock and other (1)	—	—	—	—	—	—	—	—
Net income	—	—	—	973,840	—	973,840	37,508	1,011,348
Capital calls and distributions, net	—	—	—	—	—	—	(28,494)	(28,494)
Net change in unrealized gains and losses on AFS securities, net of tax	—	—	—	—	(15,498)	(15,498)	—	(15,498)
Amortization of unrealized gains on securities transferred from AFS to HTM, net of tax	—	—	—	—	(3,330)	(3,330)	—	(3,330)
Foreign currency translation adjustments, net of tax	—	—	—	—	(4,330)	(4,330)	—	(4,330)
Share-based compensation, net	—	—	45,675	—	—	45,675	—	45,675
Common stock repurchases	(715,207)	(1)	—	(147,122)	—	(147,123)	—	(147,123)
Balance at December 31, 2018	**52,586,498**	**$ 53**	**$ 1,378,438**	**$ 3,791,838**	**$ (54,120)**	**$ 5,116,209**	**$ 148,634**	**$ 5,264,843**

(1) During the first quarter of 2017 we adopted ASU 2016-09, Improvements to Employee Share-Based Payment Accounting. The amendments in this ASU require that all excess tax benefits and tax deficiencies associated with share-based compensation be recognized in income tax expense or benefit in the income statement. This guidance was adopted on a prospective basis with no change to prior period amounts.
(2) See Note 2- "Summary of Significant Accounting Policies" of the "Notes to Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

See accompanying notes to the consolidated financial statements.

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SVB FINANCIAL GROUP AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(Dollars in thousands)	Year ended December 31, 2018	2017	2016
Cash flows from operating activities:			
Net income before noncontrolling interests	$ 1,011,348	$ 519,178	$ 390,266
Adjustments to reconcile net income to net cash provided by operating activities:			
Provision for credit losses	87,870	92,304	106,679
Change in fair value of equity warrant assets, net of proceeds from exercises	(24,417)	(11,862)	(9,251)
Changes in fair values of derivatives, net	(11,043)	14,261	(9,036)
Gains on investment securities, net (1)	(88,094)	(45,547)	(21,753)
Distributions of earnings from non-marketable and other equity securities (1)	72,015	45,867	15,991
Depreciation and amortization	57,906	56,123	46,819
Amortization of premiums and discounts on investment securities, net	(28)	2,530	6,582
Amortization of share-based compensation	45,675	36,900	35,494
Amortization of deferred loan fees	(128,077)	(111,738)	(98,150)
Deferred income tax (benefit) expense	(21,061)	25,187	(4,235)
Excess tax benefit from exercise of stock options and vesting of restricted shares (2)	(17,989)	(18,014)	—
Losses from the write-off of premises and equipment	7,278	—	—
Other gains	—	(3,308)	(12,195)
Changes in other assets and liabilities:			
Accrued interest receivable and payable, net	(55,834)	(31,372)	(3,663)
Accounts receivable and payable, net	(23,020)	3,481	(4,945)
Income tax receivable and payable, net	(5,820)	46,168	3,672
Accrued compensation	56,874	31,689	(15,292)
Foreign exchange spot contracts, net	24,018	(20,891)	3,093
Other, net	(54,039)	15,909	41,684
Net cash provided by operating activities	933,562	646,865	471,760
Cash flows from investing activities:			
Purchases of available-for-sale securities	(668,264)	(2,420,741)	(429,268)
Proceeds from sales of available-for-sale securities	474,482	580,871	2,892,460
Proceeds from maturities and paydowns of available-for-sale securities	3,436,064	3,339,574	1,364,398
Purchases of held-to-maturity securities	(4,726,595)	(5,967,223)	(1,306,010)
Proceeds from maturities and paydowns of held-to-maturity securities	1,891,761	1,708,001	1,656,580
Purchases of non-marketable and other equity securities	(81,574)	(44,047)	(48,932)
Proceeds from sales and distributions of capital of non-marketable and other equity securities (1)	95,025	51,052	62,925
Net increase in loans	(5,175,409)	(3,170,099)	(3,157,281)
Purchases of premises and equipment	(45,865)	(50,884)	(53,311)
Proceeds from sale of equity valuation services business	—	3,000	—
Net cash (used for) provided by investing activities	(4,800,375)	(5,970,496)	981,561
Cash flows from financing activities:			
Net increase (decrease) in deposits	5,074,825	5,274,207	(162,908)
Net (decrease) increase in short-term borrowings	(402,318)	521,062	(262,232)
Principal payments of long-term debt	—	(97,781)	—
(Distributions to noncontrolling interests), net of contributions from noncontrolling interests	(28,494)	(23,535)	(8,195)
Common stock repurchase	(147,123)	—	—
Proceeds from issuance of common stock, ESPP and ESOP	18,387	27,003	26,147
Tax effect from stock exercises (2)	—	—	(3,640)
Net cash provided by (used for) by financing activities	4,515,277	5,700,956	(410,828)
Net increase in cash and cash equivalents	648,464	377,325	1,042,493
Cash and cash equivalents at beginning of period	2,923,075	2,545,750	1,503,257
Cash and cash equivalents at end of period	**$ 3,571,539**	**$ 2,923,075**	**$ 2,545,750**
Supplemental disclosures:			
Cash paid during the period for:			
Interest	$ 75,601	$ 45,592	$ 42,918
Income taxes	376,425	277,823	240,752
Noncash items during the period:			

Changes in unrealized gains and losses on available-for-sale securities, net of tax	$ (15,498)	$ (24,788)	$ 15,873
Distributions of stock from investments	5,277	6,807	1,315

(1) During the first quarter of 2018 we adopted ASU 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. This guidance was adopted on a retrospective basis and impacted the presentation between investing and operating activities related to distributions and net gains from our non-marketable and other equity securities portfolio. See Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

(2) In 2017 we adopted ASU 2016-09, Improvements to Employee Share-Based Payment Accounting on a prospective basis with no change to prior period amounts. Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

See accompanying notes to the consolidated financial statements.

SVB FINANCIAL GROUP AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS

1. Nature of Business

SVB Financial Group is a diversified financial services company, as well as a bank holding company and a financial holding company. SVB Financial was incorporated in the state of Delaware in March 1999. Through our various subsidiaries and divisions, we offer a diverse set of banking and financial products and services to support our clients of all sizes and stages throughout their life cycles. In these notes to our consolidated financial statements, when we refer to "SVB Financial Group," "SVBFG", the "Company," "we," "our," "us" or use similar words, we mean SVB Financial Group and all of its subsidiaries collectively, including Silicon Valley Bank (the "Bank"), unless the context requires otherwise. When we refer to "SVB Financial" or the "Parent" we are referring only to the parent company entity, SVB Financial Group (not including subsidiaries).

We offer commercial banking products and services through our principal subsidiary, the Bank, which is a California-chartered bank founded in 1983 and a member of the Federal Reserve System. Through its subsidiaries, the Bank also offers asset management, private wealth management and other investment services. We also offer non-banking products and services, such as funds management, private equity/venture capital investment through our other subsidiaries and divisions. We primarily focus on serving corporate clients in the following niches: technology, life science/healthcare, private equity/venture capital and premium wine. Our corporate clients range widely in terms of size and stage of maturity. Additionally, we focus on cultivating strong relationships with firms within the venture capital and private equity community worldwide, many of which are also our clients and may invest in our corporate clients.

Headquartered in Santa Clara, California, we operate in centers of innovation in the United States and around the world.

For reporting purposes, SVB Financial Group has three operating segments for which we report financial information in this report: Global Commercial Bank, SVB Private Bank, and SVB Capital. Financial information, results of operations and a description of the services provided by our operating segments are set forth in Note 22—"Segment Reporting" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

2. Summary of Significant Accounting Policies

Use of Estimates and Assumptions

The preparation of consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Estimates may change as new information is obtained. Significant items that are subject to such estimates include measurements of fair value, the valuation of non-marketable and other equity securities, the valuation of equity warrant assets, the adequacy of the allowance for loan losses and the allowance for unfunded credit commitments and the recognition and measurement of income tax assets and liabilities. The following discussion provides additional background on our significant accounting policies.

Principles of Consolidation and Presentation

Our consolidated financial statements include the accounts of SVB Financial Group and consolidated entities. We consolidate voting entities in which we have control through voting interests or entities through which we have a controlling financial interest in a variable interest entity ("VIE"). We determine whether we have a controlling financial interest in a VIE by determining if we have (a) the power to direct the activities of the VIE that most significantly impact the entity's economic performance, (b) the obligation to absorb the expected losses, or (c) the right to receive the expected returns of the entity. Generally, we have significant variable interests if our commitments to a limited partnership investment represent a significant amount of the total commitments to the entity. We also evaluate the impact of related parties on our determination of variable interests in our consolidation conclusions. We consolidate VIEs in which we are the primary beneficiary based on a controlling financial interest. If we are not the primary beneficiary of a VIE, we record our pro-rata interests based on our ownership percentage.

VIEs are entities where investors lack sufficient equity at risk for the entity to finance its activities without additional subordinated financial support or equity investors and, as a group, lack one of the following characteristics: (a) the power to direct the activities that most significantly impact the entity's economic performance, (b) the obligation to absorb the expected losses of the entity, or (c) the right to receive the expected returns of the entity. We assess VIEs to determine if we are the primary beneficiary of a VIE. A primary beneficiary is defined as a variable interest holder that has a controlling financial interest. A controlling financial interest requires both: (a) the power to direct the activities that most significantly impact the VIEs economic performance, and (b) the obligation to absorb losses or receive benefits of a VIE that could potentially be significant to a VIE.

Under this analysis, we also evaluate kick-out rights and other participating rights, which could provide us a controlling financial interest. The primary beneficiary of a VIE is required to consolidate the VIE.

We also evaluate fees paid to managers of our limited partnership investments. We exclude those fee arrangements that are not deemed to be variable interests from the analysis of our interests in our investments in VIEs and the determination of a primary beneficiary, if any. Fee arrangements based on terms that are customary and commensurate with the services provided are deemed not to be variable interests and are, therefore, excluded.

All significant intercompany accounts and transactions with consolidated entities have been eliminated. We have not provided financial or other support during the periods presented to any VIE that we were not previously contractually required to provide.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash on hand, cash balances due from banks, interest-earning deposits, Federal Reserve deposits, federal funds sold, securities purchased under agreements to resell and other short-term investment securities. For the consolidated statements of cash flows, we consider cash equivalents to be investments that are readily convertible to known amounts of cash, so near to their maturity that they present an insignificant risk of change in fair value due to changes in market interest rates, and purchased in conjunction with our cash management activities.

Investment Securities

Available-for-Sale Securities

Our available-for-sale securities portfolio is a fixed income investment portfolio that is managed to earn an appropriate portfolio yield over the long-term while maintaining sufficient liquidity and credit diversification and meeting our asset/liability management objectives. Unrealized gains and losses on available-for-sale securities, net of applicable taxes, are reported in accumulated other comprehensive income, which is a separate component of SVBFG's stockholders' equity, until realized.

We analyze available-for-sale securities for other-than-temporary impairment each quarter. Market valuations represent the current fair value of a security at a specified point in time and incorporates the risk of timing of interest due and the return of principal over the contractual life of each security. Gains and losses on securities are realized when there is a sale of the security prior to maturity. A credit downgrade represents an increased level of risk of other-than-temporary impairment, and as a part of our consideration of recording an other-than-temporary impairment we will assess the issuer's ability to service the debt and to repay the principal at contractual maturity.

We apply the other-than-temporary impairment standards of ASC 320, *Investments-Debt and Equity Securities* For our debt securities, we have the intent and ability to hold these securities until we recover our cost less any credit-related loss. We separate the amount of the other-than-temporary impairment, if any, into the amount that is credit related (credit loss component) and the amount due to all other factors. The credit loss component is recognized in earnings and is the difference between a security's amortized cost basis and the present value of expected future cash flows discounted at the security's effective interest rate. The amount due to all other factors is recognized in other comprehensive income.

We consider numerous factors in determining whether a credit loss exists and the period over which the debt security is expected to recover. The following list is not meant to be all inclusive. All of the following factors are considered:

- The length of time and the extent to which the fair value has been less than the amortized cost basis (severity and duration);
- Adverse conditions specifically related to the security, an industry, or geographic area; for example, changes in the financial condition of the issuer of the security, or in the case of an asset-backed debt security, changes in the financial condition of the underlying loan obligors. Examples of those changes include any of the following:
    - Changes in technology;
    - The discontinuance of a segment of the business that may affect the future earnings potential of the issuer or underlying loan obligors of the security; and
    - Changes in the quality of the credit enhancement.
- The historical and implied volatility of the fair value of the security;

- The payment structure of the debt security and the likelihood of the issuer being able to make payments that increase in the future;
- Failure of the issuer of the security to make scheduled interest or principal payments;
- Any changes to the rating of the security by a rating agency; and
- Recoveries or additional declines in fair value after the balance sheet date.

In accordance with ASC 310-20, *Receivables-Nonrefundable Fees and Other Costs*, we use estimates of future principal prepayments, provided by third-party market-data vendors, in addition to actual principal prepayment experience to calculate the constant effective yield necessary to apply the effective interest method in the amortization of purchase discounts or premiums on mortgage-backed securities and fixed rate collateralized mortgage obligations. The accretion and amortization of discounts and premiums, respectively, are included in interest income over the contractual terms of the underlying securities replicating the effective interest method.

Held-to-Maturity Securities

Debt securities purchased in which we have the positive intent and ability to hold to its maturity are classified as held-to-maturity securities and are recorded at amortized cost.

Transfers of investment securities into the held-to-maturity category from the available-for-sale category are made at fair value at the date of transfer. The net unrealized gains, net of tax, are retained in other comprehensive income, and the carrying value of the held-to-maturity securities are amortized over the life of the securities in a manner consistent with the amortization of a premium or discount. Our decision to re-designate the securities was based on our ability and intent to hold these securities to maturity.

Non-Marketable and Other Equity Securities

Non-marketable and other equity securities include investments in venture capital and private equity funds, SPD Silicon Valley Bank Co., Ltd. (the Bank's joint venture bank in China ("SPD-SVB")), debt funds, private and public portfolio companies, including public equity securities held as a result of equity warrant assets exercised, and investments in qualified affordable housing projects. A majority of these investments are managed through our SVB Capital funds business in funds of funds and direct venture funds. Our accounting for investments in non-marketable and other equity securities depends on several factors, including the level of ownership, power to control and the legal structure of the subsidiary making the investment. As further described below, we base our accounting for such securities on: (i) fair value accounting, (ii) other investments without a readily determinable fair value, (iii) equity method accounting, and (iv) the proportional amortization method which is used only for qualified affordable housing projects.

Fair Value Accounting

Our managed funds are investment companies under the AICPA Audit and Accounting Guide for Investment Companies (codified in ASC 946) and accordingly, these funds report their investments at estimated fair value, with unrealized gains and losses resulting from changes in fair value reflected as investment gains or losses in our consolidated statements of income. Our non-marketable and other equity securities recorded pursuant to fair value accounting consist of our investments through the following funds:

- Funds of funds, which make investments in venture capital and private equity funds, and
- Direct venture funds, which make equity investments in privately held companies.

A summary of our ownership interests in the investments held under fair value accounting as of December 31, 2018 is presented in the following table:

Limited partnership	Company Direct and Indirect Ownership in Limited Partnership
Managed funds of funds	
Strategic Investors Fund, LP	12.6%
Capital Preferred Return Fund, LP	20.0
Growth Partners, LP	33.0
Managed direct venture funds	
CP I, LP	10.7

The general partner interests of these funds are controlled, and in some cases, owned by SVB Financial. The limited partners of these funds do not have substantive participating or kick-out rights. Therefore, these funds are consolidated and any gains or losses resulting from changes in the estimated fair value of the investments are recorded as investment gains or losses in our consolidated net income.

Under fair value accounting, investments are carried at their estimated fair value based on financial information obtained as the general partner of the fund or obtained from the funds' respective general partner. For direct private company investments, valuations are based upon consideration of a range of factors including, but not limited to, the price at which the investment was acquired, the term and nature of the investment, local market conditions, values for comparable securities, current and projected operating performance, exit strategies and financing transactions subsequent to the acquisition of the investment. For direct equity investments in public companies, valuations are based on quoted market prices less a discount if the securities are subject to certain sales restrictions. Sales restriction discounts generally range from ten percent to twenty percent depending on the sale restrictions which typically range from three to six months. The valuation of non-marketable securities in shares of private company capital stock and the valuation of other securities in shares of public company stock with certain sales restrictions is subject to significant judgment. The inherent uncertainty in the process of valuing securities for which a ready market does not exist may cause our estimated values of these securities to differ significantly from the values that would have been derived had a ready market for the securities existed, and those differences could be material.

For our fund investments, we utilize the net asset value as obtained from the general partners of the fund investments as the funds do not have a readily determinable fair value. The general partners of our fund investments prepare their financial statements using guidance consistent with fair value accounting. We account for differences between our measurement date and the date of the fund investment's net asset value by using the most recent available financial information from the investee general partner, for example September 30th, for our December 31st consolidated financial statements. We adjust the value of our investments for any contributions paid, distributions received from the investment, and known significant fund transactions or market events about which we are aware through information provided by the fund managers or from publicly available transaction data during the reporting period.

Gains or losses resulting from changes in the estimated fair value of the investments and from distributions received are recorded as gains on investment securities, net, a component of noninterest income. The portion of any investment gains or losses attributable to the limited partners is reflected as net income attributable to noncontrolling interests and adjusts our net income to reflect its percentage ownership.

Other Investments without a Readily Determinable Fair Value

Effective January 1, 2018 we adopted ASU 2016-01 Recognition and Measurement of Financial Assets and Financial Liabilities which eliminated the concept of cost method accounting and created an additional method of accounting, other investments without a readily determinable fair value. These investments include direct equity investments in private companies. The carrying value is based on the price at which the investment was acquired plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments. We consider a range of factors when adjusting the fair value of these investments, including, but not limited to, the term and nature of the investment, local market conditions, values for comparable securities, current and projected operating performance, exit strategies, financing transactions subsequent to the acquisition of

the investment and a discount for certain investments that have lock-up restrictions or other features that indicate a discount to fair value is warranted.

Equity Method

Our equity method non-marketable securities consist of investments in venture capital and private equity funds, privately-held companies, debt funds, and joint ventures. Our equity method non-marketable securities and related accounting policies are described as follows:

- Equity securities, such as preferred or common stock in privately-held companies in which we hold a voting interest of at least 20 percent, or in which we have the ability to exercise significant influence over the investees' operating and financial policies through board involvement or other influence, are accounted for under the equity method,
- Investments in limited partnerships in which we hold voting interests of more than 5 percent, or in which we have the ability to exercise significant influence over the partnerships' operating and financial policies, are accounted for using the equity method, and
- Our China Joint Venture partnership, for which we have 50 percent ownership, is accounted for under the equity method.

We recognize our proportionate share of the results of operations of these equity method investees in our results of operations, based on the most current financial information available from the investee. We review our investments accounted for under the equity method at least quarterly for possible other-than-temporary impairment. Our review typically includes an analysis of facts and circumstances for each investment, the expectations of the investment's future cash flows and capital needs, variability of its business and the company's exit strategy. For our fund investments, we utilize the net asset value per share as provided by the general partners of the fund investments. We account for differences between our measurement date and the date of the fund investment's net asset value by using the most recent available financial information from the investee general partner, for example September 30th, for our December 31st consolidated financial statements. We adjust the value of our investments for any contributions paid, distributions received from the investment, and known significant fund transactions or market events about which we are aware through information provided by the fund managers or from publicly available transaction data during the reporting period.

We reduce our investment value when we consider declines in value to be other-than-temporary and recognize the estimated loss as a loss on investment securities, a component of noninterest income.

Proportional Amortization Method

In order to fulfill our responsibilities under the Community Reinvestment Act, we invest as a limited partner in low income housing partnerships that operate qualified affordable housing projects and generate tax benefits, including federal low income housing tax credits, for investors. The partnerships are deemed to be VIEs because they do not have sufficient equity investment at risk and are structured with non-substantive voting rights. We are not the primary beneficiary of the VIEs and do not consolidate them. Our investments in low income housing partnerships are recorded in non-marketable and other equity securities within our investment securities portfolio on the consolidated balance sheet. As a practical expedient, we amortize the investment in proportion to the allocated tax benefits under the proportional amortization method of accounting and present such benefits net of investment amortization in income tax expense.

Loans

Loans are reported at the principal amount outstanding, net of unearned loan fees. Unearned loan fees reflect unamortized deferred loan origination and commitment fees net of unamortized deferred loan origination costs. In addition to cash loan fees, we often obtain equity warrant assets that give us an option to purchase a position in a client company's stock in consideration for providing credit facilities. The grant date fair values of these equity warrant assets are deemed to be loan fees and are deferred as unearned income and recognized as an adjustment of loan yield through loan interest income. The net amount of unearned loan fees is amortized into loan interest income over the contractual terms of the underlying loans and commitments using the constant effective yield method, adjusted for actual loan prepayment experience, or the straight-line method, as applicable.

Allowance for Loan Losses

The allowance for loan losses considers credit risk and is established through a provision for loan losses charged to expense. Our allowance for loan losses is established for estimated loan losses that are probable and incurred but not yet realized. Our

evaluation process is designed to determine that the allowance for loan losses is appropriate at the balance sheet date. The process of estimating loan losses is inherently imprecise.

We maintain a systematic process for the evaluation of individual loans and pools of loans for inherent risk of loan losses. At the time of approval, each loan in our portfolio is assigned a Credit Risk Rating and industry niche. Credit Risk Ratings are assigned on a scale of 1 to 10, with 1 representing loans with a low risk of nonpayment, 9 representing loans with the highest risk of nonpayment, and 10 representing loans which have been charged-off. The credit risk ratings for each loan are monitored and updated on an ongoing basis. This Credit Risk Rating process includes, but is not limited to, consideration of such factors as payment status, the financial condition and operating performance of the borrower, borrower compliance with loan covenants, underlying collateral values and performance trends, the degree of access to additional capital, the presence of credit enhancements such as third party guarantees (where applicable), the degree to which the borrower is sensitive to external factors, the depth and experience of the borrower's management team, potential loan concentrations, and general economic conditions. Our policies require a committee of senior management to review, at least quarterly, credit relationships with a credit risk rating of 5 through 9 that exceed specific dollar values. Our review process evaluates the appropriateness of the credit risk rating and allocation of the allowance for loan losses, as well as other account management functions. The allowance for loan losses is determined based on a qualitative analysis and a formula allocation for similarly risk-rated loans by portfolio segment and individually for impaired loans. The formula allocation provides the average loan loss experience for each portfolio segment, which considers our quarterly historical loss experience since the year 2000, both by risk-rating category and client industry sector. The resulting loan loss factors for each risk-rating category and client industry sector are ultimately applied to the respective period-end client loan balances for each corresponding risk-rating category by client industry sector to provide an estimation of the allowance for loan losses. The probable loan loss experience for any one year period of time is reasonably expected to be greater or less than the average as determined by the loss factors. As such, management applies a qualitative allocation to the results of the aforementioned model to ascertain the total allowance for loan losses. This qualitative allocation is based on management's assessment of the risks that may lead to a loan loss experience different from our historical loan loss experience. Based on management's prediction or estimate of changing risks in the lending environment, the qualitative allocation may vary significantly from period to period and includes, but is not limited to, consideration of the following factors:

- Changes in lending policies and procedures, including underwriting standards and collections, and charge-off and recovery practices;
- Changes in national and local economic business conditions, including the market and economic condition of our clients' industry sectors;
- Changes in the nature of our loan portfolio;
- Changes in experience, ability, and depth of lending management and staff;
- Changes in the trend of the volume and severity of past due and classified loans;
- Changes in the trend of the volume of nonaccrual loans, troubled debt restructurings, and other loan modifications;
- Reserve floor for portfolio segments that would not draw a minimum reserve based on the lack of historical loan loss experience;
- Reserve for large funded loan exposure;
- Reserve for performing impaired loan exposure; and
- Other factors as determined by management from time to time.

While the evaluation process of our allowance for loan losses uses historical and other objective information, the classification of loans and the establishment of the allowance for loan losses rely, to a great extent, on the judgment and experience of our management.

Allowance for Unfunded Credit Commitments

We record a liability for probable and estimable incurred losses associated with our unfunded credit commitments being funded and subsequently being charged off. Each quarter, every unfunded client credit commitment is allocated to a credit risk-rating in accordance with each client's credit risk rating and portfolio segment. We use the segment specific historical loan loss factors described under our allowance for loan losses to calculate the loan loss experience if unfunded credit commitments are funded. Separately, we use historical trends to calculate a probability of an unfunded credit commitment being funded. We apply

the loan funding probability factor to risk-factor adjusted unfunded credit commitments by credit risk-rating and portfolio segment to derive the allowance for unfunded credit commitments, similar to funded loans. The allowance for unfunded credit commitments also includes certain qualitative allocations as deemed appropriate by management. We include the allowance for unfunded credit commitments in other liabilities and the related provision in our provision for credit losses.

Uncollectible Loans and Write-offs

Our charge-off policy applies to all loans, regardless of portfolio segment. Commercial loans are considered for a full or partial charge-off in the event that principal or interest is over 180 days past due and the loan lacks sufficient collateral and it is not in the process of collection, provided that a loss event has been defined and the charge-off is consistent with GAAP. Consumer loans are considered for a full or partial charge-off in the event that principal or interest is over 120 days past due and the loan lacks sufficient collateral and it is not in the process of collection, provided that a loss event has been defined and the charge-off is consistent with GAAP. We also consider writing off loans in the event of any of the following circumstances: 1) the loan, or a portion of the loan is deemed uncollectible due to: a) the borrower's inability to make recurring payments, b) material changes in the borrower's financial condition, or c) the expected sale of all or a portion of the borrower's business is insufficient to repay the loan in full, or 2) the loan has been identified for charge-off by regulatory authorities.

Troubled Debt Restructurings

A TDR arises from the modification of a loan where we have granted a concession to the borrower related to the borrower's financial difficulties that we would not have otherwise considered for economic or legal reasons. These concessions may include: (1) deferral of payment for more than an insignificant period of time that does not include sufficient offsetting borrower concessions; (2) interest rate reductions; (3) extension of the maturity date outside of ordinary course extension; (4) principal forgiveness; and/or (5) reduction of accrued interest.

We use the factors in ASC 310-40, *Receivables, Troubled Debt Restructurings by Creditors,* in analyzing when a borrower is experiencing financial difficulty, and when we have granted a concession, both of which must be present for a restructuring to meet the criteria of a TDR. If we determine that a TDR exists, we measure impairment based on the present value of expected future cash flows discounted at the loan's effective interest rate, except that as a practical expedient, we may also measure impairment based on a loan's observable market price, or the fair value of the collateral less selling costs if the loan is a collateral-dependent loan.

Impaired Loans

A loan is considered impaired when, based upon currently known information, it is deemed probable that we will be unable to collect all amounts due according to the contractual terms of the agreement. On a quarterly basis, we review our loan portfolio for impairment. Within each class of loans, we review individual loans for impairment based on credit risk ratings. Loans risk-rated 5 through 7 are performing loans; however, we consider them as demonstrating higher risk, which requires more frequent review of the individual exposures; these translate to an internal rating of "Performing (Criticized)" and could be classified as a performing impaired loan.

For each loan identified as impaired, we measure the impairment based upon the present value of expected future cash flows discounted at the loan's effective interest rate. In limited circumstances, we may measure impairment based on the loan's observable market price or the fair value of the collateral less selling costs if the loan is collateral dependent. Impaired collateral dependent loans will have independent appraisals completed and accepted at least annually. The fair value of the collateral will be determined by the most recent appraisal, as adjusted to reflect a reasonable marketing period for the sale of the asset(s) and an estimate of reasonable selling expenses.

If it is determined that the value of an impaired loan is less than the recorded investment in the loan, net of previous charge-offs and payments collected, we recognize impairment through the allowance for loan losses as determined by our analysis.

Nonaccrual Loans

Loans are placed on nonaccrual status when they become 90 days past due as to principal or interest payments (unless the principal and interest are well secured and in the process of collection); or when we have determined, based upon currently known information, that the timely collection of principal or interest is not probable.

When a loan is placed on nonaccrual status, the accrued interest and fees are reversed against interest income and the loan is accounted for using the cost recovery method thereafter until qualifying for return to accrual status. For a loan to be

returned to accrual status, all delinquent principal and interest must become current in accordance with the terms of the loan agreement and future collection of remaining principal and interest must be deemed probable. We apply a cost recovery method in which all cash received is applied to the loan principal until it has been collected. Under this approach, interest income is recognized after total cash flows received exceed the recorded investment at the date of initial nonaccrual. All of our nonaccrual loans have credit risk ratings of 8 or 9 and are classified under the nonperforming impaired category.

Premises and Equipment

Premises and equipment are reported at cost less accumulated depreciation and amortization. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets or the terms of the related leases, whichever is shorter. The maximum estimated useful lives by asset classification are as follows:

Leasehold improvements	Lesser of lease term or asset life
Furniture and equipment	7 years
Computer software	3-7 years
Computer hardware	3-5 years

We capitalize the costs of computer software developed or obtained for internal use, including costs related to developed software, purchased software licenses and certain implementation costs.

For property and equipment that is retired or otherwise disposed of, the cost and related accumulated depreciation are removed from the accounts and the resulting gain or loss is included in noninterest expense in consolidated net income.

Lease Obligations

We lease all of our properties. At the inception of the lease, each property is evaluated to determine whether the lease will be accounted for as an operating or capital lease. For leases that contain rent escalations or landlord incentives, we record the total rent payable during the lease term, using the straight-line method over the term of the lease and record the difference between the minimum rents paid and the straight-line rent as lease obligations. We had no capitalized lease obligations at December 31, 2018 and 2017.

Fair Value Measurements

Our available-for-sale securities, derivative instruments and certain marketable, non-marketable and other equity securities are financial instruments recorded at fair value on a recurring basis. We make estimates regarding valuation of assets and liabilities measured at fair value in preparing our consolidated financial statements.

Fair Value Measurement-Definition and Hierarchy

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (the "exit price") in an orderly transaction between market participants at the measurement date. There is a three-level hierarchy for disclosure of assets and liabilities recorded at fair value. The classification of assets and liabilities within the hierarchy is based on whether the inputs to the valuation methodology used for measurement are observable or unobservable and on the significance of those inputs in the fair value measurement. Observable inputs reflect market-derived or market-based information obtained from independent sources, while unobservable inputs reflect our estimates about market data and views of market participants. The three levels for measuring fair value are based on the reliability of inputs and are as follows:

Level 1

Fair value measurements based on quoted prices in active markets for identical assets or liabilities that we have the ability to access. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of these instruments does not entail a significant degree of judgment. Assets utilizing Level 1 inputs include U.S. Treasury securities, foreign government debt securities, exchange-traded equity securities and certain marketable securities accounted for under fair value accounting.

Level 2

Fair value measurements based on quoted prices in markets that are not active or for which all significant inputs are observable, directly or indirectly. Valuations for the available-for-sale securities are provided by independent pricing service providers who have experience in valuing these securities and are compared to the average of quoted market prices obtained from independent brokers. We perform a monthly analysis on the values received from third parties to ensure that the prices represent a reasonable estimate of the fair value. The procedures include, but are not limited to, initial and ongoing review of third-party pricing methodologies, review of pricing trends and monitoring of trading volumes. Additional corroboration, such as obtaining a non-binding price from a broker, may be obtained depending on the frequency of trades of the security and the level of liquidity or depth of the market. We ensure prices received from independent brokers represent a reasonable estimate of the fair value through the use of observable market inputs including comparable trades, yield curve, spreads and, when available, market indices. As a result of this analysis, if we determine that there is a more appropriate fair value based upon the available market data, the price received from the third party is adjusted accordingly. Below is a summary of the significant inputs used for each class of Level 2 assets and liabilities:

U.S. agency debentures: Fair value measurements of U.S. agency debentures are based on the characteristics specific to bonds held, such as issuer name, issuance date, coupon rate, maturity date and any applicable issuer call option features. Valuations are based on market spreads relative to similar term benchmark market interest rates, generally U.S. Treasury securities.

Agency-issued mortgage-backed securities: Agency-issued mortgage-backed securities are pools of individual conventional mortgage loans underwritten to U.S. agency standards with similar coupon rates, tenor, and other attributes such as geographic location, loan size and origination vintage. Fair value measurements of these securities are based on observable price adjustments relative to benchmark market interest rates taking into consideration estimated loan prepayment speeds.

Agency-issued collateralized mortgage obligations: Agency-issued collateralized mortgage obligations are structured into classes or tranches with defined cash flow characteristics and are collateralized by U.S. agency-issued mortgage pass-through securities. Fair value measurements of these securities incorporate similar characteristics of mortgage pass-through securities such as coupon rate, tenor, geographic location, loan size and origination vintage, in addition to incorporating the effect of estimated prepayment speeds on the cash flow structure of the class or tranche. These measurements incorporate observable market spreads over an estimated average life after considering the inputs listed above.

Agency-issued commercial mortgage-backed securities: Fair value measurements of these securities are based on spreads to benchmark market interest rates (usually U.S. Treasury rates or rates observable in the swaps market), prepayment speeds, loan default rate assumptions and loan loss severity assumptions on underlying loans.

Municipal bonds and notes: Bonds issued by municipal governments generally have stated coupon rates, final maturity dates and are subject to being called ahead of the final maturity date at the option of the issuer. Fair value measurements of these securities are priced based on spreads to other municipal benchmark bonds with similar characteristics; or, relative to market rates on U.S. Treasury bonds of similar maturity.

Foreign exchange forward and option contract assets and liabilities: Fair value measurements of these assets and liabilities are priced based on spot and forward foreign currency rates and option volatility assumptions.

Interest rate derivative assets and liabilities: Fair value measurements of interest rate derivatives are priced considering the coupon rate of the fixed leg of the contract and the variable coupon rate on the floating leg of the contract. Valuation is based on both spot and forward rates on the swap yield curve and the credit worthiness of the contract counterparty.

Other equity securities: Fair value measurements of equity securities of public companies are priced based on quoted market prices less a discount if the securities are subject to certain sales restrictions. Certain sales restriction discounts generally range from 10 percent to 20 percent depending on the duration of the sale restrictions which typically range from three to six months.

Equity warrant assets (public portfolio): Fair value measurements of equity warrant assets of publicly-traded portfolio companies are valued based on the Black-Scholes option pricing model. The model uses the price of publicly-traded companies (underlying stock price), stated strike prices, warrant expiration dates, the risk-free interest rate and market-observable option volatility assumptions.

Level 3

The fair value measurement is derived from valuation techniques that use significant assumptions not observable in the market. These unobservable assumptions reflect our own estimates of assumptions we believe market participants would use in pricing the asset. The valuation techniques are consistent with the market approach, income approach and/or the cost approach used to measure fair value. Below is a summary of the valuation techniques used for each class of Level 3 assets:

Venture capital and private equity fund investments not measured at net asset value: Fair value measurements are based on consideration of a range of factors including, but not limited to, the price at which the investment was acquired, the term and nature of the investment, local market conditions, values for comparable securities, and as it relates to the private company, the current and projected operating performance, exit strategies and financing transactions subsequent to the acquisition of the investment. The significant unobservable inputs used in the fair value measurement include the information about each portfolio company, including actual and forecasted results, cash position, recent or planned transactions and market comparable companies. Significant changes to any one of these inputs in isolation could result in a significant change in the fair value measurement; however, we generally consider all factors available through ongoing communication with the portfolio companies and venture capital fund managers to determine whether there are changes to the portfolio company or the environment that indicate a change in the fair value measurement.

Equity warrant assets (public portfolio): Fair value measurements of equity warrant assets of publicly-traded portfolio companies are valued based on the Black-Scholes option pricing model. The model uses the price of publicly-traded companies (underlying stock price), stated strike prices, warrant expiration dates, the risk-free interest rate and market-observable option volatility assumptions. Modeled asset values are further adjusted by applying a discount of up to 20 percent for certain warrants that have certain sales restrictions or other features that indicate a discount to fair value is warranted. As sale restrictions are lifted, discounts are adjusted downward to zero once all restrictions expire or are removed.

Equity warrant assets (private portfolio): Fair value measurements of equity warrant assets of private portfolio companies are priced based on a Black-Scholes option pricing model to estimate the asset value by using stated strike prices, option expiration dates, risk-free interest rates and option volatility assumptions. Option volatility assumptions used in the Black-Scholes model are based on public market indices whose members operate in similar industries as companies in our private company portfolio. Option expiration dates are modified to account for estimates to actual life relative to stated expiration. Overall model asset values are further adjusted for a general lack of liquidity due to the private nature of the associated underlying company. There is a direct correlation between changes in the volatility and remaining life assumptions in isolation and the fair value measurement while there is an inverse correlation between changes in the liquidity discount assumption and the fair value measurement.

It is our policy to maximize the use of observable inputs and minimize the use of unobservable inputs when developing fair value measurements. When available, we use quoted market prices to measure fair value. If market prices are not available, fair value measurement is based upon valuation approaches that use primarily market-based or independently-sourced market parameters, including interest rate yield curves, prepayment speeds, option volatilities and currency rates. Substantially all of our financial instruments use the foregoing methodologies, and are categorized as a Level 1 or Level 2 measurement in the fair value hierarchy. However, in certain cases, when market observable inputs for our valuation techniques may not be readily available, we are required to make judgments about assumptions we believe market participants would use in estimating the fair value of the financial instrument, and based on the significance of those judgments, the measurement may be determined to be a Level 3 fair value measurement.

The degree of management judgment involved in determining the fair value of a financial instrument is dependent upon the availability of quoted market prices or observable market parameters. For financial instruments that trade actively and have quoted market prices or observable market parameters, there is minimal subjectivity involved in measuring fair value. When observable market prices and parameters are not fully available, management judgment is necessary to estimate fair value. For inactive markets, there is little information, if any, to evaluate if individual transactions are orderly. Accordingly, we are required to estimate, based upon all available facts and circumstances, the degree to which orderly transactions are occurring and provide more weighting to price quotes that are based upon orderly transactions. In addition, changes in the market conditions may reduce the availability of quoted prices or observable data. For example, reduced liquidity in the capital markets or changes in secondary market activities could result in observable market inputs becoming unavailable. Therefore, when market data is not available, we use valuation techniques requiring more management judgment to estimate the appropriate fair value measurement. Accordingly, the degree of judgment exercised by management in determining fair value is greater for financial assets and liabilities categorized as Level 3.

Fee-based Services Revenue Recognition

Refer to Note 14—"Noninterest Income" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for our fee-based services revenue recognition policies for our contracts with customers.

Income Taxes

Income taxes are accounted for under the asset and liability 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 bases and operating loss and tax credit carryforwards. Our federal, state and foreign income tax provisions are based upon taxes payable for the current year, current year changes in deferred taxes related to temporary differences between the tax basis and financial statement balances of assets and liabilities, and a reserve for uncertain tax positions. Deferred tax assets and liabilities are included in the consolidated financial statements at currently enacted income tax rates applicable to the period in which the deferred tax assets and liabilities are expected to be realized. As changes in tax laws or rates are enacted, deferred tax assets and liabilities are adjusted through the provision for income taxes. A valuation allowance is provided, when it is determined based upon available evidence, that it is more likely than not that some portion of the deferred tax asset will not be realized. We file a consolidated federal income tax return, and consolidated, combined, or separate state income tax returns as appropriate. Our foreign incorporated subsidiaries file tax returns in the applicable foreign jurisdictions. We record interest and penalties related to unrecognized tax benefits in other noninterest expense, a component of consolidated net income.

Share-Based Compensation

For all stock-based awards granted, stock-based compensation expense is amortized on a straight-line basis over the requisite service period, including consideration of vesting conditions and anticipated forfeitures. The fair value of stock options are measured using the Black-Scholes option-pricing model and the fair value for restricted stock awards and restricted stock units are based on the quoted price of our common stock on the date of grant.

Earnings Per Share

Basic earnings per common share is computed using the weighted average number of common stock shares outstanding during the period. Diluted earnings per common share is computed using the weighted average number of common stock shares and potential common shares outstanding during the period. Potential common shares consist of stock options, ESPP shares and restricted stock units. Common stock equivalent shares are excluded from the computation if the effect is antidilutive.

Derivative Financial Instruments

All derivative instruments are recorded on the balance sheet at fair value. The accounting for changes in fair value of a derivative financial instrument depends on whether the derivative financial instrument is designated and qualifies as part of a hedging relationship and, if so, the nature of the hedging activity. Changes in fair value are recognized through earnings for derivatives that do not qualify for hedge accounting treatment, or that have not been designated in a hedging relationship.

Fair Value Hedges

For derivative instruments that are designated and qualify as a fair value hedge, the gain or loss on the hedging instrument is recorded in the statement of income in the same line item as the hedged item and is intended to offset the loss or gain on the hedged item attributable to the hedged risk. Any difference that does arise would be the result of hedge ineffectiveness, and impacts earnings.

Equity Warrant Assets

In connection with negotiated credit facilities and certain other services, we may obtain equity warrant assets giving us the right to acquire stock in primarily private, venture-backed companies in the technology and life science/healthcare industries. We hold these assets for prospective investment gains. We do not use them to hedge any economic risks nor do we use other derivative instruments to hedge economic risks stemming from equity warrant assets.

We account for equity warrant assets in certain private and public client companies as derivatives when they contain net settlement terms and other qualifying criteria under ASC 815, *Derivatives and Hedging*. In general, equity warrant assets entitle us to buy a specific number of shares of stock at a specific price within a specific time period. Certain equity warrant assets contain

contingent provisions, which adjust the underlying number of shares or purchase price upon the occurrence of certain future events. Substantially all of our warrant agreements contain net share settlement provisions, which permit us to receive at exercise a share count equal to the intrinsic value of the warrant divided by the share price (otherwise known as a "cashless" exercise). These equity warrant assets are recorded at fair value and are classified as derivative assets, a component of other assets, on our consolidated balance sheet at the time they are obtained.

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

Any changes in fair value from the grant date fair value of equity warrant assets will be recognized as increases or decreases to other assets on our balance sheet and as net gains or losses on equity warrant assets, in noninterest income, a component of consolidated net income. When a portfolio company completes an IPO on a publicly reported market or is acquired, we may exercise these equity warrant assets for shares or cash.

In the event of an exercise for common stock shares, the basis or value in the common stock shares is reclassified from other assets to investment securities on the balance sheet on the latter of the exercise date or corporate action date. The common stock of public companies are classified as non-marketable and other equity securities. Changes in the fair value of the common stock shares is recorded as gains or losses on investments securities, in noninterest income, a component of consolidated net income. The common stock of private companies are classified as non-marketable and other equity securities. We account for these securities under the new methodology under ASU 2016-01, other investments without a readily determinable fair value. The carrying value in the private common stock without a readily determinable fair value is based on the price at which the investment was acquired plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments and are recorded as gains or losses on investments securities, in noninterest income, a component of consolidated net income.

The fair value of the equity warrant assets portfolio is a critical accounting estimate and is reviewed quarterly. We value our equity warrant assets using a Black-Scholes option pricing model, which incorporates the following significant inputs:

- An underlying asset value, which is estimated based on current information available in valuation reports, including any information regarding subsequent rounds of funding or performance of a company.
- Stated strike price, which can be adjusted for certain warrants upon the occurrence of subsequent funding rounds or other future events.
- Price volatility or risk associated with possible changes in the warrant price. The volatility assumption is based on historical price volatility of publicly traded companies within indices similar in nature to the underlying client companies issuing the warrant. The actual volatility input is based on the mean and median volatility for an individual public company within an index for the past 16 quarters, from which an average volatility was derived.
- Actual data on terminations and exercises of our warrants are utilized as the basis for determining the expected remaining life of the warrants in each financial reporting period. Warrants may be exercised in the event of acquisitions, mergers or IPOs, and cancelled due to events such as bankruptcies, restructuring activities or additional financings. These events cause the expected remaining life assumption to be shorter than the contractual term of the warrants.
- The risk-free interest rate is derived from the Treasury yield curve and is calculated based on a weighted average of the risk-free interest rates that correspond closest to the expected remaining life of the warrant.
- Other adjustments, including a marketability discount, are estimated based on management's judgment about the general industry environment.
- Number of shares and contingencies associated with obtaining warrant positions such as the funding of associated loans.

Foreign Exchange Forwards and Foreign Currency Option Contracts

We enter into foreign exchange forward contracts and foreign currency option contracts with clients involved in international activities, either as the purchaser or seller, depending upon the clients' need. We also enter into an opposite-way forward or option contract with a correspondent bank to economically hedge client contracts to mitigate the fair value risk to us from fluctuations in currency rates. Settlement, credit and operational risks remain. We also enter into forward contracts with correspondent banks to economically hedge currency exposure risk related to certain foreign currency denominated assets and

liabilities. These contracts are not designated as hedging instruments and are recorded at fair value in our consolidated balance sheets. The contracts generally have terms of one year or less, although we may have contracts extending for up to five years. Generally, we have not experienced nonperformance on these contracts, have not incurred credit losses, and anticipate performance by all counterparties to such agreements. Changes in the fair value of these contracts are recognized in consolidated net income under other noninterest income, a component of noninterest income. Period-end gross positive fair values are recorded in other assets and gross negative fair values are recorded in other liabilities.

Interest Rate Contracts

We sell interest rate contracts to clients who wish to mitigate their interest rate exposure. We economically reduce the interest rate risk from this business by entering into opposite way contracts with correspondent banks. We do not designate any of these contracts (which are derivative instruments) as qualifying for hedge accounting. Contracts in an asset position are included in other assets and contracts in a liability position are included in other liabilities. The net change in the fair value of these derivatives is recorded through other noninterest income, in noninterest income, a component of consolidated net income.

Adoption of New Accounting Standards

In May 2014, the FASB issued a new accounting standard update (ASU 2014-09, Revenue from Contracts with Customers (Topic 606)), which provides revenue recognition guidance that is intended to create greater consistency with respect to how and when revenue from contracts with customers is shown in the income statement. The guidance requires that revenue from contracts with customers be recognized when transfer of control over goods or services is passed to customers in the amount of consideration expected to be received. Subsequent Accounting Standard Updates have been issued clarifying the original pronouncement (ASU 2016-08, ASU 2016-10, ASU 2016-12 and ASU 2016-20).

On January 1, 2018, we adopted the new accounting standards update ASU 2014-09, Revenue from Contracts with Customers and all the related amendments ("new revenue standard," "ASC 606" or "ASU 2014-09") using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. We elected to apply the practical expedient which allows us to expense costs related to obtaining contracts as incurred because the amortization period would have been one year or less. We recognized the cumulative effect of initially applying the new revenue standard as an adjustment to the opening balance of retained earnings. The comparative information has not been restated and continues to be reported under the accounting standards in effect for those periods.

We completed a comprehensive scoping exercise to determine the revenue streams that are within the scope of this guidance. The scope of this guidance explicitly excludes net interest income, including interest income earned from our loan and fixed income securities portfolios, as well as certain other noninterest income earned from our lending-, investment- and derivative-related activities. Based on our completed assessment, we did not identify any material changes to the timing or the amounts of our revenue recognition, however, we identified a change in the timing of recognizing fund management fees in other noninterest income for a portion of our SVB Capital funds. Fund management fees for these certain SVB Capital funds will now be recognized at the time of distribution which typically occurs later in the life of the fund than had been previously recognized. The cumulative adjustment to retained earnings associated with this change was $5.8 million, net of tax, with an immaterial impact to our net income on an ongoing basis. The impact to net income as a result of applying the new revenue standard was a decrease of $1.6 million for the year end December 31, 2018.

The timing of revenue recognition may differ from the timing of cash settlements or invoicing to customers. We record a receivable when revenue is recognized prior to invoicing, and unearned revenue when revenue is recognized subsequent to receipt of consideration. These assets and liabilities are reported on the consolidated balance sheets on a contract-by-contract basis at the end of each reporting period. During the year ended December 31, 2018, changes in our contract assets, contract liabilities and receivables were not material. Additionally, revenues recognized during the year ended December 31, 2018 that were included in the corresponding contract liability balance at the beginning of the period were not material.

The cumulative effect of the changes to our consolidated balance sheets at January 1, 2018, for the adoption of the new revenue standard were as follows:

(Dollars in thousands)	Balance at December 31, 2017	Adjustments Due to Adoption of ASC 606	Balance at January 1, 2018
Accrued interest receivable and other assets:			
Accounts receivable	$ 55,946	$ (34,340)	$ 21,606
Other liabilities:			
Deferred revenue	27,057	(26,321)	736
Current taxes payable	4,675	(2,217)	2,458
Stockholders' equity:			
Retained earnings	2,866,837	(5,802)	2,861,035

In accordance with the new revenue standard requirements, the disclosure of the impact of adoption on our consolidated balance sheet at December 31, 2018 and our statement of income for the year ended December 31, 2018, were as follows:

	December 31, 2018		
(Dollars in thousands)	As Reported	Balances Without Adoption of ASC 606	Effect of Change Higher/(Lower)
Accrued interest receivable and other assets:			
Accounts receivable	$ 55,807	$ 96,479	$ (40,672)
Other liabilities:			
Deferred revenue	598	28,478	(27,880)
Current taxes payable	3,330	531	2,799
Stockholders' equity:			
Retained earnings	3,791,838	3,799,255	(7,417)

	Year ended December 31, 2018		
(Dollars in thousands, except per share amount)	As Reported	Balances Without Adoption of ASC 606	Effect of Change Higher/(Lower)
Other noninterest income:			
Fund management fees	$ 23,016	$ 25,213	$ (2,197)
Income tax expense	351,561	352,143	(582)
Net income available to common stockholders	973,840	975,455	(1,615)
Diluted earnings per share	18.11	18.14	(0.03)

In February 2018, the FASB issued a new accounting standard update (ASU 2018-02, Income Statement - Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income (ASU "2018-02")) to address certain stranded income tax effects in accumulated other comprehensive income ("AOCI") resulting from the TCJ Act. ASU 2018-02 changed current accounting whereby an entity may elect to reclassify the stranded tax effect from AOCI to retained earnings in each period in which the effect of the change in the U.S. federal corporate income tax rate in the TCJ Act (or portion thereof) is recorded. ASU 2018-02 is effective for periods beginning after December 15, 2018 and early adoption is permitted. We have elected to early adopt ASU 2018-02 and reclassified approximately $0.3 million from accumulated other comprehensive income to retained earnings within our consolidated statements of stockholders' equity in the first quarter of 2018.

On January 1, 2018, we adopted ASU 2016-01, Financial Instruments - Overall (Topic 825): Recognition and Measurement of Financial Assets and Financial Liabilities, which addresses certain aspects of recognition, measurement, presentation and disclosure of financial instruments. This guidance requires equity investments (except those accounted for under the equity method of accounting) to be measured at fair value with changes in fair value recognized in net income. We adopted this guidance using the modified retrospective method and our equity investments carried at cost with readily determinable fair values were re-measured at fair value and the difference between cost and fair value was recorded as a cumulative-effect adjustment to

opening retained earnings as of January 1, 2018. The adjustment to opening retained earnings for these investments was $74.6 million, net of tax, with subsequent changes in the fair value of these equity securities recorded as unrealized gains or losses in our consolidated statements of income. Additionally, in accordance with this guidance, net unrealized gains of $29.2 million, net of tax, included in accumulated other comprehensive income on January 1, 2018, related to our previously reported available-for-sale equity securities, were reclassified as an adjustment to retained earnings. Subsequent changes in the fair value of these equity securities were recorded as unrealized gains or losses in our consolidated statements of income. Furthermore, for purposes of disclosing the fair value of loans carried at amortized cost, our valuation methodology was updated to conform to an "exit price" concept as required by the standard update, resulting in an immaterial change in the fair value.

In August 2016, the FASB issued a new accounting standard update (ASU 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments), which clarifies the guidance on eight specific cash flow issues. We adopted the new accounting standard, specifically as it relates to distributions from our equity method investments, on January 1, 2018. We elected to adopt the nature of distribution approach and applied the guidance retrospectively. The new guidance had an immaterial impact on the presentation between investing and operating activities within our statements of cash flows related to distributions and net gains from our non-marketable and other equity securities portfolio.

In November 2016, the FASB issued a new accounting standard update (ASU 2016-18, Statement of Cash Flows (Topic 230): Restricted Cash), which requires that a statement of cash flows explains the change during the period in the total cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning of period and end of period total amounts shown on the statement of cash flows. Previous to the update, there had been some diversity in practice. Given that we had already classified restricted cash such as cash reserves at the Federal Reserve as part of cash and cash equivalents on the cash flow statement, the update had no impact on how we were already reporting and presenting our statement of cash flows.

In August 2017, the FASB issued a new accounting standard update (ASU 2017-12, Targeted Improvements to Accounting for Hedging Activities (Topic 815)), which better aligns an entity's risk management activities and financial reporting for hedging relationships through changes to the designation and measurement guidance for qualifying hedging relationships and the presentation of hedge results. The targeted improvements in the ASU will allow increased flexibility to structure hedges of fixed rate instruments and floating rate instruments. Application of the ASU is expected to reduce the amount of ineffectiveness as the revised accounting guidance will better reflect the economics of risk management activities and will also reduce the volatility associated with foreign currency hedging. The ASU requires the hedging instrument to be presented in the same line item as the hedged item and requires expanded disclosures. There were further amendments, with the issuance of ASU 2018-16, "Derivatives and Hedging (Topic 815)," which provides us with the option to use the Overnight Index Swap ("OIS") rate based on the Secured Overnight Financing Rate ("SOFR") as a U.S. benchmark interest rate for purposes of applying hedge accounting under Topic 815. This guidance will be effective January 1, 2019. We early adopted this guidance in the fourth quarter of 2018, effective October 1, 2018. The accounting standard did not have a material impact on our consolidated financial position, results of operations or the disclosures in our Notes to the Consolidated Financial Statements.

Recent Accounting Pronouncements

In February 2016, the FASB issued a new accounting standard update (ASU 2016-02, Leases (Topic 842)), which will require for all operating leases the recognition of a right-of-use asset and a lease liability, in the statement of financial position. The lease cost will be allocated over the lease term on a straight-line basis. There were further amendments, including practical expedients, with the issuance of ASU 2018-01, "Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842" in January 2018. In July 2018 the FASB issued ASU 2018-11, "Leases (Topic 842): Targeted Improvements," which provides us with the option to apply the new leasing standard to all open leases as of the adoption date, on a prospective basis. We plan to adopt the lease accounting guidance on January 1, 2019, on a prospective basis. We intend to elect the transition "package of expedients" which will result in continuing to account for existing leases for which the commencement date is before January 1, 2019, in accordance with Leases (Topic 840) throughout the lease term, including periods after adoption of the new guidance. We currently expect to elect the short-term lease measurement and recognition exemption and will not recognize right-of-use assets and lease liabilities for those leases that qualify under Topic 842. We completed a comprehensive scoping exercise by reviewing our existing lease contracts and service contracts that may include embedded leases. Upon adoption, we expect to recognize additional operating liabilities of approximately $150 million with corresponding right-of-use assets of the same amount associated predominantly with noncancelable operating leases on our consolidated balance sheets. The adoption will not have a material impact to our recorded rent expense included on our consolidated statements of income.

In June 2016, the FASB issued a new accounting standard update (ASU 2016-13, Financial Instruments- Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments), which amends the incurred loss impairment methodology in current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. This guidance will be effective January 1, 2020, on a modified retrospective approach, with early adoption permitted, but not before January 1, 2019. We currently have a project team in place and subject matter experts to assist with our review of key interpretive issues and assist in the assessment of our existing credit loss forecasting models and processes against the new guidance to determine what modifications may be required. We are currently evaluating the impact this guidance will have on our financial position, results of operation and stockholders' equity.

In August 2018, the FASB issued a new accounting standard update (ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement). The ASU primarily modifies certain disclosures with respect to Level 3 fair value measurements. This guidance will be effective January 1, 2020, with early adoption permitted. This guidance will not have an impact on our consolidated financial position or results of operations, and we do not expect the adoption of this standard to have a material impact on the disclosures in our Notes to the Consolidated Financial Statements.

Reclassifications

Certain prior period amounts, primarily related to the adoption of new accounting guidance, have been reclassified to conform to current period presentations.

3. Stockholders' Equity and EPS

Accumulated Other Comprehensive (Loss) Income

The following table summarizes the items reclassified out of accumulated other comprehensive (loss) income into the Consolidated Statements of Income for 2018, 2017 and 2016:

		Year ended December 31,		
(Dollars in thousands)	**Income Statement Location**	**2018**	**2017**	**2016**
Reclassification adjustment for losses (gains) included in net income (1)	Gains on investment securities, net	$ 740	$ 5,189	$ (12,195)
Related tax (benefit) expense (1)	Income tax expense	(205)	(2,098)	4,963
Total reclassification adjustment for losses (gains) included in net income, net of tax (1)		$ 535	$ 3,091	$ (7,232)

(1) See Note 2- "Summary of Significant Accounting Policies" of the "Notes to Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

EPS

Basic EPS is the amount of earnings available to each share of common stock outstanding during the reporting period. Diluted EPS is the amount of earnings available to each share of common stock outstanding during the reporting period adjusted to include the effect of potentially dilutive common shares. Potentially dilutive common shares include incremental shares issuable for stock option and restricted stock unit awards outstanding under our 2006 Equity Incentive Plan and our ESPP. Potentially dilutive common shares are excluded from the computation of dilutive EPS in periods in which the effect would be antidilutive. The following is a reconciliation of basic EPS to diluted EPS for 2018, 2017 and 2016:

	Year ended December 31,		
(Dollars and shares in thousands, except per share amounts)	2018	2017	2016
Numerator:			
Net income available to common stockholders	$ 973,840	$ 490,506	$ 382,685
Denominator:			
Weighted average common shares outstanding—basic	53,078	52,588	51,915
Weighted average effect of dilutive securities:			
Stock options and ESPP	377	385	254
Restricted stock units	317	333	180
Weighted average common shares outstanding—diluted	53,772	53,306	52,349
Earnings per common share:			
Basic	$ 18.35	$ 9.33	$ 7.37
Diluted	18.11	9.20	7.31

The following table summarizes the weighted average common shares excluded from the diluted EPS calculation due to the antidilutive effect for 2018, 2017 and 2016:

	Year ended December 31,		
(Shares in thousands)	2018	2017	2016
Stock options	59	73	272
Restricted stock units	85	1	1
Total	144	74	273

Stock Repurchase Program

On November 13, 2018, the Company announced a new program to repurchase up to $500 million of our outstanding common stock (the "Stock Repurchase Program"). As of December 31, 2018, we repurchased 715,207 shares of common stock for $147.1 million under the Stock Repurchase Program.

4. Share-Based Compensation

Share-based compensation expense was recorded net of estimated forfeitures for 2018, 2017 and 2016, such that expense was recorded only for those share-based awards that are expected to vest. In 2018, 2017 and 2016, we recorded share-based compensation and related benefits as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Share-based compensation expense	$ 45,675	$ 36,900	$ 35,494
Income tax benefit related to share-based compensation expense	(10,997)	(12,845)	(12,505)
Capitalized compensation costs	1,466	1,071	5,580

Equity Incentive Plan

Our 2006 Equity Incentive Plan (the "2006 Incentive Plan") was adopted in May 2006, and is amended from time to time. The 2006 Incentive Plan provides for the grant of various types of incentive awards, of which the following have been granted: (i) stock options; (ii) restricted stock awards; (iii) restricted stock units (subject to either time-and/or performance-based vesting); and (iv) other cash or stock settled equity awards. Eligible participants in the 2006 Incentive Plan include directors, employees and consultants.

Subject to the provisions of Section 16 of the 2006 Incentive Plan, the maximum aggregate number of shares that may be awarded and sold thereunder is 9,528,505.

Restricted stock awards/units are counted against the available-for-issuance limits of the 2006 Incentive Plan as two shares for every one share awarded. Further, if shares acquired under any such award are forfeited, repurchased by SVB Financial, used to satisfy the tax withholding obligations related to an award, or otherwise canceled and would otherwise return to the 2006 Incentive Plan, two times the number of such shares will return to the 2006 Incentive Plan and will again become available for issuance.

Under the terms of the 2006 Incentive Plan and subject to certain exceptions: (i) restricted stock awards/units are subject to a minimum of at least three years of annual vesting, and (ii) performance-based restricted stock awards/units and stock options are subject to a minimum of at least one year of vesting. Generally in practice, restricted stock awards/units vest annually over four years and require continued employment or other service through the vesting period. Performance-based restricted stock awards/units granted to executives generally vest upon meeting certain performance-based objectives over a three year period and, typically the passage of time, and require continued employment or other service through the vesting period. Stock options typically vest annually over four years, from the grant date based on continued employment or other service, and expire no later than seven years after the grant date.

Employee Stock Purchase Plan

We maintain the 1999 ESPP under which participating employees may annually contribute up to 10 percent of their gross compensation (not to exceed $25,000) to purchase shares of our common stock at 85 percent of its fair market value at either the beginning or end of each six-month offering period, whichever price is less. To be eligible to participate in the ESPP, an employee must, among other requirements, be employed by the Company on both the date of offering and date of purchase, and be employed customarily for at least 20 hours per week and at least five months per calendar year. We issued 155,181 shares and received $21.6 million in cash under the ESPP in 2018. At December 31, 2018, a total of 1,499,218 shares of our common stock were still available for future issuance under the ESPP.

Unrecognized Compensation Expense

As of December 31, 2018, unrecognized share-based compensation expense was as follows:

(Dollars in thousands)	Unrecognized Expense	Weighted Average Expected Recognition Period - in Years
Stock options	$ 11,994	2.74
Restricted stock units	70,021	2.68
Total unrecognized share-based compensation expense	$ 82,015	

Valuation Assumptions

The fair values of share-based awards for employee stock options and employee stock purchases made under our ESPP were estimated using the Black-Scholes option pricing model. The fair values of restricted stock units were based on our closing stock price on the date of grant. The following weighted average assumptions and fair values were used for our employee stock options and restricted stock units:

Equity Incentive Plan Awards	2018	2017	2016
Weighted average expected term of options - in years	4.8	4.9	4.8
Weighted average expected volatility of the Company's underlying common stock	34.7%	33.7%	31.7%
Risk-free interest rate	2.82	1.81	1.32
Expected dividend yield	—	—	—
Weighted average grant date fair value - stock options	$ 105.81	$ 57.81	$ 31.17
Weighted average grant date fair value - restricted stock units	294.50	181.23	100.35

The following weighted average assumptions and fair values were used for our ESPP:

ESPP	2018	2017	2016
Expected term in years	0.5	0.5	0.5
Weighted average expected volatility of the Company's underlying common stock	32.2%	31.2%	41.8%
Risk-free interest rate	1.79	0.80	0.45
Expected dividend yield	—	—	—
Weighted average grant date fair value	$ 62.76	$ 41.70	$ 29.16

The expected term is based on the implied term of the stock options using factors based on historical exercise behavior. The expected volatilities are based on a blended rate consisting of our historic volatility and our expected volatility over a five-year term which is an indicator of expected volatility and future stock price trends. For 2018, 2017 and 2016, expected volatilities for the ESPP were equal to the historical volatility for the previous six-month periods. The expected risk-free interest rates were based on the yields of U.S. Treasury securities, as reported by the Federal Reserve Bank of New York, with maturities equal to the expected terms of the employee stock options.

Share-Based Payment Award Activity

The table below provides stock option information related to the 2006 Equity Incentive Plan for the year ended December 31, 2018:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life - in Years	Aggregate Intrinsic Value of In-The-Money Options
Outstanding at December 31, 2017	808,049	$ 105.68		
Granted	90,375	305.19		
Exercised	(199,659)	83.74		
Forfeited	(16,769)	171.07		
Expired	(2,337)	60.37		
Outstanding at December 31, 2018	679,659	137.19	3.51	$ 46,038,508
Vested and expected to vest at December 31, 2018	662,702	135.01	3.46	45,667,197
Exercisable at December 31, 2018	410,897	100.03	2.42	36,986,923

The aggregate intrinsic value of outstanding options shown in the table above represents the pre-tax intrinsic value based on our closing stock price of $189.92 as of December 31, 2018. The following table summarizes information regarding stock options outstanding and exercisable as of December 31, 2018:

	Outstanding Options			Exercisable Options	
Range of Exercise Prices	Shares	Weighted Average Remaining Contractual Life - in Years	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
$54.75 - 67.77	51,651	0.33	$ 63.62	51,651	$ 63.62
67.78 - 79.77	98,097	1.33	71.11	98,097	71.11
79.78 - 105.84	140,703	4.27	104.92	62,996	104.70
105.85 - 108.59	116,254	2.33	107.95	116,254	107.95
108.60 - 149.65	85,263	3.27	128.62	59,319	128.27
149.66 - 173.94	2,939	5.43	169.49	735	169.49
173.95 - 180.62	93,487	5.34	178.39	20,531	178.39
180.63 - 283.09	4,588	5.99	219.46	1,314	227.04
283.10 - 324.77	86,677	6.34	305.96	—	—
Total	679,659	3.51	137.19	410,897	100.03

We expect to satisfy the exercise of stock options by issuing shares under the 2006 Incentive Plan. All future awards of stock options and restricted stock units will be issued from the 2006 Incentive Plan. At December 31, 2018, 1,816,509 shares were available for future issuance.

The table below provides information for restricted stock units under the 2006 Equity Incentive Plan for the year ended December 31, 2018:

	Shares	Weighted Average Grant Date Fair Value
Nonvested at December 31, 2017	637,667	$ 135.86
Granted	223,918	294.50
Vested	(219,305)	130.72
Forfeited	(44,984)	172.32
Nonvested at December 31, 2018	597,296	194.48

The following table summarizes information regarding stock option and restricted stock unit activity during 2018, 2017 and 2016:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Total intrinsic value of stock options exercised	$ 40,681	$ 36,173	$ 18,186
Total grant date fair value of stock options vested	5,823	6,094	7,364
Total intrinsic value of restricted stock vested	63,917	40,925	22,966
Total grant date fair value of restricted stock vested	28,813	23,383	19,454

5. Variable Interest Entities

Our involvement with VIEs includes our investments in venture capital and private equity funds, debt funds, private and public portfolio companies and our investments in qualified affordable housing projects.

The following table presents the carrying amounts and classification of significant variable interests in consolidated and unconsolidated VIEs as of December 31, 2018 and December 31, 2017:

(Dollars in thousands)	Consolidated VIEs	Unconsolidated VIEs	Maximum Exposure to Loss in Unconsolidated VIEs
December 31, 2018:			
Assets:			
Cash and cash equivalents	$ 9,058	$ —	$ —
Non-marketable and other equity securities (1)	221,646	568,272	568,272
Accrued interest receivable and other assets	228	—	—
Total assets	$ 230,932	$ 568,272	$ 568,272
Liabilities:			
Other liabilities (1)	919	205,685	—
Total liabilities	$ 919	$ 205,685	$ —
December 31, 2017:			
Assets:			
Cash and cash equivalents	$ 6,674	$ —	$ —
Non-marketable and other equity securities (1)	190,562	346,097	346,097
Accrued interest receivable and other assets	365	—	—
Total assets	$ 197,601	$ 346,097	$ 346,097
Liabilities:			
Other liabilities (1)	990	100,891	—
Total liabilities	$ 990	$ 100,891	$ —

(1) Included in our unconsolidated non-marketable and other equity securities portfolio at December 31, 2018 and December 31, 2017 are investments in qualified affordable housing projects of $318.6 million and $174.2 million, respectively, and related other liabilities consisting of unfunded credit commitments of $205.7 million and $100.9 million, respectively.

Non-marketable and other equity securities

Our non-marketable and other equity securities portfolio primarily represents investments in venture capital and private equity funds, SPD Silicon Valley Bank Co., Ltd. (the Bank's joint venture in China ("SPD-SVB")), debt funds, private and public portfolio companies, including public equity securities held as a result of equity warrant assets exercised and investments in qualified affordable housing projects. A majority of these investments are through third-party funds held by SVB Financial in which we do not have controlling or significant variable interests. These investments represent our unconsolidated VIEs in the table above. Our non-marketable and other equity securities portfolio also includes investments from SVB Capital. SVB Capital is the funds management business of SVB Financial Group, which focuses primarily on venture capital investments. The SVB Capital family of funds is comprised of direct venture funds that invest in companies and funds of funds that invest in other venture capital funds. We have a controlling and significant variable interest in four of these SVB Capital funds and consolidate these funds for financial reporting purposes.

All investments are generally non-redeemable and distributions are expected to be received through the liquidation of the underlying investments throughout the life of the investment fund. Investments may only be sold or transferred subject to the notice and approval provisions of the underlying investment agreement. Subject to applicable regulatory requirements, including the Volcker Rule, we also make commitments to invest in venture capital and private equity funds. For additional details, see Note 19—"Off-Balance Sheet Arrangements, Guarantees and Other Commitments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

The Bank also has variable interests in low income housing tax credit funds, in connection with fulfilling its responsibilities under the Community Reinvestment Act ("CRA"), that are designed to generate a return primarily through the realization of federal tax credits. These investments are typically limited partnerships in which the general partner, other than the Bank, holds the power over significant activities of the VIE; therefore, these investments are not consolidated. For additional information on our investments in qualified affordable housing projects see Note 8—"Investment Securities" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

As of December 31, 2018, our exposure to loss with respect to the consolidated VIEs is limited to our net assets of $230.0 million and our exposure to loss for our unconsolidated VIEs is equal to our investment in these assets of $568.3 million.

6. Reserves on Deposit with the Federal Reserve Bank and Federal Bank Stock

The Bank is required to maintain reserves against customer deposits by keeping balances with the Federal Reserve. The cash balances at the Federal Reserve are classified as cash and cash equivalents. Additionally, as a member of the FHLB and FRB, we are required to hold shares of FHLB and FRB stock under the Bank's borrowing agreement. FHLB and FRB stock are recorded at cost as a component of other assets, and any cash dividends received are recorded as a component of other noninterest income.

The tables below provide information on the required reserve balances at the Federal Reserve, as well as shares held at the FHLB and FRB for the years ended and as of December 31, 2018 and 2017:

	Year ended December 31,	
(Dollars in thousands)	2018	2017
Average required reserve balances at FRB San Francisco	$ 455,866	$ 397,235

	December 31,	
(Dollars in thousands)	2018	2017
FHLB stock holdings	$ 17,250	$ 18,900
FRB stock holdings	41,628	41,120

7. Cash and Cash Equivalents

The following table details our cash and cash equivalents at December 31, 2018 and December 31, 2017:

(Dollars in thousands)	December 31, 2018	December 31, 2017
Cash and due from banks (1)	$ 3,444,971	$ 2,672,290
Securities purchased under agreements to resell (2)	123,611	247,876
Other short-term investment securities	2,957	2,909
Total cash and cash equivalents	$ 3,571,539	$ 2,923,075

(1) At December 31, 2018 and 2017, $1.7 billion and $0.6 billion, respectively, of our cash and due from banks was deposited at the FRB and was earning interest at the Federal Funds target rate, and interest-earning deposits in other financial institutions were $1.2 billion and $1.1 billion, respectively.

(2) At December 31, 2018 and 2017, securities purchased under agreements to resell were collateralized by U.S. Treasury securities and U.S. agency securities with aggregate fair values of $126 million and $253 million, respectively. None of these securities were sold or repledged as of December 31, 2018 and 2017.

Additional information regarding our securities purchased under agreements to resell for 2018 and 2017 are as follows:

	Year ended December 31,	
(Dollars in thousands)	2018	2017
Average securities purchased under agreements to resell	$ 132,938	$ 94,094
Maximum amount outstanding at any month-end during the year	375,180	377,073

8. Investment Securities

Our investment securities portfolio consists of: (i) an available-for-sale securities portfolio and a held-to-maturity securities portfolio, both of which represent interest-earning investment securities; and (ii) a non-marketable and other equity securities portfolio, which primarily represents investments managed as part of our funds management business as well as public equity securities held as a result of equity warrant assets exercised.

Available-for-Sale Securities

The major components of our AFS investment securities portfolio at December 31, 2018 and 2017 are as follows:

	December 31, 2018			
(Dollars in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Carrying Value
Available-for-sale securities, at fair value:				
U.S. Treasury securities	$ 4,762,182	$ 11,638	$ (35,562)	$ 4,738,258
U.S. agency debentures	1,090,426	61	(6,370)	1,084,117
Foreign government debt securities	5,815	—	(3)	5,812
Residential mortgage-backed securities:				
Agency-issued collateralized mortgage obligations—fixed rate	1,922,618	—	(42,400)	1,880,218
Agency-issued collateralized mortgage obligations—variable rate	81,270	383	(15)	81,638
Total available-for-sale securities	$ 7,862,311	$ 12,082	$ (84,350)	$ 7,790,043

	December 31, 2017			
(Dollars in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Carrying Value
Available-for-sale securities, at fair value:				
U.S. Treasury securities	$ 6,865,068	$ 1,113	$ (25,679)	$ 6,840,502
U.S. agency debentures	1,569,195	3,569	(5,636)	1,567,128
Residential mortgage-backed securities:				
Agency-issued collateralized mortgage obligations—fixed rate	2,292,311	258	(25,534)	2,267,035
Agency-issued collateralized mortgage obligations—variable rate	372,481	1,375	(126)	373,730
Equity securities	31,953	40,525	(209)	72,269
Total available-for-sale securities	$ 11,131,008	$ 46,840	$ (57,184)	$ 11,120,664

The following table summarizes sale activity of available-for-sale securities as recorded in the line item “Gains on investment securities, net," a component of noninterest income:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Sales proceeds	$ 474,482	$ 580,871	$ 2,892,460
Net realized gains and losses:			
Gross realized gains	127	5,113	15,051
Gross realized losses	(867)	(10,302)	(2,856)
Net realized (losses) gains	$ (740)	$ (5,189)	$ 12,195

The following tables summarize our unrealized losses on our AFS securities portfolio into categories of less than 12 months, or 12 months or longer as of December 31, 2018 and 2017:

	December 31, 2018					
	Less than 12 months		12 months or longer (1)		Total	
(Dollars in thousands)	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses
Available-for-sale securities:						
U.S. Treasury securities	$ 494,287	$ (3,785)	$ 3,568,119	$ (31,777)	$ 4,062,406	$ (35,562)
U.S. agency debentures	443,790	(1,602)	591,216	(4,768)	1,035,006	(6,370)
Foreign government debt securities	5,812	(3)	—	—	5,812	(3)
Residential mortgage-backed securities:						
Agency-issued collateralized mortgage obligations—fixed rate	13,430	(22)	1,866,788	(42,378)	1,880,218	(42,400)
Agency-issued collateralized mortgage obligations—variable rate	—	—	13,516	(15)	13,516	(15)
Total temporarily impaired securities (1)	$ 957,319	$ (5,412)	$ 6,039,639	$ (78,938)	$ 6,996,958	$ (84,350)

(1) As of December 31, 2018, we identified a total of 200 investments that were in unrealized loss positions, of which 162 investments totaling $6.0 billion with unrealized losses of $78.9 million have been in an impaired position for a period of time greater than 12 months. As of December 31, 2018, we do not intend to sell any of our impaired securities prior to recovery of our adjusted cost basis, and it is more likely than not that we will not be required to sell any of our securities prior to recovery of our adjusted cost basis. Based on our analysis as of December 31, 2018, we deem all impairments to be temporary, and therefore changes in value for our temporarily impaired securities as of the same date are included in other comprehensive income. Market valuations and impairment analyses on assets in the AFS securities portfolio are reviewed and monitored on a quarterly basis.

	December 31, 2017					
	Less than 12 months		12 months or longer (1)		Total	
(Dollars in thousands)	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses
Available-for-sale securities:						
U.S. Treasury securities	$ 5,968,914	$ (23,397)	$ 323,966	$ (2,282)	$ 6,292,880	$ (25,679)
U.S. agency debentures	736,541	(2,289)	336,196	(3,347)	1,072,737	(5,636)
Residential mortgage-backed securities:						
Agency-issued collateralized mortgage obligations—fixed rate	2,193,277	(25,534)	—	—	2,193,277	(25,534)
Agency-issued collateralized mortgage obligations—variable rate	13,843	(3)	53,186	(123)	67,029	(126)
Equity securities	624	(209)	—	—	624	(209)
Total temporarily impaired securities (1)	$ 8,913,199	$ (51,432)	$ 713,348	$ (5,752)	$ 9,626,547	$ (57,184)

(1) As of December 31, 2017, we identified a total of 268 investments that were in unrealized loss positions, of which 46 investments totaling $713.3 million with unrealized losses of $5.8 million have been in an impaired position for a period of time greater than 12 months.

The following table summarizes the fixed income securities, carried at fair value, classified as AFS as of December 31, 2018 by the remaining contractual principal maturities. For U.S. Treasury securities, U.S. agency debentures and foreign government debt securities, the expected maturity is the actual contractual maturity of the notes. Expected maturities for mortgage-backed securities may differ significantly from their contractual maturities because mortgage borrowers have the right to prepay outstanding loan obligations with or without penalties. Mortgage-backed securities classified as AFS typically have original contractual maturities from 10 to 30 years whereas expected average lives of these securities tend to be significantly shorter and vary based upon structure and prepayments in lower interest rate environments.

	December 31, 2018				
(Dollars in thousands)	Total	One Year or Less	After One Year to Five Years	After Five Years to Ten Years	After Ten Years
U.S. Treasury securities	$ 4,738,258	$ 1,765,333	$ 2,524,484	$ 448,441	$ —
U.S. agency debentures	1,084,117	665,750	418,367	—	—
Foreign government debt securities	5,812	—	5,812	—	—
Residential mortgage-backed securities:					
Agency-issued collateralized mortgage obligations—fixed rate	1,880,218	—	—	16,030	1,864,188
Agency-issued collateralized mortgage obligations—variable rate	81,638	—	—	—	81,638
Total	$ 7,790,043	$ 2,431,083	$ 2,948,663	$ 464,471	$ 1,945,826

Held-to-Maturity Securities

The components of our HTM investment securities portfolio at December 31, 2018 and 2017 are as follows:

	December 31, 2018			
(Dollars in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Held-to-maturity securities, at cost:				
U.S. agency debentures (1)	$ 640,990	$ 2,148	$ (4,850)	$ 638,288
Residential mortgage-backed securities:				
Agency-issued mortgage-backed securities	8,103,638	5,011	(157,767)	7,950,882
Agency-issued collateralized mortgage obligations—fixed rate	2,183,204	—	(62,272)	2,120,932
Agency-issued collateralized mortgage obligations—variable rate	214,483	608	(14)	215,077
Agency-issued commercial mortgage-backed securities	2,769,706	6,969	(64,374)	2,712,301
Municipal bonds and notes	1,575,421	2,304	(26,969)	1,550,756
Total held-to-maturity securities	$ 15,487,442	$ 17,040	$ (316,246)	$ 15,188,236

(1) Consists of pools of Small Business Investment Company debentures issued and guaranteed by the U.S. Small Business Administration, an independent agency of the United States.

	December 31, 2017			
(Dollars in thousands)	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value
Held-to-maturity securities, at cost:				
U.S. agency debentures (1)	$ 659,979	$ 3,167	$ (1,601)	$ 661,545
Residential mortgage-backed securities:				
Agency-issued mortgage-backed securities	6,304,969	4,854	(43,528)	6,266,295
Agency-issued collateralized mortgage obligations—fixed rate	2,829,979	23	(54,372)	2,775,630
Agency-issued collateralized mortgage obligations—variable rate	255,782	733	(34)	256,481
Agency-issued commercial mortgage-backed securities	1,868,985	694	(25,563)	1,844,116
Municipal bonds and notes	743,761	3,452	(3,000)	744,213
Total held-to-maturity securities	$ 12,663,455	$ 12,923	$ (128,098)	$ 12,548,280

(1) Consists of pools of Small Business Investment Company debentures issued and guaranteed by the U.S. Small Business Administration, an independent agency of the United States.

The following tables summarize our unrealized losses on our HTM securities portfolio into categories of less than 12 months and 12 months or longer as of December 31, 2018 and 2017:

	December 31, 2018					
	Less than 12 months		12 months or longer (1)		Total	
(Dollars in thousands)	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses
Held-to-maturity securities:						
U.S. agency debentures	$ 291,432	$ (2,915)	$ 66,624	$ (1,935)	$ 358,056	$ (4,850)
Residential mortgage-backed securities:						
Agency-issued mortgage-backed securities	2,493,156	(34,956)	3,972,690	(122,811)	6,465,846	(157,767)
Agency-issued collateralized mortgage obligations—fixed rate	16,952	(109)	2,103,980	(62,163)	2,120,932	(62,272)
Agency-issued collateralized mortgage obligations—variable rate	3,364	(1)	8,101	(13)	11,465	(14)
Agency-issued commercial mortgage-backed securities	177,697	(1,580)	1,600,277	(62,794)	1,777,974	(64,374)
Municipal bonds and notes	868,751	(17,075)	340,413	(9,894)	1,209,164	(26,969)
Total temporarily impaired securities (1)	$ 3,851,352	$ (56,636)	$ 8,092,085	$ (259,610)	$ 11,943,437	$ (316,246)

(1) As of December 31, 2018, we identified a total of 1244 investments that were in unrealized loss positions, of which 695 investments totaling $8.1 billion with unrealized losses of $259.6 million have been in an impaired position for a period of time greater than 12 months. As of December 31, 2018, we do not intend to sell any of our impaired securities prior to recovery of our adjusted cost basis, and it is more likely than not that we will not be required to sell any of our securities prior to recovery of our adjusted cost basis, which is consistent with our classification of these securities. Based on our analysis as of December 31, 2018, we deem all impairments to be temporary. Market valuations and impairment analyses on assets in the HTM securities portfolio are reviewed and monitored on a quarterly basis.

	December 31, 2017					
	Less than 12 months		12 months or longer (1)		Total	
(Dollars in thousands)	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses	Fair Value of Investments	Unrealized Losses
Held-to-maturity securities:						
U.S. agency debentures	$ 104,688	$ (1,601)	$ —	$ —	$ 104,688	$ (1,601)
Residential mortgage-backed securities:						
Agency-issued mortgage-backed securities	4,270,377	(34,092)	408,913	(9,436)	4,679,290	(43,528)
Agency-issued collateralized mortgage obligations—fixed rate	1,011,709	(13,631)	1,741,614	(40,741)	2,753,323	(54,372)
Agency-issued collateralized mortgage obligations—variable rate	—	—	9,812	(34)	9,812	(34)
Agency-issued commercial mortgage-backed securities	979,361	(11,566)	773,712	(13,997)	1,753,073	(25,563)
Municipal bonds and notes	344,796	(2,103)	32,844	(897)	377,640	(3,000)
Total temporarily impaired securities (1)	$ 6,710,931	$ (62,993)	$ 2,966,895	$ (65,105)	$ 9,677,826	$ (128,098)

(1) As of December 31, 2017, we identified a total of 753 investments that were in unrealized loss positions, of which 237 investments totaling $3.0 billion with unrealized losses of $65.1 million have been in an impaired position for a period of time greater than 12 months.

The following table summarizes the remaining contractual principal maturities on fixed income investment securities classified as HTM as of December 31, 2018. For U.S. agency debentures, the expected maturity is the actual contractual maturity of the notes. Expected maturities for mortgage-backed securities may differ significantly from their contractual maturities because mortgage borrowers have the right to prepay outstanding loan obligations with or without penalties. Mortgage-backed securities classified as HTM typically have original contractual maturities from 10 to 30 years whereas expected average lives of these securities tend to be significantly shorter and vary based upon structure and prepayments in lower interest rate environments.

	December 31, 2018									
	Total		One Year or Less		After One Year to Five Years		After Five Years to Ten Years		After Ten Years	
(Dollars in thousands)	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value	Amortized Cost	Fair Value
U.S. agency debentures	$ 640,990	$ 638,288	$ —	$ —	$ 104,550	$ 104,105	$ 536,440	$ 534,183	$ —	$ —
Residential mortgage-backed securities:										
Agency-issued mortgage-backed securities	8,103,638	7,950,883	—	—	155,257	152,524	885,622	859,609	7,062,759	6,938,750
Agency-issued collateralized mortgage obligations - fixed rate	2,183,204	2,120,932	—	—	—	—	483,043	466,458	1,700,161	1,654,474
Agency-issued collateralized mortgage obligations - variable rate	214,483	215,077	—	—	—	—	—	—	214,483	215,077
Agency-issued commercial mortgage-backed securities	2,769,706	2,712,301	—	—	—	—	—	—	2,769,706	2,712,301
Municipal bonds and notes	1,575,421	1,550,755	9,725	9,720	75,379	74,670	307,184	300,766	1,183,133	1,165,599
Total	$15,487,442	$15,188,236	$ 9,725	$ 9,720	$ 335,186	$ 331,299	$2,212,289	$2,161,016	$12,930,242	$12,686,201

Non-marketable and Other Equity Securities

The major components of our non-marketable and other equity securities portfolio at December 31, 2018 and 2017 are as follows:

(Dollars in thousands)	December 31, 2018	December 31, 2017
Non-marketable and other equity securities:		
Non-marketable securities (fair value accounting):		
Consolidated venture capital and private equity fund investments (1)	$ 118,333	$ 128,111
Unconsolidated venture capital and private equity fund investments (2)	201,098	98,548
Other investments without a readily determinable fair value (3)	25,668	27,680
Other equity securities in public companies (fair value accounting) (4)	20,398	310
Non-marketable securities (equity method accounting) (5):		
Venture capital and private equity fund investments	129,485	89,809
Debt funds	5,826	21,183
Other investments	121,721	111,198
Investments in qualified affordable housing projects, net (6)	318,575	174,214
Total non-marketable and other equity securities	$ 941,104	$ 651,053

(1) The following table shows the amounts of venture capital and private equity fund investments held by the following consolidated funds and our ownership percentage of each fund at December 31, 2018 and 2017 (fair value accounting):

	December 31, 2018		December 31, 2017	
(Dollars in thousands)	Amount	Ownership %	Amount	Ownership %
Strategic Investors Fund, LP	$ 12,452	12.6%	$ 14,673	12.6%
Capital Preferred Return Fund, LP	53,957	20.0	54,147	20.0
Growth Partners, LP	50,845	33.0	58,372	33.0
CP I, LP	1,079	10.7	919	10.7
Total consolidated venture capital and private equity fund investments	$ 118,333		$ 128,111	

(2) The carrying value represents investments in 213 and 235 funds (primarily venture capital funds) at December 31, 2018 and December 31, 2017, respectively, where our ownership interest is typically less than 5% of the voting interests of each such fund and in which we do not have the ability to exercise significant influence over the partnerships operating activities and financial policies. Effective January 1, 2018, we adopted ASU 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities which eliminated the concept of cost method accounting. On a prospective basis, we will carry our unconsolidated venture capital and private equity fund investments at fair value based on the fund investments' net asset values per share as obtained from the general partners of the investments. For each fund investment, we adjust the net asset value per share for differences between our measurement date and the date of the fund investment's net asset value by using the most recently available financial information from the investee general partner, for example September 30th for our December 31st consolidated financial statements, adjusted for any contributions paid, distributions received from the investment, and significant fund transactions or market events during the reporting period. We recorded a cumulative adjustment to opening retained earnings on January 1, 2018 for the difference between fair value and cost for these fund investments. The estimated fair value and carrying value of these venture capital and private equity fund investments was $201.1 million as of December 31, 2018. As of December 31, 2017, these investments were carried at cost and had a carrying value of $98.5 million.

(3) Effective January 1, 2018, we adopted ASU 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities which eliminated the concept of cost method accounting. On a prospective basis, we have elected the measurement alternative and will report our other investments in the line item "Other investments without a readily determinable fair value". These investments include direct equity investments in private companies. The carrying value is based on the price at which the investment was acquired plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments. We consider a range of factors when adjusting the fair value of

these investments, including, but not limited to, the term and nature of the investment, local market conditions, values for comparable securities, current and projected operating performance, exit strategies, financing transactions subsequent to the acquisition of the investment and a discount for certain investments that have lock-up restrictions or other features that indicate a discount to fair value is warranted.

The following table shows the carrying amount of other investments without a readily determinable fair value at December 31, 2018, and the amounts recognized in earnings for the year ended December 31, 2018 and on a cumulative basis:

(Dollars in thousands)	Year ended December 31, 2018	Cumulative Adjustments
Measurement alternative:		
Carrying value at December 31, 2018	$ 25,668	
Carrying value adjustments:		
Impairment	$ —	$ —
Downward changes for observable prices	1,963	1,963
Upward changes for observable prices	1,711	1,711

(4) Investments classified as other equity securities (fair value accounting) represent shares held in public companies as a result of exercising public equity warrant assets and direct equity investments in public companies held by our consolidated funds. Effective January 1, 2018, we adopted ASU 2016-01, which requires equity securities to be measured at fair value with changes in the fair value recognized through net income. Prior to January 1, 2018 we reported equity securities in public companies that we held as a result of exercising public equity warrant assets in available-for-sale securities. On a prospective basis, these equity securities will be reported in non-marketable and other equity securities.

(5) The following table shows the carrying value and our ownership percentage of each investment at December 31, 2018 and 2017 (equity method accounting):

	December 31, 2018		December 31, 2017	
(Dollars in thousands)	Amount	Ownership %	Amount	Ownership %
Venture capital and private equity fund investments:				
Strategic Investors Fund II, LP	$ 4,670	8.6%	$ 6,342	8.6%
Strategic Investors Fund III, LP	17,396	5.9	18,758	5.9
Strategic Investors Fund IV, LP	28,974	5.0	25,551	5.0
Strategic Investors Fund V funds	28,189	Various	16,856	Various
CP II, LP (i)	7,122	5.1	6,700	5.1
Other venture capital and private equity fund investments	43,134	Various	15,602	Various
Total venture capital and private equity fund investments	$ 129,485		$ 89,809	
Debt funds:				
Gold Hill Capital 2008, LP (ii)	$ 3,901	15.5%	$ 18,690	15.5%
Other debt funds	1,925	Various	2,493	Various
Total debt funds	$ 5,826		$ 21,183	
Other investments:				
SPD Silicon Valley Bank Co., Ltd.	$ 76,412	50.0%	$ 75,337	50.0%
Other investments	45,309	Various	35,861	Various
Total other investments	$ 121,721		$ 111,198	

(i) Our ownership includes direct ownership interest of 1.3 percent and indirect ownership interest of 3.8 percent through our investments in Strategic Investors Fund II, LP.

(ii) Our ownership includes direct ownership interest of 11.5 percent in the fund and an indirect interest in the fund through our investment in Gold Hill Capital 2008, LLC of 4.0 percent.

(6) The following table presents the balances of our investments in qualified affordable housing projects and related unfunded commitments included as a component of "other liabilities" on our consolidated balance sheets at December 31, 2018 and 2017:

(Dollars in thousands)	December 31, 2018	December 31, 2017
Investments in qualified affordable housing projects, net	$ 318,575	$ 174,214
Other liabilities	205,685	100,891

The following table presents other information relating to our investments in qualified affordable housing projects for the years ended December 31, 2018, 2017 and 2016:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Tax credits and other tax benefits recognized	$ 24,047	$ 17,296	$ 15,404
Amortization expense included in provision for income taxes (i)	18,876	17,362	12,145

(i) All investments are amortized using the proportional amortization method and amortization expense is included in the provision for income taxes. Included in amortization expense for the year ended December 31, 2017 is a one-time cumulative effect adjustment of $3.8 million due to the decrease in value of deductions in the 2018 tax year and going forward, due to the TCJ Act federal corporate income tax rate reduction.

The following table presents the net gains and losses on non-marketable and other equity securities in 2018, 2017 and 2016 as recorded in the line item “Gains on investment securities, net," a component of noninterest income:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Net gains (losses) on non-marketable and other equity securities:			
Non-marketable securities (fair value accounting):			
Consolidated venture capital and private equity fund investments	$ 20,999	$ 27,186	$ 5,964
Unconsolidated venture capital and private equity fund investments (1)	39,075	21,377	17,816
Other investments without a readily determinable fair value (1)	3,206	3,842	(45)
Other equity securities in public companies (fair value accounting) (1)	(25,483)	241	(90)
Non-marketable securities (equity method accounting):			
Venture capital and private equity fund investments	49,341	14,472	4,070
Debt funds	541	8,950	948
Other investments	1,155	(6,276)	10,882
Total net gains on non-marketable and other equity securities	$ 88,834	$ 69,792	$ 39,545
Less: Realized net losses on the sales and OTTI of non-marketable and other equity securities (2)	(26,097)	(355)	(4,524)
Net gains on non-marketable and other equity securities still held	$ 114,931	$ 70,147	$ 44,069

(1) Prior period amounts are not determined in a manner consistent with the current period presentation due to the adoption of ASU 2016-01.
(2) Realized gains and losses include sales and OTTI of non-marketable and other equity securities. Includes losses of $20.8 million in losses on sales and $5.3 million of OTTI for the period ended December 31, 2018. Includes gains of $3.8 million

and $0.2 million on sales and $4.2 million and $4.7 million of OTTI for the periods ended December 31, 2017 and 2016, respectively.

9. Loans, Allowance for Loan Losses and Allowance for Unfunded Credit Commitments

We serve a variety of commercial clients in the technology, life science/healthcare, private equity/venture capital and premium wine industries. Our technology clients generally tend to be in the industries of hardware (semiconductors, communications, data, storage, and electronics), software/internet (such as infrastructure software, applications, software services, digital content and advertising technology), and energy and resource innovation ("ERI"). Because of the diverse nature of ERI products and services, for our loan-related reporting purposes, ERI-related loans are reported under our hardware, software/internet, life science/healthcare and other commercial loan categories, as applicable. Our life science/healthcare clients primarily tend to be in the industries of biotechnology, medical devices, healthcare information technology and healthcare services. Loans made to private equity/venture capital firm clients typically enable them to fund investments prior to their receipt of funds from capital calls. Loans to the premium wine industry focus on vineyards and wineries that produce grapes and wines of high quality.

In addition to commercial loans, we make consumer loans through SVB Private Bank and provide real estate secured loans to eligible employees through our EHOP. Our private banking clients are primarily private equity/venture capital professionals and executive leaders in the innovation companies they support. These products and services include real estate secured home equity lines of credit, which may be used to finance real estate investments and loans used to purchase, renovate or refinance personal residences. These products and services also include restricted stock purchase loans and capital call lines of credit.

We also provide community development loans made as part of our responsibilities under the Community Reinvestment Act. These loans are included within “Construction loans” below and are primarily secured by real estate.

The composition of loans, net of unearned income of $173 million and $148 million at December 31, 2018 and 2017, respectively, is presented in the following table:

	December 31,	
(Dollars in thousands)	2018	2017
Commercial loans:		
Software/internet	$ 6,154,755	$ 6,172,531
Hardware	1,234,557	1,193,599
Private equity/venture capital	14,110,560	9,952,377
Life science/healthcare	2,385,612	1,808,827
Premium wine	249,266	204,105
Other	321,978	365,724
Total commercial loans	24,456,728	19,697,163
Real estate secured loans:		
Premium wine (1)	710,397	669,053
Consumer loans (2)	2,612,971	2,300,506
Other	40,435	42,068
Total real estate secured loans	3,363,803	3,011,627
Construction loans	97,077	68,546
Consumer loans	420,672	328,980
Total loans, net of unearned income (3)	$ 28,338,280	$ 23,106,316

(1) Included in our premium wine portfolio are gross construction loans of $99 million and $100 million at December 31, 2018 and 2017, respectively.

(2) Consumer loans secured by real estate at December 31, 2018 and 2017 were comprised of the following:

	December 31,	
(Dollars in thousands)	2018	2017
Loans for personal residence	$ 2,251,292	$ 1,995,840
Loans to eligible employees	290,194	243,118
Home equity lines of credit	71,485	61,548
Consumer loans secured by real estate	$ 2,612,971	$ 2,300,506

(3) Included within our total loan portfolio are credit card loans of $335 million and $270 million at December 31, 2018 and 2017, respectively.

Credit Quality

The composition of loans, net of unearned income of $173 million and $148 million at December 31, 2018 and 2017, respectively, broken out by portfolio segment and class of financing receivable, is as follows:

	December 31,	
(Dollars in thousands)	2018	2017
Commercial loans:		
Software/internet	$ 6,154,755	$ 6,172,531
Hardware	1,234,557	1,193,599
Private equity/venture capital	14,110,560	9,952,377
Life science/healthcare	2,385,612	1,808,827
Premium wine	959,663	873,158
Other	459,490	476,338
Total commercial loans	25,304,637	20,476,830
Consumer loans:		
Real estate secured loans	2,612,971	2,300,506
Other consumer loans	420,672	328,980
Total consumer loans	3,033,643	2,629,486
Total loans, net of unearned income	$ 28,338,280	$ 23,106,316

The following table summarizes the aging of our gross loans, broken out by portfolio segment and class of financing receivable as of December 31, 2018 and 2017:

(Dollars in thousands)	30 - 59 Days Past Due	60 - 89 Days Past Due	Equal to or Greater Than 90 Days Past Due	Total Past Due	Current	Loans Past Due 90 Days or More Still Accruing Interest
December 31, 2018:						
Commercial loans:						
Software/internet	$ 28,134	$ 6,944	$ 378	$ 35,456	$ 6,059,672	$ 378
Hardware	300	34	4	338	1,233,956	4
Private equity/venture capital	59,481	11	—	59,492	14,054,940	—
Life science/healthcare	16,082	817	19	16,918	2,410,091	19
Premium wine	2,953	14	—	2,967	956,285	—
Other	7,391	163	1	7,555	477,442	1
Total commercial loans	114,341	7,983	402	122,726	25,192,386	402
Consumer loans:						
Real estate secured loans	3,598	1,750	1,562	6,910	2,598,496	1,562
Other consumer loans	361	—	—	361	420,359	—
Total consumer loans	3,959	1,750	1,562	7,271	3,018,855	1,562
Total gross loans excluding impaired loans	118,300	9,733	1,964	129,997	28,211,241	1,964
Impaired loans	2,843	1,181	25,092	29,116	140,958	—
Total gross loans	$ 121,143	$ 10,914	$ 27,056	$ 159,113	$ 28,352,199	$ 1,964
December 31, 2017:						
Commercial loans:						
Software/internet	$ 14,257	$ 6,526	$ 141	$ 20,924	$ 6,101,147	$ 141
Hardware	1,145	77	50	1,272	1,163,278	50
Private equity/venture capital	86,566	38,580	—	125,146	9,835,317	—
Life science/healthcare	4,390	191	—	4,581	1,841,692	—
Premium wine	418	—	—	418	871,074	—
Other	445	—	—	445	490,292	—
Total commercial loans	107,221	45,374	191	152,786	20,302,800	191
Consumer loans:						
Real estate secured loans	2,164	532	—	2,696	2,292,980	—
Other consumer loans	796	—	—	796	327,234	—
Total consumer loans	2,960	532	—	3,492	2,620,214	—
Total gross loans excluding impaired loans	110,181	45,906	191	156,278	22,923,014	191
Impaired loans	1,344	11,902	30,403	43,649	131,212	—
Total gross loans	$ 111,525	$ 57,808	$ 30,594	$ 199,927	$ 23,054,226	$ 191

The following table summarizes our impaired loans as they relate to our allowance for loan losses, broken out by portfolio segment and class of financing receivable for the years ended December 31, 2018 and 2017:

(Dollars in thousands)	Impaired loans for which there is a related allowance for loan losses	Impaired loans for which there is no related allowance for loan losses	Total carrying value of impaired loans	Total unpaid principal of impaired loans
December 31, 2018:				
Commercial loans:				
Software/internet	$ 49,625	$ 65,225	$ 114,850	$ 131,858
Hardware	1,256	10,250	11,506	12,159
Private equity/venture capital	—	3,700	3,700	3,700
Life science/healthcare	17,791	16,276	34,067	44,446
Premium wine	—	1,301	1,301	1,365
Other	411	—	411	411
Total commercial loans	69,083	96,752	165,835	193,939
Consumer loans:				
Real estate secured loans	3,919	320	4,239	5,969
Other consumer loans	—	—	—	—
Total consumer loans	3,919	320	4,239	5,969
Total	$ 73,002	$ 97,072	$ 170,074	$ 199,908
December 31, 2017:				
Commercial loans:				
Software/internet	$ 49,645	$ 61,009	$ 110,654	$ 129,006
Hardware	15,637	20,713	36,350	41,721
Private equity/venture capital	658	—	658	984
Life science/healthcare	20,521	1,166	21,687	26,360
Premium wine	—	2,877	2,877	2,911
Other	32	—	32	165
Total commercial loans	86,493	85,765	172,258	201,147
Consumer loans:				
Real estate secured loans	1,331	850	2,181	3,712
Other consumer loans	422	—	422	436
Total consumer loans	1,753	850	2,603	4,148
Total	$ 88,246	$ 86,615	$ 174,861	$ 205,295

The following table summarizes our average impaired loans and interest income recognized on impaired loans, broken out by portfolio segment and class of financing receivable during 2018, 2017 and 2016:

Year ended December 31, (Dollars in thousands)	Average impaired loans			Interest income recognized on impaired loans		
	2018	2017	2016	2018	2017	2016
Commercial loans:						
Software/internet	$ 112,493	$ 119,557	$ 89,462	$ 1,513	$ 2,263	$ 1,054
Hardware	28,540	35,022	39,108	312	1,061	2,624
Private equity/venture capital	1,327	556	—	—	—	—
Life science/healthcare	30,144	30,842	40,620	756	90	155
Premium wine	2,605	3,249	2,056	68	152	28
Other	171	576	3,442	—	—	6
Total commercial loans	175,280	189,802	174,688	2,649	3,566	3,867
Consumer loans:						
Real estate secured loans	4,028	1,514	588	15	—	—
Other consumer loans	358	1,804	1,136	—	—	17
Total consumer loans	4,386	3,318	1,724	15	—	17
Total average impaired loans	$ 179,666	$ 193,120	$ 176,412	$ 2,664	$ 3,566	$ 3,884

The following tables summarize the activity relating to our allowance for loan losses for 2018, 2017 and 2016 broken out by portfolio segment:

Year ended December 31, 2018 (Dollars in thousands)	Beginning Balance December 31, 2017	Charge-offs	Recoveries	Provision for (Reduction of) Loan Losses	Foreign Currency Translation Adjustments	Ending Balance December 31, 2018
Commercial loans:						
Software/internet	$ 96,104	$ (42,315)	$ 5,664	$ 45,068	$ (954)	$ 103,567
Hardware	27,614	(16,148)	1,849	6,555	(145)	19,725
Private equity/venture capital	82,468	(112)	13	16,485	(273)	98,581
Life science/healthcare	24,924	(6,662)	348	14,347	(777)	32,180
Premium wine	3,532	—	—	(182)	5	3,355
Other	3,941	(2,391)	3,275	(1,320)	53	3,558
Total commercial loans	238,583	(67,628)	11,149	80,953	(2,091)	260,966
Consumer loans	16,441	(289)	487	3,339	(41)	19,937
Total allowance for loan losses	$ 255,024	$ (67,917)	$ 11,636	$ 84,292	$ (2,132)	$ 280,903

SVB FINANCIAL GROUP AND SUBSIDIARIES
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Year ended December 31, 2017 (Dollars in thousands)	Beginning Balance December 31, 2016	Charge-offs	Recoveries	Provision for (Reduction of) Loan Losses	Foreign Currency Translation Adjustments	Ending Balance December 31, 2017
Commercial loans:						
Software/internet	$ 97,388	$ (45,012)	$ 4,649	$ 38,462	$ 617	$ 96,104
Hardware	31,166	(10,414)	487	6,051	324	27,614
Private equity/venture capital	50,299	(323)	—	31,625	867	82,468
Life science/healthcare	25,446	(8,210)	189	7,414	85	24,924
Premium wine	4,115	—	—	(540)	(43)	3,532
Other	4,768	(1,156)	1,850	(1,459)	(62)	3,941
Total commercial loans	213,182	(65,115)	7,175	81,553	1,788	238,583
Consumer loans	12,184	(1,567)	1,363	4,386	75	16,441
Total allowance for loan losses	$ 225,366	$ (66,682)	$ 8,538	$ 85,939	$ 1,863	$ 255,024

Year ended December 31, 2016 (Dollars in thousands)	Beginning Balance December 31, 2015	Charge-offs	Recoveries	Provision for (Reduction of) Loan Losses	Foreign Currency Translation Adjustments	Ending Balance December 31, 2016
Commercial loans:						
Software/internet	$ 103,045	$ (68,784)	$ 7,278	$ 58,350	$ (2,501)	$ 97,388
Hardware	23,085	(13,233)	1,667	20,851	(1,204)	31,166
Private equity/venture capital	35,282	—	—	15,114	(97)	50,299
Life science/healthcare	36,576	(9,693)	1,129	(2,543)	(23)	25,446
Premium wine	5,205	—	—	(1,260)	170	4,115
Other	4,252	(5,045)	1,880	3,373	308	4,768
Total commercial loans	207,445	(96,755)	11,954	93,885	(3,347)	213,182
Consumer loans	10,168	(102)	258	1,812	48	12,184
Total allowance for loan losses	$ 217,613	$ (96,857)	$ 12,212	$ 95,697	$ (3,299)	$ 225,366

The following table summarizes the activity relating to our allowance for unfunded credit commitments for 2018, 2017 and 2016:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Allowance for unfunded credit commitments, beginning balance	$ 51,770	$ 45,265	$ 34,415
Provision for unfunded credit commitments	3,578	6,365	10,982
Foreign currency translation adjustments	(165)	140	(132)
Allowance for unfunded credit commitments, ending balance (1)	$ 55,183	$ 51,770	$ 45,265

(1) See Note 19—"Off-Balance Sheet Arrangements, Guarantees and Other Commitments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for additional disclosures related to our commitments to extend credit.

The following table summarizes the allowance for loan losses individually and collectively evaluated for impairment as of December 31, 2018 and 2017, broken out by portfolio segment:

	December 31, 2018				December 31, 2017			
	Individually Evaluated for Impairment		Collectively Evaluated for Impairment		Individually Evaluated for Impairment		Collectively Evaluated for Impairment	
(Dollars in thousands)	Allowance for loan losses	Recorded investment in loans	Allowance for loan losses	Recorded investment in loans	Allowance for loan losses	Recorded investment in loans	Allowance for loan losses	Recorded investment in loans
Commercial loans:								
Software/internet	$ 28,527	$ 114,850	$ 75,040	$ 6,039,905	$ 23,088	$ 110,654	$ 73,016	$ 6,061,877
Hardware	1,253	11,506	18,472	1,223,051	8,450	36,350	19,164	1,157,249
Private equity/venture capital	—	3,700	98,581	14,106,860	330	658	82,138	9,951,719
Life science/healthcare	7,484	34,067	24,696	2,351,545	9,315	21,687	15,609	1,787,140
Premium wine	—	1,301	3,355	958,362	—	2,877	3,532	870,281
Other	411	411	3,147	459,079	32	32	3,909	476,306
Total commercial loans	37,675	165,835	223,291	25,138,802	41,215	172,258	197,368	20,304,572
Total consumer loans	266	4,239	19,671	3,029,404	578	2,603	15,863	2,626,883
Total	$ 37,941	$ 170,074	$ 242,962	$ 28,168,206	$ 41,793	$ 174,861	$ 213,231	$ 22,931,455

Credit Quality Indicators

For each individual client, we establish an internal credit risk rating for that loan, which is used for assessing and monitoring credit risk as well as performance of the loan and the overall portfolio. Our internal credit risk ratings are also used to summarize the risk of loss due to failure by an individual borrower to repay the loan. For our internal credit risk ratings, each individual loan is given a risk rating of 1 through 10. Loans risk-rated 1 through 4 are performing loans and translate to an internal rating of "Pass," with loans risk-rated 1 being cash secured. Loans risk-rated 5 through 7 are performing loans; however, we consider them as demonstrating higher risk, which requires more frequent review of the individual exposures; these translate to an internal rating of "Performing (Criticized)." When full repayment of a criticized loan has been deemed improbable under the original contractual terms but full repayment remains probable overall, the loan is considered to be a "Performing Impaired (Criticized)" loan. All of our nonaccrual loans are risk-rated 8 or 9 and are classified under the nonperforming impaired category. (For a further description of nonaccrual loans, refer to Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report). Loans rated 10 are charged-off and are not included as part of our loan portfolio balance. We review our credit quality indicators for performance and appropriateness of risk ratings as part of our evaluation process for our allowance for loan losses.

The following table summarizes the credit quality indicators, broken out by portfolio segment and class of financing receivables as of December 31, 2018 and 2017:

(Dollars in thousands)	Pass	Performing (Criticized)	Performing Impaired (Criticized)	Nonperforming Impaired (Nonaccrual)	Total
December 31, 2018:					
Commercial loans:					
Software/internet	$ 5,574,332	$ 520,796	$ 48,069	$ 66,781	$ 6,209,978
Hardware	1,146,985	87,309	10,250	1,256	1,245,800
Private equity/venture capital	14,098,281	16,151	—	3,700	14,118,132
Life science/healthcare	2,291,356	135,653	16,276	17,791	2,461,076
Premium wine	909,965	49,287	1,017	284	960,553
Other	467,653	17,344	—	411	485,408
Total commercial loans	24,488,572	826,540	75,612	90,223	25,480,947
Consumer loans:					
Real estate secured loans	2,584,261	21,145	320	3,919	2,609,645
Other consumer loans	419,771	949	—	—	420,720
Total consumer loans	3,004,032	22,094	320	3,919	3,030,365
Total gross loans	$ 27,492,604	$ 848,634	$ 75,932	$ 94,142	$ 28,511,312
December 31, 2017:					
Commercial loans:					
Software/internet	$ 5,655,739	$ 466,332	$ 31,794	$ 78,860	$ 6,232,725
Hardware	1,112,574	51,976	20,165	16,185	1,200,900
Private equity/venture capital	9,955,082	5,381	—	658	9,961,121
Life science/healthcare	1,720,613	125,660	1,167	20,520	1,867,960
Premium wine	834,537	36,955	2,476	401	874,369
Other	469,721	21,016	—	32	490,769
Total commercial loans	19,748,266	707,320	55,602	116,656	20,627,844
Consumer loans:					
Real estate secured loans	2,282,375	13,301	—	2,181	2,297,857
Other consumer loans	326,851	1,179	—	422	328,452
Total consumer loans	2,609,226	14,480	—	2,603	2,626,309
Total gross loans	$ 22,357,492	$ 721,800	$ 55,602	$ 119,259	$ 23,254,153

Troubled Debt Restructurings

As of December 31, 2018 we had 17 TDRs with a total carrying value of $83.7 million where concessions have been granted to borrowers experiencing financial difficulties, in an attempt to maximize collection. This compares to 22 TDRs with a total carrying value of $147.8 million as of December 31, 2017. There were unfunded commitments available for funding of $2.7 million to the clients associated with these TDRs as of December 31, 2018. The following table summarizes our loans modified in TDRs, broken out by portfolio segment and class of financing receivables at December 31, 2018 and 2017:

	December 31,	
(Dollars in thousands)	2018	2017
Loans modified in TDRs:		
Commercial loans:		
Software/internet	$ 58,089	$ 73,455
Hardware	9,665	51,132
Private equity/venture capital	—	350
Life science/healthcare	12,738	19,235
Premium wine	2,883	3,198
Total commercial loans	83,375	147,370
Consumer loans:		
Other consumer loans	320	423
Total loans modified in TDRs	$ 83,695	$ 147,793

The following table summarizes the recorded investment in loans modified in TDRs, broken out by portfolio segment and class of financing receivable, for modifications made during 2018, 2017 and 2016:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Loans modified in TDRs during the period:			
Commercial loans:			
Software/internet	$ 30,429	$ 42,184	$ 23,574
Hardware	9,665	51,132	14,870
Private equity/venture capital	—	350	—
Life science/healthcare	660	—	1,638
Premium wine	—	177	677
Total commercial loans	40,754	93,843	40,759
Consumer loans:			
Other consumer loans	320	—	786
Total loans modified in TDRs during the period (1)	$ 41,074	$ 93,843	$ 41,545

(1) There were $4.6 million, $3.0 million, and $3.6 million of partial charge-offs during 2018, 2017 and 2016, respectively.

During 2018, all new TDRs of $41.1 million were modified through payment deferrals granted to our clients. During 2017, $93.5 million of new TDRs were modified through payment deferrals granted to our clients and $0.3 million were modified through partial forgiveness of principal. During 2016, all new TDRs were modified through payment deferrals granted to our clients.

The related allowance for loan losses for the majority of our TDRs is determined on an individual basis by comparing the carrying value of the loan to the present value of the estimated future cash flows, discounted at the pre-modification contractual interest rate. For certain TDRs, the related allowance for loan losses is determined based on the fair value of the collateral if the loan is collateral dependent.

The following table summarizes the recorded investment in loans modified in TDRs within the previous 12 months that subsequently defaulted during their respective periods, broken out by portfolio segment and class of financing receivable, during 2018, 2017 and 2016:

	December 31		
(Dollars in thousands)	2018 (1)	2017 (1)	2016
TDRs modified within the previous 12 months that defaulted during the period:			
Commercial loans:			
Hardware	$ —	$ —	$ 134
Premium wine	—	—	491
Life science/healthcare	—	—	—
Total commercial loans	—	—	625
Consumer loans:			
Other consumer loans	—	—	786
Total TDRs modified within the previous 12 months that defaulted in the period	$ —	$ —	$ 1,411

(1) For both the 2018 and 2017 periods, there were no loans modified in TDRs within the previous 12 months that subsequently defaulted during the period.

Charge-offs and defaults on previously restructured loans are evaluated to determine the impact to the allowance for loan losses, if any. The evaluation of these defaults may impact the assumptions used in calculating the reserve on other TDRs and impaired loans as well as management's overall outlook of macroeconomic factors that affect the reserve on the loan portfolio as a whole. After evaluating the charge-offs and defaults experienced on our TDRs we determined that no change to our reserving methodology for TDRs was necessary to determine the allowance for loan losses as of December 31, 2018.

10. Premises and Equipment

Premises and equipment at December 31, 2018 and 2017 consisted of the following:

	December 31,	
(Dollars in thousands)	2018	2017
Computer software	$ 217,017	$ 203,359
Computer hardware	70,247	63,881
Leasehold improvements	98,237	89,225
Furniture and equipment	42,319	38,146
Total	427,820	394,611
Accumulated depreciation and amortization	(298,607)	(265,929)
Premises and equipment, net	$ 129,213	$ 128,682

Depreciation and amortization expense for premises and equipment was $38.1 million, $38.0 million and $33.9 million in 2018, 2017 and 2016, respectively.

11. Deposits

The following table presents the composition of our deposits at December 31, 2018 and 2017:

(Dollars in thousands)	December 31, 2018	December 31, 2017
Noninterest-bearing demand	$ 39,103,422	$ 36,655,497
Interest bearing checking and savings accounts	648,468	556,121
Money market	7,498,205	5,975,220
Money market deposits in foreign offices	152,781	111,201
Sweep deposits in foreign offices	1,875,298	908,890
Time	50,726	47,146
Total deposits	$ 49,328,900	$ 44,254,075

The aggregate amount of time deposit accounts individually equal to or greater than $250,000 totaled $42 million and $37 million at December 31, 2018 and 2017, respectively. At December 31, 2018, time deposit accounts individually equal to or greater than $250,000 totaling $42 million were scheduled to mature within one year.

12. Short-Term Borrowings and Long-Term Debt

The following table represents outstanding short-term borrowings and long-term debt at December 31, 2018 and 2017:

(Dollars in thousands)	Maturity	Principal value at December 31, 2018	Carrying Value December 31, 2018	Carrying Value December 31, 2017
Short-term borrowings:				
Short-term FHLB advances	(1)	$ 300,000	$ 300,000	$ 700,000
Federal funds purchased		—	—	330,000
Securities sold under agreement to repurchase	(2)	319,414	319,414	—
Other short-term borrowings	(3)	11,998	11,998	3,730
Total short-term borrowings			$ 631,412	$ 1,033,730
Long-term debt:				
3.50% Senior Notes	January 29, 2025	$ 350,000	$ 347,639	$ 347,303
5.375% Senior Notes	September 15, 2020	350,000	348,826	348,189
Total long-term debt			$ 696,465	$ 695,492

(1) Represents advances from the FHLB at December 31, 2018 with maturity dates through January 10, 2019.
(2) Securities sold under repurchase agreements are effectively short-term borrowings collateralized by U.S Treasury securities. Gross repurchase agreements held at December 31, 2018 have maturity dates through January 16, 2019.
(3) Represents cash collateral received from certain counterparties in relation to market value exposures of derivative contracts in our favor.

The aggregate annual maturities of long-term debt obligations as of December 31, 2018 are as follows:

Year ended December 31, (Dollars in thousands)	Amount
2019	$ —
2020	348,826
2021	—
2022	—
2023	—
2024 and thereafter	347,639
Total	$ 696,465

Interest expense related to short-term borrowings and long-term debt was $46.6 million, $36.1 million and $37.3 million in 2018, 2017 and 2016, respectively. For the years ended December 31, 2017 and 2016, interest expense is net of the hedge accounting impact from our interest rate swap agreements related to our 6.05% Subordinated Notes. The weighted average interest rate associated with our short-term borrowings was 2.62 percent as of December 31, 2018 and 1.39 percent as of December 31, 2017.

3.50% Senior Notes

In January 2015, SVB Financial issued $350 million of 3.50% Senior Notes due in January 2025. We received net proceeds of approximately $346.4 million after deducting underwriting discounts and commissions and issuance costs. The balance of our 3.50% Senior Notes at December 31, 2018 was $347.6 million, which is reflective of $2.2 million of debt issuance costs and a $0.2 million discount.

5.375% Senior Notes

In September 2010, SVB Financial issued $350 million of 5.375% Senior Notes due in September 2020. We received net proceeds of $345 million after deducting underwriting discounts and commissions and other expenses. We used approximately $250 million of the net proceeds from the sale of the notes to meet obligations due on our 3.875% Convertible Notes, which matured in April 2011. The remaining net proceeds were used for general corporate purposes, including working capital.

***6.05%* Subordinated Notes**

In May 2007, the Bank issued 6.05% Subordinated Notes, due in June 2017, in an aggregate principal amount of $250 million ("6.05% Subordinated Notes"). Concurrent with the issuance of the 6.05% Subordinated Notes, we entered into a fixed-to-variable interest rate swap agreement. See Note 13 —"Derivative Financial Instruments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report for additional details. Our 6.05% Subordinated Notes, issued by the Bank, were repaid on June 1, 2017. The interest rate swap agreement relating to this issuance was terminated upon repayment of the notes.

7.0% Junior Subordinated Debentures

In October 2003, SVB Financial issued $50 million in 7.0% Junior Subordinated Debentures to a special-purpose trust, SVB Capital II. Distributions to SVB Capital II were cumulative and were payable quarterly at a fixed rate of 7.0% per annum of the face value of the junior subordinated debentures. The junior subordinated debentures were mandatorily redeemable upon maturity in October 2033, or could be redeemed prior to maturity in whole or in part, at our option, at any time. On December 21, 2017, we redeemed in full the outstanding aggregate principal amount of $51.5 million of the 7.0% Junior Subordinated Debentures due October 15, 2033, relating to our 7.0% Cumulative Trust Preferred Securities issued by SVB Capital II and the remaining deferred issuance costs were recognized upon redemption.

Short-term Borrowings

We have certain facilities in place to enable us to access short-term borrowings on a secured and unsecured basis. Our secured facilities include collateral pledged to the FHLB of San Francisco and the discount window at the FRB (using both fixed income securities and loans as collateral). Our unsecured facility consists of our uncommitted federal funds lines. As of December 31, 2018, collateral pledged to the FHLB of San Francisco was comprised primarily of fixed income investment securities

and loans and had a carrying value of $4.4 billion, of which $3.7 billion was available to support additional borrowings. As of December 31, 2018, collateral pledged to the discount window at the FRB was comprised of fixed income investment securities and had a carrying value of $0.9 billion, all of which was unused and available to support additional borrowings. Our total unused and available borrowing capacity for our uncommitted federal funds lines totaled $1.8 billion at December 31, 2018. Our total unused and available borrowing capacity under our master repurchase agreements with various financial institutions totaled $2.9 billion at December 31, 2018.

13. Derivative Financial Instruments

We primarily use derivative financial instruments to manage interest rate risk, currency exchange rate risk and to assist customers with their risk management objectives, which may include currency exchange rate risks and interest rate risks. Also, in connection with negotiating credit facilities and certain other services, we often obtain equity warrant assets giving us the right to acquire stock in private, venture-backed companies in the technology and life science/healthcare industries.

Interest Rate Risk

Interest rate risk is our primary market risk and can result from timing and volume differences in the repricing of our interest rate sensitive assets and liabilities and changes in market interest rates. To manage interest rate risk for our 6.05% Subordinated Notes, we entered into a fixed-for-floating interest rate swap agreement at the time of debt issuance based upon LIBOR with matched-terms. Net cash benefits associated with our interest rate swap are recorded as a reduction in “Interest expense—Borrowings,” a component of net interest income. The fair value of our interest rate swaps is calculated using a discounted cash flow method and adjusted for credit valuation associated with counterparty risk. Changes in fair value of the interest rate swaps are reflected in either other assets (for swaps in an asset position) or other liabilities (for swaps in a liability position). On June 1, 2017, our interest rate swap was terminated upon repayment of the 6.05% Subordinated Notes.

Currency Exchange Risk

We enter into foreign exchange forward contracts to economically reduce our foreign exchange exposure risk associated with the net difference between foreign currency denominated assets and liabilities. We do not designate any foreign exchange forward contracts as derivative instruments that qualify for hedge accounting. Gains or losses from changes in currency rates on foreign currency denominated instruments are recorded in the line item "other" as part of noninterest income, a component of consolidated net income. We may experience ineffectiveness in the economic hedging relationship, because the instruments are revalued based upon changes in the currency’s spot rate on the principal value, while the forwards are revalued on a discounted cash flow basis. We record forward agreements in gain positions in other assets and loss positions in other liabilities, while net changes in fair value are recorded in the line item "other" as part of noninterest income, a component of consolidated net income.

Other Derivative Instruments

Also included in our derivative instruments are equity warrant assets and client forward and option contracts, and client interest rate contracts. For further description of these other derivative instruments, refer to Note 2—“Summary of Significant Accounting Policies” of the “Notes to the Consolidated Financial Statements” under Part II, Item 8 of this report.

Counterparty Credit Risk

We are exposed to credit risk if counterparties to our derivative contracts do not perform as expected. We mitigate counterparty credit risk through credit approvals, limits, monitoring procedures and obtaining collateral, as appropriate. With respect to measuring counterparty credit risk for derivative instruments, we measure the fair value of a group of financial assets and financial liabilities on a net risk basis by counterparty portfolio.

The total notional or contractual amounts and fair value of our derivative financial instruments at December 31, 2018 and 2017 were as follows:

	December 31, 2018			December 31, 2017		
	Notional or Contractual Amount	Fair Value		Notional or Contractual Amount	Fair Value	
(Dollars in thousands)		Derivative Assets (1)	Derivative Liabilities (1)		Derivative Assets (1)	Derivative Liabilities (1)
Derivatives not designated as hedging instruments:						
Currency exchange risks:						
Foreign exchange forwards	$ 263,733	$ 4,767	$ —	$ 50,889	$ 414	$ —
Foreign exchange forwards	178,310	—	1,094	425,055	—	5,201
Other derivative instruments:						
Equity warrant assets	223,532	149,238	—	211,253	123,763	—
Client foreign exchange forwards	2,759,878	93,876	—	2,203,643	95,035	—
Client foreign exchange forwards	2,568,085	—	85,706	2,092,207	—	90,253
Client foreign currency options	93,556	1,759	—	102,678	1,187	—
Client foreign currency options	93,579	—	1,759	102,678	—	1,187
Client interest rate derivatives (2)	1,020,416	8,499	—	726,984	11,753	—
Client interest rate derivatives	1,337,328	—	9,491	782,586	—	11,940
Total Derivatives not designated as hedging instruments		$ 258,139	$ 98,050		$ 232,152	$ 108,581

(1) Derivative assets and liabilities are included in "accrued interest receivable and other assets" and "other liabilities", respectively, on our consolidated balance sheets.
(2) The amount reported for December 31, 2018 reflects rule changes implemented by two central clearing houses that allow entities to elect to treat derivative assets, liabilities and the related variation margin as settlement of the related derivative fair values for legal and accounting purposes, as opposed to presenting gross derivative assets and liabilities. As a result, client interest rate derivatives at December 31, 2018, reflect reductions of approximately $0.4 million of derivative assets that previously would have been reported on a gross basis and approximately $212.3 million in related notional amounts for these derivative assets cleared through central clearing houses.

A summary of our derivative activity and the related impact on our consolidated statements of income for 2018, 2017 and 2016 is as follows:

		Year ended December 31,		
(Dollars in thousands)	Statement of income location	2018	2017	2016
Derivatives designated as hedging instruments:				
Interest rate risks:				
Net cash benefit associated with interest rate swaps	Interest expense—borrowings	$ —	$ 1,053	$ 2,341
Changes in fair value of interest rate swaps	Other noninterest income	—	(7)	(35)
Net gains associated with interest rate risk derivatives		$ —	$ 1,046	$ 2,306
Derivatives not designated as hedging instruments:				
Currency exchange risks:				
(Losses) gains on revaluations of internal foreign currency instruments, net	Other noninterest income	$ (373)	$ 33,161	$ (16,676)
Gains (losses) on internal foreign exchange forward contracts, net	Other noninterest income	52	(32,286)	16,136
Net (losses) gains associated with internal currency risk		$ (321)	$ 875	$ (540)
Other derivative instruments:				
Gains on revaluations of client foreign currency instruments, net	Other noninterest income	$ 4,998	$ 10,882	$ 4,215
Losses on client foreign exchange forward contracts, net	Other noninterest income	(4,011)	(9,969)	(5,674)
Net gains (losses) associated with client currency risk		$ 987	$ 913	$ (1,459)
Net gains on equity warrant assets	Gains on equity warrant assets, net	$ 89,142	$ 54,555	$ 37,892
Net (losses) gains on other derivatives	Other noninterest income	$ (179)	$ (564)	$ 262

Balance Sheet Offsetting

Certain of our derivative and other financial instruments are subject to enforceable master netting arrangements with our counterparties. These agreements provide for the net settlement of multiple contracts with a single counterparty through a single payment, in a single currency, in the event of default on or termination of any one contract. The following table summarizes our assets subject to enforceable master netting arrangements as of December 31, 2018 and 2017:

(Dollars in thousands)	Gross Amounts of Recognized Assets	Gross Amounts offset in the Statement of Financial Position	Net Amounts of Assets Presented in the Statement of Financial Position	Gross Amounts Not Offset in the Statement of Financial Position But Subject to Master Netting Arrangements		Net Amount
				Financial Instruments	Cash Collateral Received (1)	
December 31, 2018:						
Derivative Assets:						
Foreign exchange forwards	$ 98,643	$ —	$ 98,643	$ (38,213)	$ (11,825)	$ 48,605
Foreign currency options	1,759	—	1,759	(613)	(90)	1,056
Client interest rate derivatives	8,499	—	8,499	(8,416)	(83)	—
Total derivative assets:	108,901	—	108,901	(47,242)	(11,998)	49,661
Reverse repurchase, securities borrowing, and similar arrangements	123,611	—	123,611	(123,611)	—	—
Total	$ 232,512	$ —	$ 232,512	$ (170,853)	$ (11,998)	$ 49,661
December 31, 2017:						
Derivative Assets:						
Foreign exchange forwards (2)	$ 95,449	$ —	$ 95,449	$ (14,570)	$ (3,616)	$ 77,263
Foreign currency options	1,187	—	1,187	(557)	—	630
Client interest rate derivatives (2)	11,753	—	11,753	(11,627)	(114)	12
Total derivative assets:	108,389	—	108,389	(26,754)	(3,730)	77,905
Reverse repurchase, securities borrowing, and similar arrangements	247,876	—	247,876	(247,876)	—	—
Total	$ 356,265	$ —	$ 356,265	$ (274,630)	$ (3,730)	$ 77,905

(1) Cash collateral received from our counterparties in relation to market value exposures of derivative contracts in our favor is recorded as a component of "short-term borrowings" on our consolidated balance sheets.

(2) For the period ended December 31, 2017, previously reported amounts for our foreign exchange forwards and client interest rate derivatives were reclassified between "Financial Instruments" and "Cash Collateral Received" to properly reflect cash collateral received for these derivative assets subject to master netting arrangements, respectively. The correction of this immaterial error had no impact on the "Net Amount" of derivative assets subject to enforceable master netting arrangements.

The following table summarizes our liabilities subject to enforceable master netting arrangements as of December 31, 2018 and 2017:

(Dollars in thousands)	Gross Amounts of Recognized Liabilities	Gross Amounts offset in the Statement of Financial Position	Net Amounts of Liabilities Presented in the Statement of Financial Position	Gross Amounts Not Offset in the Statement of Financial Position But Subject to Master Netting Arrangements		Net Amount
				Financial Instruments	Cash Collateral Pledged (1)	
December 31, 2018:						
Derivative Liabilities:						
Foreign exchange forwards	$ 86,800	$ —	$ 86,800	$ (24,778)	$ (20,732)	$ 41,290
Foreign currency options	1,759	—	1,759	(1,054)	—	705
Client interest rate derivatives	9,491	—	9,491	—	(9,207)	284
Total derivative liabilities:	98,050	—	98,050	(25,832)	(29,939)	42,279
Repurchase, securities lending, and similar arrangements	319,414	—	319,414	—	—	319,414
Total	$ 417,464	$ —	$ 417,464	$ (25,832)	$ (29,939)	$ 361,693
December 31, 2017:						
Derivative Liabilities:						
Foreign exchange forwards (2)	$ 95,454	$ —	$ 95,454	$ (10,997)	$ (69,110)	$ 15,347
Foreign currency options (2)	1,187	—	1,187	(501)	(130)	556
Client interest rate derivatives (2)	11,940	—	11,940	—	(11,924)	16
Total derivative liabilities: (2)	108,581	—	108,581	(11,498)	(81,164)	15,919
Repurchase, securities lending, and similar arrangements	—	—	—	—	—	—
Total (2)	$ 108,581	$ —	$ 108,581	$ (11,498)	$ (81,164)	$ 15,919

(1) Cash collateral pledged to our counterparties in relation to market value exposures of derivative contracts in a liability position and repurchase agreements are recorded as a component of "cash and cash equivalents" on our consolidated balance sheets.

(2) For the period ended December 31, 2017, previously reported amounts included in "Financial Instruments" were reclassified to "Cash Collateral Pledged" to properly reflect cash collateral pledged for these derivative liabilities subject to master netting arrangements. The correction of this immaterial error had no impact on the "Net Amount" of derivative liabilities subject to enforceable master netting arrangements.

14. Noninterest Income

On January 1, 2018, we adopted Topic 606 using the modified retrospective method applied to those contracts which were not completed as of January 1, 2018. Results for the reporting period ended December 31, 2018 are presented under Topic 606, while prior period amounts are not adjusted and continue to be reported in accordance with our previous accounting methodology under Topic 605. A summary of noninterest income for the years ended December 31, 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Noninterest income:			
Gains on investment securities, net	$ 88,094	$ 64,603	$ 51,740
Gains on equity warrant assets, net	89,142	54,555	37,892
Foreign exchange fees	138,812	115,760	104,183
Credit card fees	94,072	76,543	68,205
Deposit service charges	76,097	58,715	52,524
Client investment fees	130,360	56,136	32,219
Lending related fees	41,949	43,265	33,395
Letters of credit and standby letters of credit fees	34,600	28,544	25,644
Other	51,858	59,110	50,750
Total noninterest income	$ 744,984	$ 557,231	$ 456,552

Gains on investment securities, net

Net gains on investment securities include both gains and losses from our non-marketable and other equity securities, gains and losses from sales of our AFS debt securities portfolio, when applicable, and carried interest.

Our non-marketable and other equity securities portfolio primarily represents investments in venture capital and private equity funds, our China Joint Venture, debt funds, private and public portfolio companies, which include public equity securities held as a result of exercised equity warrant assets, and investments in qualified affordable housing projects. We experience variability in the performance of our non-marketable and other equity securities from period to period, which results in net gains or losses on investment securities (both realized and unrealized). This variability is due to a number of factors, including unrealized changes in the values of our investments, changes in the amount of realized gains from distributions, changes in liquidity events and general economic and market conditions. Unrealized gains from non-marketable and other equity securities for any single period are typically driven by valuation changes.

The extent to which any unrealized gains or losses will become realized is subject to a variety of factors, including, among other things, the expiration of certain sales restrictions to which these equity securities may be subject to (i.e., lock-up agreements), changes in prevailing market prices, market conditions, the actual sales or distributions of securities, and the timing of such actual sales or distributions, which, to the extent such securities are managed by our managed funds, are subject to our funds' separate discretionary sales/distributions and governance processes.

Carried interest is comprised of preferential allocations of profits recognizable when the return on assets of our individual managed fund of funds and direct venture funds exceeds certain performance targets and is payable to us, as the general partners of the managed funds. The carried interest we earn is often shared with employees, who are also members of the general partner entities. We record carried interest on a quarterly basis by measuring fund performance to date versus the performance target. For our unconsolidated managed funds, carried interest is recorded as gains on investment securities, net. For our consolidated managed funds, it is recorded as a component of net income attributable to noncontrolling interests. Carried interest allocated to others is recorded as a component of net income attributable to noncontrolling interests. Any carried interest paid to us (or our employees) may be subject to reversal to the extent fund performance declines to a level where inception to date carried interest is lower than actual payments made by the funds. The limited partnership agreements for our funds provide that carried interest is generally not paid to the general partners until the funds have provided a full return of contributed capital to the limited partners. Accrued, but unpaid carried interest may be subject to reversal to the extent that the fund performance declines to a level where inception-to-date carried interest is less than prior amounts recognized. Carried interest income is accounted for under an ownership model based on *ASC 323 — Equity Method of Accounting* and *ASC 810 — Consolidation.*

Our available-for-sale securities portfolio is a fixed income investment portfolio that is managed with the objective of earning an appropriate portfolio yield over the long-term while maintaining sufficient liquidity and credit diversification as well

as addressing our asset/liability management objectives. Though infrequent, sales of debt securities in our AFS securities portfolio may result in net gains or losses and are conducted pursuant to the guidelines of our investment policy related to the management of our liquidity position and interest rate risk.

Gains on investment securities are recognized outside of the scope of the new revenue standard as it explicitly excludes noninterest income earned from our investment-related activities. A summary of gains and losses on investment securities for 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Gains on non-marketable and other equity securities, net	$ 88,834	$ 69,792	$ 39,545
(Losses) gains on sales of available-for-sale debt securities, net	(740)	(5,189)	12,195
Total gains on investment securities, net	$ 88,094	$ 64,603	$ 51,740

Gains on equity warrant assets, net

In connection with negotiating credit facilities and certain other services, we often obtain rights to acquire stock in the form of equity warrant assets in primarily private, venture-backed companies in the technology and life science/healthcare industries. Any changes in fair value from the grant date fair value of equity warrant assets will be recognized as increases or decreases to other assets on our balance sheet and as net gains or losses on equity warrant assets, in noninterest income, a component of consolidated net income.

Gains on equity warrant assets are recognized outside of the scope of the new revenue standard as it explicitly excludes noninterest income earned from our derivative-related activities. A summary of net gains on equity warrant assets for 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Equity warrant assets:			
Gains on exercises, net	$ 58,186	$ 48,275	$ 31,197
Terminations	(5,964)	(4,422)	(3,015)
Changes in fair value, net	36,920	10,702	9,710
Total net gains on equity warrant assets	$ 89,142	$ 54,555	$ 37,892

Foreign exchange fees

Foreign exchange fees represent the income differential between purchases and sales of foreign currency on behalf of our clients, primarily from spot contracts. Foreign exchange spot contract fees are recognized upon the completion of the single performance obligation, the execution of a spot trade in exchange for a fee. In line with customary business practice, the legal right transfers to the client upon execution of a foreign exchange contract on the trade date, and as such, we currently recognize our fees based on the trade date and are typically settled within two business days.

Forward contract and option premium fees are recognized outside of the scope of the new revenue standard as it explicitly excludes noninterest income earned from our derivative-related activities. A summary of foreign exchange fee income by instrument type for 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Foreign exchange fees by instrument type:			
Spot contract commissions	$ 127,459	$ 104,344	$ 89,354
Forward contract commissions	10,940	10,934	14,004
Option premium fees	413	482	825
Total foreign exchange fees	$ 138,812	$ 115,760	$ 104,183

Credit card fees

Credit card fees include interchange income from credit and debit cards and fees earned from processing transactions for merchants. Interchange income is earned after satisfying our performance obligation of providing nightly settlement services to a payment network. Costs related to rewards programs are recorded when the rewards are earned by the customer and presented as a reduction to interchange fee income. Rewards programs continue to be accounted for under ASC 310 - *Receivables*. Our performance obligations for merchant service fees are to transmit data and funds between the merchant and the payment network. Credit card interchange and merchant service fees are earned daily upon completion of transaction settlement services.

Annual card service fees are recognized on a straight-line basis over a 12-month period and continue to be accounted for under ASC 310 - *Receivables*. A summary of credit card fees by instrument type for 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Credit card fees by instrument type:			
Card interchange fees, net	$ 74,381	$ 60,224	$ 51,513
Merchant service fees	14,420	11,584	12,783
Card service fees	5,271	4,735	3,909
Total credit card fees	$ 94,072	$ 76,543	$ 68,205

Deposit service charges

Deposit service charges include fees earned from performing cash management activities and other deposit account services. Deposit services include, but are not limited to, the following: receivables services, which include merchant services, remote capture, lockbox, electronic deposit capture, and fraud control services. Payment and cash management products and services include wire transfer and automated clearing house payment services to enable clients to transfer funds more quickly, as well as business bill pay, business credit and debit cards, account analysis, and disbursement services. Deposit service charges are recognized over the period in which the related performance obligation is provided, generally on a monthly basis, and are presented in the "*Disaggregation of Revenue from Contracts with Customers*" table below.

Client investment fees

Client investment fees include fees earned from discretionary investment management services for substantially all clients, managing clients' portfolios based on their investment policies, strategies and objectives and investment advisory fees. Revenue is recognized on a monthly basis upon completion of our performance obligation and consideration is typically received in the subsequent month. Included in our sweep money market fees are Rule 12(b)-1 fees, revenue sharing and customer transactional-based fees. Rule 12(b)-1 fees and revenue sharing are recognized as earned based on client funds that are invested in the period, typically monthly. Transactional based fees are earned and recognized on fixed income securities when the transaction is executed on the clients' behalf. Amounts paid to third-party service providers are predominantly expensed, such that client investment fees are recorded gross of payments made to third parties. A summary of client investment fees by instrument type for 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Client investment fees by type:			
Sweep money market fees	$ 75,654	$ 28,485	$ 15,147
Asset management fees (1)	23,882	16,831	15,389
Repurchase agreement fees	30,824	10,820	1,683
Total client investment fees (2)	$ 130,360	$ 56,136	$ 32,219

(1) Represents fees earned from investments in third-party money market mutual funds and fixed-income securities managed by SVB Asset Management.

(2) Represents fees earned on client investment funds which are maintained at third-party financial institutions and are not recorded on our balance sheet.

Lending related fees

Unused commitment fees, minimum finance fees and unused line fees are recognized as earned on a monthly basis. Fees that qualify for syndication treatment are recognized at the completion of the syndicated loan deal for which the fees were received.

Lending related fees are recognized outside of the scope of the new revenue standard as it explicitly excludes noninterest income earned from our lending-related activities. A summary of lending related fees by instrument type for 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Lending related fees by instrument type:			
Unused commitment fees	$ 32,452	$ 34,110	$ 25,654
Other	9,497	9,155	7,741
Total lending related fees	$ 41,949	$ 43,265	$ 33,395

Letters of credit and standby letters of credit fees

Commercial and standby letters of credit represent conditional commitments issued by us on behalf of a client to guarantee the performance of the client to a third party when certain specified future events have occurred. Fees generated from letters of credit and standby letters of credit are deferred as a component of other liabilities and recognized in noninterest income over the commitment period using the straight-line method, based on the likelihood that the commitment being drawn down will be remote. Letters of credit and standby letters of credit fees are recognized outside of the scope of the new revenue standard as it explicitly excludes noninterest income earned from our lending related activities.

Other

Other noninterest income primarily includes income from fund management fees and service revenue. Fund management fees are comprised of fees charged directly to our managed funds of funds and direct venture funds. Fund management fees are based upon the contractual terms of the limited partnership agreements and are generally recognized as earned over the specified contract period, which is generally equal to the life of the individual fund. Fund management fees are calculated as a percentage of committed capital and collected in advance and are received quarterly. Fund management fees for certain of our limited partnership agreements are calculated as a percentage of distributions made by the funds and revenue is recorded only at the time of a distribution event. As distribution events are not predetermined for these certain funds, management fees are considered variable and constrained under the new revenue standard.

Other service revenue primarily consists of dividend income on FHLB/FRB stock, correspondent bank rebate income, incentive fees related to carried interest and other fee income. We recognize revenue when our performance obligations are met and record revenues on a daily/monthly basis, quarterly, semi-annually or annual basis. For event driven revenue sources, we recognize revenue when: (i) persuasive evidence of an arrangement exists, (ii) we have performed the service, provided we have no other remaining obligations to the customer, (iii) the fee is fixed or determinable and (iv) collectability is probable.

A summary of other noninterest income by instrument type for 2018, 2017 and 2016 is as follows:

(Dollars in thousands)	Year ended December 31, 2018	2017	2016
Other noninterest income by instrument type:			
Fund management fees	$ 23,016	$ 21,214	$ 19,195
Net gains (losses) on revaluation of foreign currency instruments, net of foreign exchange forward contracts (1)	666	1,788	(1,999)
Other service revenue	28,176	36,108	33,554
Total other noninterest income	$ 51,858	$ 59,110	$ 50,750

(1) Represents the net revaluation of client and internal foreign currency denominated financial instruments. We enter into foreign exchange forward contracts to economically reduce our foreign exchange exposure related to client and internal foreign currency denominated financial instruments.

Disaggregation of Revenue from Contracts with Customers

The following table presents our revenues from contracts with customers disaggregated by revenue source and segment for the year ended December 31, 2018:

(Dollars in thousands)	Global Commercial Bank	SVB Private Bank	SVB Capital	Other Income	Total
Revenue from contracts with customers:					
Spot contract commissions	$ 126,445	$ 691	$ —	$ 323	$ 127,459
Card interchange fees, gross	134,074	—	—	428	134,502
Merchant service fees	14,415	4	—	1	14,420
Deposit service charges	74,348	108	—	1,641	76,097
Client investment fees	53,179	1,526	—	75,655	130,360
Fund management fees	—	—	23,016	—	23,016
Correspondent bank rebates	5,802	—	—	—	5,802
Total revenue from contracts with customers	$ 408,263	$ 2,329	$ 23,016	$ 78,048	$ 511,656
Revenues outside the scope of ASC 606 (1)	36,384	(48)	78,165	118,827	233,328
Total noninterest income	$ 444,647	$ 2,281	$ 101,181	$ 196,875	$ 744,984

(1) Amounts are accounted for under separate guidance than ASC 606.

15. Other Noninterest Expense

A summary of other noninterest expense for 2018, 2017 and 2016 is as follows:

(Dollars in thousands)	Year ended December 31, 2018	2017	2016
Lending and other client related processing costs	$ 24,237	$ 23,768	$ 19,867
Telephone	9,404	10,647	9,793
Data processing services	10,811	10,251	9,014
Dues and publications	4,605	3,263	2,828
Postage and supplies	2,799	2,797	2,851
Other	21,682	21,419	17,890
Total other noninterest expense	$ 73,538	$ 72,145	$ 62,243

16. Income Taxes

We are subject to income tax in the U.S. federal jurisdiction and various state and foreign jurisdictions. The components of our provision for income taxes for 2018, 2017 and 2016 were as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Current provision:			
Federal	$ 249,358	$ 263,231	$ 195,249
State	123,264	67,046	59,319
Deferred (benefit) expense:			
Federal	(11,777)	24,654	(3,560)
State	(9,284)	532	(675)
Income tax expense	$ 351,561	$ 355,463	$ 250,333

Our effective tax rate is calculated by dividing income tax expense by the sum of income before income tax expense and the net income attributable to noncontrolling interests. The reconciliation between the federal statutory income tax rate and our effective income tax rate for 2018, 2017 and 2016, is as follows:

	December 31,		
(Dollars in thousands)	2018	2017	2016
Federal statutory income tax rate	21.0 %	35.0 %	35.0 %
State income taxes, net of the federal tax effect	7.2	5.8	5.9
Net deferred tax assets revaluation (TCJ Act)	—	4.3	—
Meals and entertainment	0.3	0.3	0.4
Disallowed officers' compensation	0.2	0.1	0.1
FDIC premiums	0.5	—	—
Share-based compensation expense on incentive stock options and ESPP	(1.4)	(2.1)	—
Qualified affordable housing project tax credits	(0.3)	(0.4)	(0.5)
Tax-exempt interest income	(0.6)	(0.3)	(0.2)
Valuation allowance benefit	—	—	(0.3)
Other, net	(0.4)	(0.7)	(0.9)
Effective income tax rate	26.5 %	42.0 %	39.5 %

Deferred tax assets and liabilities at December 31, 2018 and 2017, consisted of the following:

	December 31,	
(Dollars in thousands)	2018	2017
Deferred tax assets:		
Allowance for loan losses	$ 93,580	$ 84,812
Net unrealized losses on AFS debt securities	19,704	12,404
Share-based compensation expense	10,642	9,418
State income taxes	13,854	9,186
Accrued compensation	8,291	8,336
Deferred rent	7,940	8,169
Other accruals	7,061	7,165
Net operating loss	2,447	2,300
Loan fee income and costs	—	1,189
Other	11,339	3,639
Deferred tax assets	174,858	146,618
Valuation allowance	(2,107)	(2,624)
Net deferred tax assets after valuation allowance	172,751	143,994
Deferred tax liabilities:		
Derivative equity warrant assets	(32,861)	(29,127)
Change in accounting method (section 481(a))	(8,034)	(15,953)
Net unrealized gains on AFS equity securities	—	(11,145)
Non-marketable and other equity securities	(45,759)	(10,724)
Premises and equipment and other intangibles	(10,284)	(9,223)
Other	(10,380)	(3,977)
Deferred tax liabilities	(107,318)	(80,149)
Net deferred tax assets	$ 65,433	$ 63,845

At December 31, 2018 and 2017, U.S. federal net operating loss carryforwards totaled $2.2 million and $2.5 million, respectively. Our foreign net operating loss carryforwards totaled $7.6 million and $10.6 million at December 31, 2018 and 2017, respectively. These net operating loss carryforwards expire at various dates beginning in 2022.

Currently, we believe that it is more likely than not that the benefit from these net operating loss carryforwards, which are associated with our former eProsper business unit, part of SVB Analytics, and our Germany operations, will not be realized in the near term due to uncertainties in the timing of future profitability in those businesses. In recognition of this, our valuation allowance is $2.1 million on the deferred tax assets related to these net operating loss carryforwards and research and development credits at December 31, 2018. We believe it is more likely than not that the remaining deferred tax assets will be realized through recovery of taxes previously paid and/or future taxable income. Therefore, no valuation allowance was provided for the remaining deferred tax assets.

We are subject to income tax in the U.S. federal jurisdiction and various state and foreign jurisdictions and have identified our federal and California tax returns as major tax filings. Our U.S. federal tax returns for 2015 and subsequent years remain open to full examination. Our California tax returns for 2013 and subsequent tax years remain open to full examination.

At December 31, 2018, our unrecognized tax benefit was $12.7 million, the recognition of which would reduce our income tax expense by $10.1 million. We do not expect that our unrecognized tax benefit will materially change in the next 12 months.

We recognize interest and penalties related to income tax matters as part of income before income taxes. Interest and penalties were not material for the years ended December 31, 2018, 2017 and 2016.

A summary of changes in our unrecognized tax benefit (including interest and penalties) for December 31, 2018, 2017 and 2016 is as follows:

(Dollars in thousands)	Reconciliation of Unrecognized Tax Benefit	Interest and Penalties	Total
Balance at December 31, 2015	$ 3,357	$ 301	$ 3,658
Additions for tax positions for current year	793	—	793
Additions for tax positions for prior years	1,427	166	1,593
Reduction for tax positions for prior years	(271)	(16)	(287)
Lapse of the applicable statute of limitations	(37)	(9)	(46)
Balance at December 31, 2016	$ 5,269	$ 442	$ 5,711
Additions for tax positions for current year	3,141	—	3,141
Additions for tax positions for prior years	3,378	754	4,132
Reduction for tax positions for prior years	(223)	(1)	(224)
Lapse of the applicable statute of limitations	(60)	(17)	(77)
Balance at December 31, 2017	$ 11,505	$ 1,178	$ 12,683
Additions for tax positions for current year	4,171	—	4,171
Additions for tax positions for prior years	631	823	1,454
Reduction for tax positions for prior years	(1,865)	(243)	(2,108)
Lapse of the applicable statute of limitations	(435)	(86)	(521)
Reduction as a result of settlement	(1,318)	$ (222)	$ (1,540)
Balance at December 31, 2018	$ 12,689	$ 1,450	$ 14,139

17. Employee Compensation and Benefit Plans

Our employee compensation and benefit plans include: (i) Incentive Compensation Plan; (ii) Direct Drive Incentive Compensation Plan; (iii) Retention Program; (iv) Warrant Incentive Plan; (v) Deferred Compensation Plan; (vi) 401(k) and ESOP; (vii) EHOP; (viii) 2006 Incentive Plan; and (ix) ESPP. The 2006 Incentive Plan and the ESPP are described in Note 4—"Share-Based Compensation" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

A summary of expenses incurred under certain employee compensation and benefit plans for 2018, 2017 and 2016 is as follows:

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Incentive Compensation Plan	$ 160,293	$ 125,584	$ 96,892
Direct Drive Incentive Compensation Plan	40,578	18,721	21,174
Retention Program	1,438	1,317	1,475
Warrant Incentive Plan	9,112	15,386	4,954
Deferred Compensation Plan	—	203	1,318
SVBFG 401(k) Plan	21,323	17,860	16,078
SVBFG ESOP	6,435	4,719	3,159

Incentive Compensation Plan

Our Incentive Compensation Plan ("ICP") is an annual cash incentive plan that rewards performance based on our financial results and other performance criteria. Awards are made based on company performance, the employee's target bonus level, and management's assessment of individual employee performance.

Direct Drive Incentive Compensation Plan

The Direct Drive Incentive Compensation Plan ("Direct Drive") is an annual sales cash incentive program. Awards are based on sales teams' performance as to predetermined financial targets and other company/individual performance criteria. Actual awards for each sales team member under Direct Drive are based on: (i) the actual results and financial performance with respect to the incentive gross profit targets; (ii) the sales team payout targets; and (iii) the sales team member's sales position and team payout allocation.

Retention Program

The Retention Program ("RP") is a long-term incentive plan that allows designated employees to share directly in our investment success. Plan participants were granted an interest in the distributions of gains from certain designated investments made by us during the applicable year. Specifically, participants share in: (i) returns from designated investments made by us, including investments in certain venture capital and private equity funds, debt funds, and direct equity investments in companies; (ii) net income realized from the exercise of, and the subsequent sale of shares obtained through the exercise of, warrants held by us; and (iii) other designated amounts as determined by us. Since 2009, no new participants have been added and no new investments have been designated to the plan.

Warrant Incentive Plan

The Warrant Incentive Plan provides individual and team awards to those employees who negotiate warrants on our behalf. Designated participants, as determined by the Company, share in the cash proceeds received by the Company from the exercise of equity warrant assets.

Deferred Compensation Plan

Under the Deferred Compensation Plan (the "DC Plan"), eligible employees may elect to defer up to 50 percent of their base salary and/or up to 100 percent of any eligible bonus payment earned during the plan year. Any amounts deferred under the DC Plan will be invested and administered by us (or such person we designate). We do not match employee deferrals to the DC Plan. From time to time, we may also offer deferred special retention incentives and employer contributions under this plan to key plan participants. The deferred incentives and employer contributions are eligible for investment in the DC Plan during the retention qualifying period or vesting period.

Voluntary deferrals under the DC Plan were $5.5 million in 2018 and 2017 and $4.4 million in 2016, respectively. The DC Plan overall, had investment losses of $1.7 million in 2018 and gains of $4.7 million and $2.4 million in 2017 and 2016, respectively.

401(k) and ESOP

The 401(k) Plan and ESOP, collectively referred to as the "Plan", is a combined 401(k) tax-deferred savings plan and employee stock ownership plan in which all regular U.S. employees are eligible to participate.

Employees participating in the 401(k) Plan are allowed to contribute up to 75 percent of their pre-tax pay as defined in the Plan, up to the maximum annual amount allowable under federal income tax regulations of $18,500 for 2018 and $18,000 for the 2017 and 2016. We match the employee's contributions dollar-for-dollar, up to five percent of the employee's pre-tax pay as defined in the Plan. Our matching contributions vest immediately. The amount of salary deferred, up to the allowed maximum, is not subject to federal or state income taxes at the time of deferral.

Discretionary ESOP contributions, based on our company performance, are made by us to all eligible individuals employed by us on the last day of the fiscal year. We may elect to contribute cash or our common stock (or a combination of cash and stock), in an amount not exceeding ten percent of the employee's eligible pay earned in the fiscal year. The ESOP contributions vest in equal annual increments over a participant's first five years of service (thereafter, all subsequent ESOP contributions are fully vested).

EHOP

The EHOP is a benefit plan that provides for the issuance of mortgage loans at discounted interest rates to eligible employees. Eligible employees may apply for an adjustable rate mortgage for their primary residence, which is a 30 year loan and has an initial fixed interest rate for five, seven, or ten years after which a floating rate will be set annually. Applicants must qualify for a loan through the normal mortgage review and approval process, which is typical of industry standards. The maximum loan amount generally cannot be greater than 80 percent of the lesser of the purchase price or the appraised value. The interest rate on the fixed-rate loan is written at the then market rate for five year (5/1), seven year (7/1), or ten year (10/1) mortgage loans as determined by us. Floating rates applied at the end of the fixed-rate period will be reset annually at 12 month LIBOR plus two and one quarter percent. For additional details, see Note 9—"Loans, Allowance for Loan Losses and Allowance for Unfunded Credit Commitments" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

18. Related Parties

We have no material related party transactions requiring disclosure. In the ordinary course of business, the Bank may extend credit to related parties, including executive officers, directors, principal shareholders and their related interests. Additionally, we also provide real estate secured loans to eligible employees through our EHOP. For additional details, see Note 17—"Employee Compensation and Benefit Plans" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

19. Off-Balance Sheet Arrangements, Guarantees and Other Commitments

In the normal course of business, we use financial instruments with off-balance sheet risk to meet the financing needs of our customers. These financial instruments include commitments to extend credit, commercial and standby letters of credit and commitments to invest in venture capital and private equity fund investments. These instruments involve, to varying degrees, elements of credit risk. Credit risk is defined as the possibility of sustaining a loss because other parties to the financial instrument fail to perform in accordance with the terms of the contract.

Commitments to Extend Credit

A commitment to extend credit is a formal agreement to lend funds to a client as long as there is no violation of any condition established in the agreement. Such commitments generally have fixed expiration dates, or other termination clauses, and usually require a fee paid by the client upon us issuing the commitment. The following table summarizes information related to our commitments to extend credit at December 31, 2018 and 2017, respectively:

	December 31,	
(Dollars in thousands)	2018	2017
Loan commitments available for funding: (1)		
Fixed interest rate commitments	$ 1,839,190	$ 1,478,157
Variable interest rate commitments	14,821,815	14,034,169
Total loan commitments available for funding	16,661,005	15,512,326
Commercial and standby letters of credit (2)	2,252,016	1,950,211
Total unfunded credit commitments	$ 18,913,021	$ 17,462,537
Commitments unavailable for funding (3)	$ 2,723,835	$ 2,117,057
Allowance for unfunded credit commitments (4)	55,183	51,770

(1) Represents commitments which are available for funding, due to clients meeting all collateral, compliance and financial covenants required under loan commitment agreements.
(2) See below for additional information on our commercial and standby letters of credit.
(3) Represents commitments which are currently unavailable for funding due to clients failing to meet all collateral, compliance and financial covenants under loan commitment agreements.
(4) Our allowance for unfunded credit commitments includes an allowance for both our unfunded loan commitments and our letters of credit.

Our potential exposure to credit loss for commitments to extend credit, in the event of nonperformance by the other party to the financial instrument, is the contractual amount of the available unused loan commitment. We use the same credit approval and monitoring process in extending credit commitments as we do in making loans. The actual liquidity needs and the credit risk that we have experienced have historically been lower than the contractual amount of commitments to extend credit because a significant portion of these commitments expire without being drawn upon. We evaluate each potential borrower and the necessary collateral on an individual basis. The type of collateral varies, but may include real property, intellectual property, bank deposits, or business and personal assets. The credit risk associated with these commitments is considered in the allowance for unfunded credit commitments.

Commercial and Standby Letters of Credit

Commercial and standby letters of credit represent conditional commitments issued by us on behalf of a client to guarantee the performance of the client to a third party when certain specified future events have occurred. Commercial letters of credit are issued primarily for inventory purchases by a client and are typically short-term in nature. We provide two types of standby letters of credit: performance and financial standby letters of credit. Performance standby letters of credit are issued to guarantee the performance of a client to a third party when certain specified future events have occurred and are primarily used to support performance instruments such as bid bonds, performance bonds, lease obligations, repayment of loans, and past due notices. Financial standby letters of credit are conditional commitments issued by us to guarantee the payment by a client to a third party (beneficiary) and are primarily used to support many types of domestic and international payments. These standby letters of credit have fixed expiration dates and generally require a fee to be paid by the client at the time we issue the commitment.

The credit risk involved in issuing letters of credit is essentially the same as that involved with extending credit commitments to clients, and accordingly, we use a credit evaluation process and collateral requirements similar to those for credit commitments. Our standby letters of credit often are cash secured by our clients. The actual liquidity needs and the credit risk that we have experienced historically have been lower than the contractual amount of letters of credit issued because a significant portion of these conditional commitments expire without being drawn upon.

The table below summarizes our commercial and standby letters of credit at December 31, 2018. The maximum potential amount of future payments represents the amount that could be remitted under letters of credit if there were a total default by

the guaranteed parties, without consideration of possible recoveries under recourse provisions or from the collateral held or pledged.

(Dollars in thousands)	Expires In One Year or Less	Expires After One Year	Total Amount Outstanding	Maximum Amount of Future Payments
Financial standby letters of credit	$ 2,043,767	$ 33,570	$ 2,077,337	$ 2,077,337
Performance standby letters of credit	133,259	3,746	137,005	137,005
Commercial letters of credit	37,323	351	37,674	37,674
Total	$ 2,214,349	$ 37,667	$ 2,252,016	$ 2,252,016

Deferred fees related to financial and performance standby letters of credit were $14.1 million at December 31, 2018 and $12.4 million at December 31, 2017. At December 31, 2018, collateral in the form of cash of $1.2 billion was available to us to reimburse losses, if any, under financial and performance standby letters of credit.

Commitments to Invest in Venture Capital and Private Equity Funds

We make commitments to invest in venture capital and private equity funds, which generally makes investments in privately-held companies. Commitments to invest in these funds are generally made for a 10-year period from the inception of the fund. Although the limited partnership agreements governing these investments typically do not restrict the general partners from calling 100% of committed capital in one year, it is customary for these funds to call most of the capital commitments over 5 to 7 years, and in certain cases, the funds may not call 100% of committed capital. The actual timing of future cash requirements to fund these commitments is generally dependent upon the investment cycle, overall market conditions, and the nature and type of industry in which the privately held companies operate. The following table details our total capital commitments, unfunded capital commitments, and our ownership percentage in each fund at December 31, 2018:

(Dollars in thousands)	SVBFG Capital Commitments	SVBFG Unfunded Commitments	SVBFG Ownership of each Fund (3)
CP I, LP	$ 6,000	$ 270	10.7%
CP II, LP (1)	1,200	162	5.1
Shanghai Yangpu Venture Capital Fund (LP)	843	—	6.8
Strategic Investors Fund, LP	15,300	688	12.6
Strategic Investors Fund II, LP	15,000	1,050	8.6
Strategic Investors Fund III, LP	15,000	1,275	5.9
Strategic Investors Fund IV, LP	12,239	2,325	5.0
Strategic Investors Fund V funds	515	131	Various
Capital Preferred Return Fund, LP	12,688	—	20.0
Growth Partners, LP	24,670	1,340	33.0
Debt funds (equity method accounting)	58,493	—	Various
Other fund investments (2)	295,722	8,011	Various
Total	$ 457,670	$ 15,252	

(1) Our ownership includes direct ownership of 1.3 percent and indirect ownership of 3.8 percent through our investment in Strategic Investors Fund II, LP.
(2) Represents commitments to 216 funds (primarily venture capital funds) where our ownership interest is generally less than five percent of the voting interests of each such fund.
(3) We are subject to the Volcker Rule which restricts or limits us from sponsoring or having ownership interests in “covered” funds including venture capital and private equity funds. See “Business - Supervision and Regulation” under Part I, Item 1 of this report.

The following table details the amounts of remaining unfunded commitments to venture capital and private equity funds by our consolidated managed funds of funds (including our interest and the noncontrolling interests) at December 31, 2018:

(Dollars in thousands)	Unfunded Commitments
Strategic Investors Fund, LP	$ 1,338
Capital Preferred Return Fund, LP	1,936
Growth Partners, LP	2,575
Total	$ 5,849

Operating Leases

We are obligated under a number of noncancelable operating leases for premises and equipment that expire at various dates, through 2030, and in most instances, include options to renew or extend at market rates and terms. Such leases may provide for periodic adjustments of rentals during the term of the lease based on changes in various economic indicators. The following table presents minimum future payments under noncancelable operating leases as of December 31, 2018:

Year ended December 31, (Dollars in thousands)	Amount
2019	$ 38,609
2020	37,575
2021	35,854
2022	31,659
2023	30,904
2024 and thereafter	49,071
Net minimum operating lease payments	$ 223,672

Rent expense for premises and equipment leased under operating leases totaled $34.6 million, $31.3 million and $24.8 million in 2018, 2017 and 2016, respectively.

20. Fair Value of Financial Instruments

Fair Value Measurements

Our available-for-sale securities, derivative instruments and certain non-marketable and other equity securities are financial instruments recorded at fair value on a recurring basis. We make estimates regarding valuation of assets and liabilities measured at fair value in preparing our consolidated financial statements. We disclose our method and approach for fair value measurements of assets and liabilities in Note 2—"Summary of Significant Accounting Policies" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

The following fair value hierarchy table presents information about our assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2018:

(Dollars in thousands)	Level 1	Level 2	Level 3	Balance at December 31, 2018
Assets				
Available-for-sale securities:				
U.S. Treasury securities	$ 4,738,258	$ —	$ —	$ 4,738,258
U.S. agency debentures	—	1,084,117	—	1,084,117
Foreign government debt securities	5,812	—	—	5,812
Residential mortgage-backed securities:				
Agency-issued collateralized mortgage obligations— fixed rate	—	1,880,218	—	1,880,218
Agency-issued collateralized mortgage obligations— variable rate	—	81,638	—	81,638
Total available-for-sale securities	4,744,070	3,045,973	—	7,790,043
Non-marketable and other equity securities (fair value accounting):				
Non-marketable securities:				
Venture capital and private equity fund investments measured at net asset value	—	—	—	318,352
Venture capital and private equity fund investments not measured at net asset value (1)	—	—	1,079	1,079
Other equity securities in public companies	1,181	19,217	—	20,398
Total non-marketable and other equity securities (fair value accounting)	1,181	19,217	1,079	339,829
Other assets:				
Foreign exchange forward and option contracts	—	100,402	—	100,402
Equity warrant assets	—	4,039	145,199	149,238
Client interest rate derivatives	—	8,499	—	8,499
Total assets	$ 4,745,251	$ 3,178,130	$ 146,278	$ 8,388,011
Liabilities				
Foreign exchange forward and option contracts	$ —	$ 88,559	$ —	$ 88,559
Client interest rate derivatives	—	9,491	—	9,491
Total liabilities	$ —	$ 98,050	$ —	$ 98,050

(1) Included in Level 3 assets is $0.9 million attributable to noncontrolling interests calculated based on the ownership percentages of the noncontrolling interests.

The following fair value hierarchy table presents information about our assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2017:

(Dollars in thousands)	Level 1	Level 2	Level 3	Balance at December 31, 2017
Assets				
Available-for-sale securities:				
U.S. Treasury securities	$ 6,840,502	$ —	$ —	$ 6,840,502
U.S. agency debentures	—	1,567,128	—	1,567,128
Residential mortgage-backed securities:				
Agency-issued collateralized mortgage obligations— fixed rate	—	2,267,035	—	2,267,035
Agency-issued collateralized mortgage obligations— variable rate	—	373,730	—	373,730
Equity securities	158	72,111	—	72,269
Total available-for-sale securities	6,840,660	4,280,004	—	11,120,664
Non-marketable and other equity securities (fair value accounting):				
Non-marketable securities:				
Venture capital and private equity fund investments measured at net asset value	—	—	—	127,192
Venture capital and private equity fund investments not measured at net asset value (1)	—	—	919	919
Other equity securities in public companies (1)	310	—	—	310
Total non-marketable and other equity securities (fair value accounting)	310	—	919	128,421
Other assets:				
Foreign exchange forward and option contracts	—	96,636	—	96,636
Equity warrant assets	—	2,432	121,331	123,763
Client interest rate derivatives	—	11,753	—	11,753
Total assets	$ 6,840,970	$ 4,390,825	$ 122,250	$ 11,481,237
Liabilities				
Foreign exchange forward and option contracts	$ —	$ 96,641	$ —	$ 96,641
Client interest rate derivatives	—	11,940	—	11,940
Total liabilities	$ —	$ 108,581	$ —	$ 108,581

(1) Included in Level 1 and Level 3 assets are $0.2 million and $0.8 million, respectively, attributable to noncontrolling interests calculated based on the ownership percentages of the noncontrolling interests.

The following table presents additional information about Level 3 assets measured at fair value on a recurring basis for 2018, 2017 and 2016, respectively:

(Dollars in thousands)	Beginning Balance	Total Realized and Unrealized Gains (Losses), net Included in Income	Sales/Exits	Issuances	Distributions and Other Settlements	Transfers Out of Level 3	Ending Balance
Year ended December 31, 2018:							
Non-marketable and other equity securities (fair value accounting):							
Venture capital and private equity fund investments not measured at net asset value (1)	$ 919	$ 457	$ —	$ —	$ (297)	$ —	$ 1,079
Other assets:							
Equity warrant assets (2)	121,331	87,982	(78,752)	17,941	—	(3,303)	145,199
Total assets	$ 122,250	$ 88,439	$ (78,752)	$ 17,941	$ (297)	$ (3,303)	$ 146,278
Year ended December 31, 2017:							
Non-marketable and other equity securities (fair value accounting):							
Venture capital and private equity fund investments not measured at net asset value (1)	$ 2,040	$ 971	$ (2,092)	$ —	$ —	$ —	$ 919
Other assets:							
Equity warrant assets (2)	128,813	54,263	(74,769)	14,537	—	(1,513)	121,331
Total assets	$ 130,853	$ 55,234	$ (76,861)	$ 14,537	$ —	$ (1,513)	$ 122,250
Year ended December 31, 2016:							
Non-marketable and other equity securities (fair value accounting):							
Venture capital and private equity fund investments not measured at net asset value (1)	$ 2,040	$ (21)	$ (4)	$ —	$ 25	$ —	$ 2,040
Other assets:							
Equity warrant assets (2)	135,168	38,091	(56,643)	13,405	—	(1,208)	128,813
Total assets	$ 137,208	$ 38,070	$ (56,647)	$ 13,405	$ 25	$ (1,208)	$ 130,853

(1) Realized and unrealized gains (losses) are recorded in the line item "Gains on investment securities, net," a component of noninterest income.
(2) Realized and unrealized gains (losses) are recorded in the line item "Gains on equity warrant assets, net," a component of noninterest income.

The following table presents the amount of unrealized gains (losses) included in earnings (which is inclusive of noncontrolling interest) attributable to Level 3 assets still held at December 31, 2018 and 2017, respectively:

	Year ended December 31,	
(Dollars in thousands)	2018	2017
Non-marketable and other equity securities (fair value accounting):		
Venture capital and private equity fund investments not measured at net asset value (1)	$ 160	$ (444)
Other assets:		
Equity warrant assets (2)	37,564	11,174
Total unrealized gains, net	$ 37,724	$ 10,730
Unrealized gains (losses) attributable to noncontrolling interests (1)	$ 143	$ (397)

(1) Unrealized gains are recorded on the line item "gains on investment securities, net," a component of noninterest income.
(2) Unrealized gains are recorded on the line item "gains on equity warrant assets, net," a component of noninterest income.

The extent to which any unrealized gains or losses will become realized is subject to a variety of factors, including, among other things, the expiration of current sales restrictions to which these securities are subject, the actual sales of securities and the timing of such actual sales.

The following table presents quantitative information about the significant unobservable inputs used for certain of our Level 3 fair value measurements at December 31, 2018 and 2017. We have not included in this table our venture capital and private equity fund investments (fair value accounting) as we use net asset value per share (as obtained from the general partners of the investments) as a practical expedient to determine fair value.

(Dollars in thousands)	Fair Value	Valuation Technique	Significant Unobservable Inputs	Weighted Average
December 31, 2018:				
Venture capital and private equity fund investments (fair value accounting)	$ 1,079	Private company equity pricing	(1)	(1)
Equity warrant assets (public portfolio)	2,757	Black-Scholes option pricing model	Volatility	54.7%
			Risk-Free interest rate	2.6
			Sales restrictions discount (2)	18.5
Equity warrant assets (private portfolio)	142,442	Black-Scholes option pricing model	Volatility	38.5
			Risk-Free interest rate	2.5
			Marketability discount (3)	17.7
			Remaining life assumption (4)	45.0
December 31, 2017:				
Venture capital and private equity fund investments (fair value accounting)	$ 919	Private company equity pricing	(1)	(1)
Equity warrant assets (public portfolio)	1,936	Black-Scholes option pricing model	Volatility	47.9%
			Risk-Free interest rate	2.1
			Sales restrictions discount (2)	15.5
Equity warrant assets (private portfolio)	119,395	Black-Scholes option pricing model	Volatility	36.7
			Risk-Free interest rate	1.8
			Marketability discount (3)	16.4
			Remaining life assumption (4)	45.0

(1) In determining the fair value of our venture capital and private equity fund investment portfolio (not measured at net asset value), we evaluate a variety of factors related to each underlying private portfolio company including, but not limited to, actual and forecasted results, cash position, recent or planned transactions and market comparable companies. Additionally, we have ongoing communication with the portfolio companies and venture capital fund managers, to determine whether there is a material change in fair value. We use company provided valuation reports, if available, to support our valuation

assumptions. These factors are specific to each portfolio company and a weighted average or range of values of the unobservable inputs is not meaningful.

(2) We adjust quoted market prices of public companies, which are subject to certain sales restrictions. Sales restriction discounts generally range from 10 percent to 20 percent depending on the duration of the sales restrictions which typically range from three to six months.

(3) Our marketability discount is applied to all private company warrants to account for a general lack of liquidity due to the private nature of the associated underlying company. The quantitative measure used is based upon various option-pricing models. On a quarterly basis, a sensitivity analysis is performed on our marketability discount.

(4) We adjust the contractual remaining term of private company warrants based on our estimate of the actual remaining life, which we determine by utilizing historical data on terminations and exercises. At December 31, 2018, the weighted average contractual remaining term was 6.1 years, compared to our estimated remaining life of 2.7 years. On a quarterly basis, a sensitivity analysis is performed on our remaining life assumption.

During 2018, 2017 and 2016, we did not have any transfers between Level 2 and Level 1 or transfers between Level 3 and Level 1. All other transfers from Level 3 to Level 2 during 2018, 2017 and 2016 were due to the transfer of equity warrant assets from our private portfolio to our public portfolio (see our Level 3 reconciliation above). All amounts reported as transfers represent the fair value as of the date of the change in circumstances that caused the transfer.

Financial Instruments not Carried at Fair Value

FASB guidance over financial instruments requires that we disclose estimated fair values for our financial instruments not carried at fair value. The following fair value hierarchy table presents the estimated fair values of our financial instruments that are not carried at fair value at December 31, 2018 and 2017:

		Estimated Fair Value			
(Dollars in thousands)	Carrying Amount	Total	Level 1	Level 2	Level 3
December 31, 2018:					
Financial assets:					
Cash and cash equivalents	$ 3,571,539	$ 3,571,539	$ 3,571,539	$ —	$ —
Held-to-maturity securities	15,487,442	15,188,236	—	15,188,236	—
Non-marketable securities not measured at net asset value	131,453	131,453	—	—	131,453
Non-marketable securities measured at net asset value	151,247	151,247	—	—	—
Net commercial loans	25,043,671	25,463,968	—	—	25,463,968
Net consumer loans	3,013,706	3,064,093	—	—	3,064,093
FHLB and Federal Reserve Bank stock	58,878	58,878	—	—	58,878
Financial liabilities:					
Short-term borrowings	631,412	631,412	—	631,412	—
Non-maturity deposits (1)	49,278,174	49,278,174	49,278,174	—	—
Time deposits	50,726	50,337	—	50,337	—
3.50% Senior Notes	347,639	336,088	—	336,088	—
5.375% Senior Notes	348,826	361,281	—	361,281	—
Off-balance sheet financial assets:					
Commitments to extend credit	—	22,930	—	—	22,930
December 31, 2017:					
Financial assets:					
Cash and cash equivalents	$ 2,923,075	$ 2,923,075	$ 2,923,075	$ —	$ —
Held-to-maturity securities	12,663,455	12,548,280	—	12,548,280	—
Non-marketable securities (cost and equity method accounting) not measured at net asset value	120,019	126,345	—	—	126,345
Non-marketable securities (cost and equity method accounting) measured at net asset value	228,399	331,496	—	—	—
Net commercial loans	20,238,247	20,520,623	—	—	20,520,623
Net consumer loans	2,613,045	2,593,538	—	—	2,593,538
FHLB and Federal Reserve Bank stock	60,020	60,020	—	—	60,020
Financial liabilities:					
Short-term borrowings	1,033,730	1,033,730	1,033,730	—	—
Non-maturity deposits (1)	44,206,929	44,206,929	44,206,929	—	—
Time deposits	47,146	46,885	—	46,885	—
3.50% Senior Notes	347,303	352,058	—	352,058	—
5.375% Senior Notes	348,189	374,483	—	374,483	—
Off-balance sheet financial assets:					
Commitments to extend credit	—	22,208	—	—	22,208

(1) Includes noninterest-bearing demand deposits, interest-bearing checking accounts, money market accounts and interest-bearing sweep deposits.

Investments in Entities that Calculate Net Asset Value Per Share

FASB guidance over certain fund investments requires that we disclose the fair value of funds, significant investment strategies of the investees, redemption features of the investees, restrictions on the ability to sell investments, estimate of the period of time over which the underlying assets are expected to be liquidated by the investee, and unfunded commitments related to the investments.

Our investments in debt funds and venture capital and private equity fund investments generally cannot be redeemed. Alternatively, we expect distributions, if any, to be received primarily through IPOs and M&A activity of the underlying assets of the fund. Subject to applicable requirements under the Volcker Rule, we do not have any plans to sell any of these fund investments. If we decide to sell these investments in the future, the investee fund's management must approve of the buyer before the sale of the investments can be completed. The fair values of the fund investments have been estimated using the net asset value per share of the investments, adjusted for any differences between our measurement date and the date of the fund investment's net asset value by using the most recently available financial information from the investee general partner, for example September 30th, for our December 31st consolidated financial statements, adjusted for any contributions paid, distributions received from the investment, and significant fund transactions or market events during the reporting period.

The following table is a summary of the estimated fair values of these investments and remaining unfunded commitments for each major category of these investments as of December 31, 2018:

(Dollars in thousands)	Carrying Amount	Fair Value	Unfunded Commitments
Non-marketable securities (fair value accounting):			
Venture capital and private equity fund investments (1)	$ 318,352	$ 318,352	$ 12,973
Non-marketable securities (equity method accounting):			
Venture capital and private equity fund investments (2)	129,485	129,485	4,943
Debt funds (2)	5,826	5,826	—
Other investments (2)	15,936	15,936	886
Total	$ 469,599	$ 469,599	$ 18,802

(1) Venture capital and private equity fund investments within non-marketable securities (fair value accounting) include investments made by our managed funds of funds and one of our direct venture funds (consolidated VIEs) and investments in venture capital and private equity fund investments (unconsolidated VIEs). Collectively, these investments in venture capital and private equity funds are primarily in U.S. and global technology and life science/healthcare companies. Included in the fair value and unfunded commitments of fund investments under fair value accounting are $87.1 million and $4.4 million, respectively, attributable to noncontrolling interests. It is estimated that we will receive distributions from the fund investments over the next 10 to 13 years, depending on the age of the funds and any potential extensions of terms of the funds.

(2) Venture capital and private equity fund investments, debt funds, and other fund investments within non-marketable securities (equity method accounting) include funds that invest in or lend money to primarily U.S. and global technology and life science/healthcare companies. It is estimated that we will receive distributions from the funds over the next 5 to 8 years, depending on the age of the funds and any potential extensions of the terms of the funds.

21. Regulatory Matters

SVB Financial and the Bank are subject to various regulatory capital adequacy requirements administered by the Federal Reserve Board and the California Department of Business Oversight - Division of Financial Institutions. The Federal Deposit Insurance Corporation Improvement Act of 1991 required that the federal regulatory agencies adopt regulations defining five capital categories for banks: well capitalized, adequately capitalized, undercapitalized, significantly undercapitalized and critically undercapitalized. Failure to meet minimum capital requirements can initiate certain mandatory and possibly additional discretionary actions by regulators that, if undertaken, could have a direct material effect on our consolidated financial statements.

Quantitative measures, established by the regulators to ensure capital adequacy, require that SVB Financial and the Bank maintain minimum ratios (set forth in the table below) of capital to risk-weighted assets. Effective January 1, 2015, SVB Financial Group and the Bank became subject to a regulatory capital measure called "Common Equity Tier 1" and a related regulatory

capital ratio of CET 1 to risk-weighted assets implemented under "Basel III" regulatory capital reforms and changes required by the Dodd-Frank Act.

There are three categories of capital under the new Basel III standards; CET 1, additional Tier 1 and Tier 2. CET 1 includes common stock plus related surplus and retained earnings, less certain deductions. Additional Tier 1 capital includes qualifying preferred stock and trust preferred securities, less certain deductions. Additional Tier 1, together with CET 1, equal total Tier 1 capital. Tier 2 capital includes primarily certain qualifying unsecured subordinated debt and qualifying allowances for loan and lease losses. Tier 1 capital together with Tier 2 capital equal total capital.

As of December 31, 2018, both SVB Financial and the Bank were considered “well-capitalized” for regulatory purposes under existing capital guidelines. There are no conditions or events since that date that management believes would have a material impact on that capital category.

The following table presents the capital ratios for the Company and the Bank under federal regulatory guidelines, compared to the minimum regulatory capital requirements for an adequately capitalized and a well-capitalized depository institution, as of December 31, 2018 and 2017:

	Capital Ratios			Capital Amounts		
(Dollars in thousands)	Actual	Well Capitalized Minimum	Adequately Capitalized Minimum	Actual	Well Capitalized Minimum	Adequately Capitalized Minimum
December 31, 2018:						
CET 1 risk-based capital:						
SVB Financial	13.41%	6.5%	4.5%	$ 5,167,270	$ 2,504,310	$ 1,733,753
Bank	12.41	6.5	4.5	4,604,689	2,411,765	1,669,684
Tier 1 risk-based capital:						
SVB Financial	13.58	8.0	6.0	5,231,476	3,082,228	2,311,671
Bank	12.41	8.0	6.0	4,604,689	2,968,326	2,226,245
Total risk-based capital:						
SVB Financial	14.45	10.0	8.0	5,567,562	3,852,785	3,082,228
Bank	13.32	10.0	8.0	4,940,776	3,710,408	2,968,326
Tier 1 leverage:						
SVB Financial	9.06	N/A	4.0	5,231,476	N/A	2,308,592
Bank	8.10	5.0	4.0	4,604,689	2,841,139	2,272,912
December 31, 2017:						
CET 1 risk-based capital:						
SVB Financial	12.78%	6.5%	4.5%	$ 4,182,315	$ 2,127,902	$ 1,473,163
Bank	12.06	6.5	4.5	3,787,988	2,041,227	1,413,157
Tier 1 risk-based capital:						
SVB Financial	12.97	8.0	6.0	4,246,606	2,618,957	1,964,218
Bank	12.06	8.0	6.0	3,787,988	2,512,279	1,884,209
Total risk-based capital:						
SVB Financial	13.96	10.0	8.0	4,571,542	3,273,696	2,618,957
Bank	13.04	10.0	8.0	4,094,782	3,140,349	2,512,279
Tier 1 leverage:						
SVB Financial	8.34	N/A	4.0	4,246,606	N/A	2,036,138
Bank	7.56	5.0	4.0	3,787,988	2,504,636	2,003,709

22. Segment Reporting

We have three reportable segments for management reporting purposes: Global Commercial Bank, SVB Private Bank and SVB Capital. The results of our operating segments are based on our internal management reporting process.

Our Global Commercial Bank and SVB Private Bank segments' primary source of revenue is from net interest income, which is primarily the difference between interest earned on loans, net of funds transfer pricing ("FTP") and interest paid on deposits, net of FTP. Accordingly, these segments are reported using net interest income, net of FTP. FTP is an internal measurement framework designed to assess the financial impact of a financial institution's sources and uses of funds. It is the mechanism by which an earnings credit is given for deposits raised, and an earnings charge is made for funded loans. FTP is calculated at an instrument level based on account characteristics.

We also evaluate performance based on provision for credit losses, noninterest income and noninterest expense, which are presented as components of segment operating profit or loss. In calculating each operating segment's noninterest expense, we consider the direct costs incurred by the operating segment as well as certain allocated direct costs. As part of this review, we allocate certain corporate overhead costs to a corporate account. We do not allocate income tax expense or the provision for unfunded credit commitments (included in provision for credit losses) to our segments. Additionally, our management reporting model is predicated on average asset balances; therefore, period-end asset balances are not presented for segment reporting purposes. Changes in an individual client's primary relationship designation have resulted, and in the future may result, in the inclusion of certain clients in different segments in different periods.

Unlike financial reporting, which benefits from the comprehensive structure provided by GAAP, our internal management reporting process is highly subjective, as there is no comprehensive, authoritative guidance for management reporting. Our management reporting process measures the performance of our operating segments based on our internal operating structure, which is subject to change from time to time, and is not necessarily comparable with similar information for other financial services companies. For reporting purposes, SVB Financial Group has three operating segments for which we report our financial information (for further description of these reportable segments, refer to "Business–Business Overview" under Part I, Item 1 of this report):

- **Global Commercial Bank** is comprised of results from the following:
  - Our **Commercial Bank** products and services are provided by the Bank and its subsidiaries to commercial clients primarily in the technology, life science/healthcare, and private equity/venture capital industries. The Bank provides solutions to the financial needs of commercial clients through credit, treasury management, foreign exchange, trade finance, and other services. We broadly serve clients within the U.S., as well as non-U.S. clients in key international innovation markets. In addition, the Bank and its subsidiaries offer a variety of investment services and solutions to its clients that enable them to effectively manage their assets.
  - Our **Private Equity Division** provides banking products and services primarily to our private equity and venture capital clients.
  - **SVB Wine** provides banking products and services to our premium wine industry clients, including vineyard development loans.
  - **SVB Analytics** previously provided equity valuation services and currently provides research for investors and companies in the global innovation economy. In September 2017, SVB Analytics sold its equity valuation services business.
  - **Debt Fund Investments** is comprised of our investments in certain debt funds in which we are a strategic investor.
- **SVB Private Bank** is the private banking division of the Bank, which provides a range of personal financial solutions for consumers. Our clients are primarily private equity/venture capital professionals and executive leaders of the innovation companies they support. We offer a customized suite of private banking services, including mortgages, home equity lines of credit, restricted stock purchase loans, capital call lines of credit and other secured and unsecured lending products, as well as cash and wealth management services.
- **SVB Capital** is the funds management business of SVBFG, which focuses primarily on venture capital investments. SVB Capital manages funds (primarily venture capital funds) on behalf of third-party limited partners and, on a more limited basis, SVB Financial Group. The SVB Capital family of funds is comprised of direct venture funds that invest in companies and funds of funds that invest in other venture capital funds. SVB Capital generates income for the Company primarily from investment returns (including carried interest allocations) and management fees.

The summary financial results of our operating segments are presented along with a reconciliation to our consolidated results.

Our segment information for 2018, 2017 and 2016 is as follows:

(Dollars in thousands)	Global Commercial Bank (1)	SVB Private Bank	SVB Capital (1)	Other Items (2)	Total
Year ended December 31, 2018					
Net interest income	$ 1,623,488	$ 64,902	$ 23	$ 205,575	$ 1,893,988
Provision for credit losses	(80,953)	(3,339)	—	(3,578)	(87,870)
Noninterest income	444,647	2,281	101,181	196,875	744,984
Noninterest expense (3)	(793,159)	(25,064)	(22,792)	(347,178)	(1,188,193)
Income before income tax expense (4)	$ 1,194,023	$ 38,780	$ 78,412	$ 51,694	$ 1,362,909
Total average loans, net of unearned income	$ 22,354,305	$ 2,850,271	$ —	$ 425,944	$ 25,630,520
Total average assets (5)	53,012,381	2,546,904	380,543	(710,768)	55,229,060
Total average deposits	46,039,570	1,502,308	—	533,466	48,075,344
Year ended December 31, 2017					
Net interest income	$ 1,274,366	$ 58,131	$ 48	$ 87,824	$ 1,420,369
Provision for credit losses	(81,553)	(4,386)	—	(6,365)	(92,304)
Noninterest income	363,759	2,175	58,992	132,305	557,231
Noninterest expense (3)	(707,666)	(17,693)	(19,340)	(265,956)	(1,010,655)
Income (loss) before income tax expense (4)	$ 848,906	$ 38,227	$ 39,700	$ (52,192)	$ 874,641
Total average loans, net of unearned income	$ 18,479,793	$ 2,423,078	$ —	$ 256,523	$ 21,159,394
Total average assets (5)	46,302,350	2,449,763	325,939	(697,780)	48,380,272
Total average deposits	41,043,731	1,303,542	—	397,875	42,745,148
Year ended December 31, 2016					
Net interest income (expense)	$ 1,040,712	$ 53,582	$ (49)	$ 56,278	$ 1,150,523
Provision for credit losses	(93,885)	(1,812)	—	(10,982)	(106,679)
Noninterest income	318,366	2,713	49,365	86,108	456,552
Noninterest expense (3)	(630,655)	(12,379)	(15,546)	(201,217)	(859,797)
Income (loss) before income tax expense (4)	$ 634,538	$ 42,104	$ 33,770	$ (69,813)	$ 640,599
Total average loans, net of unearned income	$ 16,047,545	$ 2,025,381	$ —	$ 210,665	$ 18,283,591
Total average assets (5)	41,495,332	2,047,513	338,848	105,758	43,987,451
Total average deposits	37,301,483	1,133,425	—	324,151	38,759,059

(1) Global Commercial Bank's and SVB Capital's components of net interest income, noninterest income, noninterest expense and total average assets are shown net of noncontrolling interests for all periods presented. Noncontrolling interest is included within "Other Items."

(2) The "Other Items" column reflects the adjustments necessary to reconcile the results of the operating segments to the consolidated financial statements prepared in conformity with GAAP. Net interest income consists primarily of interest earned from our fixed income investment portfolio, net of FTP. Noninterest income consists primarily of gains on equity warrant assets and gains or losses on the sale of fixed income investments and equity securities from exercised warrant assets. Noninterest expense consists primarily of expenses associated with corporate support functions such as finance, human resources, marketing, legal and other expenses.

(3) The Global Commercial Bank segment includes direct depreciation and amortization of $21.8 million, $25.3 million and $24.9 million for 2018, 2017 and 2016, respectively.

(4) The internal reporting model used by management to assess segment performance does not calculate income tax expense by segment. Our effective tax rate is a reasonable approximation of the segment rates.

(5) Total average assets equal the greater of total average assets or the sum of total average liabilities and total average stockholders' equity for each segment to reconcile the results to the consolidated financial statements prepared in conformity with GAAP.

23. Parent Company Only Condensed Financial Information

The condensed balance sheets of SVB Financial at December 31, 2018 and 2017, and the related condensed statements of income, comprehensive income and cash flows for 2018, 2017 and 2016, are presented below:

Condensed Balance Sheets

	December 31,	
(Dollars in thousands)	2018	2017
Assets:		
Cash and cash equivalents	$ 553,049	$ 457,324
Investment securities	510,836	485,220
Other assets	204,301	196,974
Investment in subsidiaries:		
Bank subsidiary	4,554,813	3,762,542
Nonbank subsidiaries	116,968	90,540
Total assets	$ 5,939,967	$ 4,992,600
Liabilities and SVBFG stockholders' equity:		
3.50% Senior Notes	$ 347,639	$ 347,303
5.375% Senior Notes	348,826	348,189
Other liabilities	127,293	117,313
Total liabilities	$ 823,758	$ 812,805
SVBFG stockholders' equity	5,116,209	4,179,795
Total liabilities and SVBFG stockholders' equity	$ 5,939,967	$ 4,992,600

Condensed Statements of Income

	Year ended December 31,		
(Dollars in thousands)	2018	2017	2016
Interest income	$ 3,307	$ 2,077	$ 690
Interest expense	(32,037)	(34,932)	(35,316)
Dividend income from bank subsidiary	140,000	90,000	40,000
Gains on equity warrant assets, net (1)	89,142	54,555	37,892
Gains on investment securities, net	13,546	37,132	20,644
Fund management fees and other noninterest income (1)	26,388	24,613	21,913
General and administrative expenses	(70,976)	(63,077)	(55,139)
Income tax (expense) benefit	(14,383)	10,367	423
Income before net income of subsidiaries	154,987	120,735	31,107
Equity in undistributed net income of bank subsidiary	793,641	356,769	339,629
Equity in undistributed net income of nonbank subsidiaries	25,212	13,002	11,949
Net income available to common stockholders	$ 973,840	$ 490,506	$ 382,685

(1) Our consolidated statements of income for the year ended December 31, 2016 was modified from prior periods' presentation to conform to the current period's presentation, which reflects a new line item to separately disclose net gains on equity warrant assets. In prior periods, net gains on equity warrant assets were reported as a component of net gains on derivative instruments.

Condensed Statements of Comprehensive Income

	Year ended December 31,		
(Dollars in thousands)	**2018**	**2017**	**2016**
Net income available to common stockholders	$ 973,840	$ 490,506	$ 382,685
Other comprehensive (loss) income, net of tax:			
Foreign currency translation (losses) gains	(4,107)	3,769	3,071
Changes in unrealized holding gains and losses on AFS securities	120	22,285	654
Equity in other comprehensive (losses) income of bank and nonbank subsidiaries	(19,171)	(50,956)	4,301
Reclassifications to retained earnings for the adoption of new accounting guidance (1)	(29,490)	—	—
Other comprehensive (loss) income, net of tax	(52,648)	(24,902)	8,026
Total comprehensive income	$ 921,192	$ 465,604	$ 390,711

(1) See Note 2- "Summary of Significant Accounting Policies" of the "Notes to Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

Condensed Statements of Cash Flows

(Dollars in thousands)	Year ended December 31, 2018	2017	2016
Cash flows from operating activities:			
Net income available to common stockholders	$ 973,840	$ 490,506	$ 382,685
Adjustments to reconcile net income to net cash provided by operating activities:			
Gains on equity warrant assets, net	(89,142)	(54,555)	(37,892)
Gains on investment securities, net (1)	(13,546)	(17,060)	(3,106)
Distributions of earnings from investment securities (1)	47,596	14,015	3,137
Net income of bank subsidiary	(933,641)	(446,769)	(379,629)
Net income on nonbank subsidiaries	(25,212)	(13,002)	(11,949)
Cash dividends from bank subsidiary	140,000	90,000	40,000
Amortization of share-based compensation	45,675	36,900	35,494
Decrease in other assets	51,169	12,959	35,699
Increase in other liabilities	21,619	11,774	15,293
Other, net	(31,024)	316	2,999
Net cash provided by operating activities	187,334	125,084	82,731
Cash flows from investing activities:			
Net decrease (increase) in investment securities from purchases, sales and maturities	73,742	(152,015)	34,055
Net decrease (increase) in loans	—	13,337	(3,478)
Increase in investment in bank subsidiary	(31,292)	(38,927)	(14,738)
(Increase) decrease in investment in nonbank subsidiaries	(5,323)	34,374	1,924
Net cash provided by (used for) investing activities	37,127	(143,231)	17,763
Cash flows from financing activities:			
Principal payments of long-term debt	—	(51,546)	—
Proceeds from issuance of common stock, ESPP and ESOP	18,387	27,003	26,147
Common stock repurchase	(147,123)	—	—
Tax effect from stock exercises (1)	—	—	(3,640)
Net cash (used for) provided by financing activities	(128,736)	(24,543)	22,507
Net increase (decrease) in cash and cash equivalents	95,725	(42,690)	123,001
Cash and cash equivalents at beginning of period	457,324	500,014	377,013
Cash and cash equivalents at end of period	**$ 553,049**	**$ 457,324**	**$ 500,014**

(1) See Note 2- "Summary of Significant Accounting Policies" of the "Notes to Consolidated Financial Statements" under Part II, Item 8 of this report for additional details.

24. Unaudited Quarterly Financial Data

Our supplemental consolidated financial information for each three month period in 2018 and 2017 are as follows:

	Three months ended			
(Dollars in thousands, except per share amounts)	March 31,	June 30,	September 30,	December 31,
2018:				
Interest income	$ 432,398	$ 481,301	$ 513,313	$ 542,897
Interest expense	12,535	14,858	20,091	28,437
Net interest income	419,863	466,443	493,222	514,460
Provision for credit losses	27,972	29,080	17,174	13,644
Noninterest income	155,518	192,689	210,070	186,707
Noninterest expense	265,417	305,739	309,445	307,592
Income before income tax expense	281,992	324,313	376,673	379,931
Income tax expense	73,966	77,287	95,308	105,000
Net income before noncontrolling interests	208,026	247,026	281,365	274,931
Net income attributable to noncontrolling interests	(13,065)	(9,228)	(6,548)	(8,667)
Net income available to common stockholders	**$ 194,961**	**$ 237,798**	**$ 274,817**	**$ 266,264**
Earnings per common share—basic	$ 3.69	$ 4.48	$ 5.16	$ 5.01
Earnings per common share—diluted	3.63	4.42	5.10	4.96
2017:				
Interest income	$ 320,926	$ 353,927	$ 385,271	$ 405,016
Interest expense	10,933	11,231	11,297	11,310
Net interest income	309,993	342,696	373,974	393,706
Provision for credit losses	30,734	15,806	23,522	22,242
Noninterest income	117,659	128,528	158,778	152,266
Noninterest expense	237,633	251,246	257,761	264,015
Income before income tax expense	159,285	204,172	251,469	259,715
Income tax expense	51,405	71,656	97,351	135,051
Net income before noncontrolling interests	107,880	132,516	154,118	124,664
Net income attributable to noncontrolling interests	(6,397)	(9,323)	(5,498)	(7,454)
Net income available to common stockholders	**$ 101,483**	**$ 123,193**	**$ 148,620**	**$ 117,210**
Earnings per common share—basic	$ 1.94	$ 2.34	$ 2.82	$ 2.22
Earnings per common share—diluted	1.91	2.32	2.79	2.19

25. Legal Matters

Certain lawsuits and claims arising in the ordinary course of business have been filed or are pending against us and/or our affiliates, and we may from time to time be involved in other legal or regulatory proceedings. In accordance with applicable accounting guidance, we establish accruals for all such matters, including expected settlements, when we believe it is probable that a loss has been incurred and the amount of the loss is reasonably estimable. When a loss contingency is not both probable and estimable, we do not establish an accrual. Any such loss estimates are inherently uncertain, based on currently available information and are subject to management's judgment and various assumptions. Due to the inherent subjectivity of these estimates and unpredictability of outcomes of legal proceedings, any amounts accrued may not represent the ultimate resolution of such matters.

To the extent we believe any potential loss relating to such matters may have a material impact on our liquidity, consolidated financial position, results of operations, and/or our business as a whole and is reasonably possible but not probable, we aim to

disclose information relating to such potential loss. We also aim to disclose information relating to any material potential loss that is probable but not reasonably estimable. In such cases, where reasonably practicable, we aim to provide an estimate of loss or range of potential loss. No disclosures are generally made for any loss contingencies that are deemed to be remote.

Based upon information available to us, our review of lawsuits and claims filed or pending against us to date and consultation with our outside legal counsel, we have not recognized a material accrual liability for any such matters, nor do we currently expect that these matters will result in a material liability to the Company. However, the outcome of litigation and other legal and regulatory matters is inherently uncertain, and it is possible that one or more of such matters currently pending or threatened could have an unanticipated material adverse effect on our liquidity, consolidated financial position, results of operations, and/or our business as a whole, in the future.

26. Subsequent Events

On January 4, 2019, we completed the acquisition of Leerink Holdings LLC, the Boston-based parent company of healthcare and life science investment bank Leerink Partners LLC, now SVB Leerink Holdings LLC ("SVB Leerink"). The acquisition was previously announced on November 13, 2018. SVB Leerink is an investment bank specializing in the Equity & Convertible Capital Markets, Mergers & Acquisitions, Equity Research and Sales & Trading for growth and innovation-minded healthcare and life science companies and will operate as a wholly-owned subsidiary of SVB Financial Group. The acquisition will be accounted for as a business combination. Accordingly, we will begin consolidating SVB Leerink's financial results in our consolidated financial statements in the first quarter of 2019. We acquired Leerink for $280 million in cash up front to the unitholders and, in addition, will provide a retention pool for employees of $60 million to be paid over five years. We are in the process of performing our valuation of the acquired assets and liabilities. Given the recent date of the acquisition, we have not finalized our determination of the fair value of the assets and liabilities as we continue to gather information to determine the assumptions we intend to use in our valuations.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

(a) Disclosure Controls and Procedures

Disclosure controls and procedures are the controls and other procedures that are designed to ensure that information required to be disclosed in the reports that the Company files or submits under the Securities Exchange Act of 1934, as amended, is recorded, processed, summarized, and reported within the time periods specified in the SEC rules and forms. Disclosure controls and procedures include, among other things, processes, controls and procedures designed to ensure that information required to be disclosed in the reports that the Company files or submits under the Exchange Act is accumulated and communicated to management, including the Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

The Company carried out an evaluation, under the supervision and with the participation of management, including the Chief Executive Officer and the Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of December 31, 2018, pursuant to Exchange Act Rule 13a-15(b). Based on this evaluation, the Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were effective as of December 31, 2018.

(b) Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting at the Company. Our internal control over financial reporting is a process designed under the supervision of the Chief Executive Officer and the Chief Financial Officer to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the Company's financial statements for external reporting purposes in accordance with GAAP. A company's internal control over financial reporting includes policies and procedures that (i) pertain to the maintenance of records that accurately and fairly reflect, in reasonable detail, transactions and dispositions of the company's assets, (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP and that receipts and expenditures are being made only in accordance with authorization of management and the directors of the company, and (iii) 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 Company's financial statements.

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

As of December 31, 2018, the Company carried out an assessment, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and Chief Financial Officer, of the effectiveness of the Company's internal control over financial reporting pursuant to Rule 13a-15(c), as adopted by the SEC under the Exchange Act. In evaluating the effectiveness of the Company's internal control over financial reporting, management used the framework established in “Internal Control-Integrated Framework (2013),” issued by the Committee of Sponsoring Organizations of the

Treadway Commission (“COSO”). Based on this assessment, management has concluded that, as of December 31, 2018, the Company's internal control over financial reporting was effective.

KPMG LLP, the independent registered public accounting firm that audited the consolidated financial statements of the Company included in this Annual Report on Form 10-K, has issued an attestation report on the effectiveness of the Company’s internal control over financial reporting as of December 31, 2018. The report, which expresses an unqualified opinion on the effectiveness of the Company’s internal control over financial reporting as of December 31, 2018, is included in "Consolidated Financial Statements and Supplementary Data" under Part II, Item 8 of this report under the heading “Report of Independent Registered Public Accounting Firm.”

(c) Changes in Internal Control over Financial Reporting

Beginning January 1, 2018, we implemented ASC 606, Revenue from Contracts with Customers. Although the new revenue standard is expected to have an immaterial impact on our ongoing net income, we did implement changes to our processes related to revenue recognition and the control activities within them. These included the development of new policies based on the five-step model provided in the new revenue standard, new training, ongoing contract review requirements, and gathering of information provided for disclosures.

Other than as described above, there were no changes in our internal control over financial reporting identified in management's evaluation during the fourth quarter of the period covered by this Annual Report on Form 10-K that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information set forth under the sections titled "Proposal No. 1-Election of Directors," "Information on Executive Officers," "Board Committees," "Section 16(a) Beneficial Ownership Reporting Compliance" and "Corporate Governance and Board Matters" contained in the definitive proxy statement for SVB Financial's 2019 Annual Meeting of Stockholders is incorporated herein by reference.

We have a Code of Ethics for Principal Executive Officer and Senior Financial Officers (the "*Code of Ethics*") that applies to our CEO, Chief Financial Officer, Chief Accounting Officer and other senior members of the Finance staff. A copy of this Code of Ethics is available on our website at www.svb.com under "*Corporate Governance*," or can be obtained without charge by any person requesting it. To request a copy of our Code of Ethics, please contact our Corporate Secretary at: SVB Financial Group, 3003 Tasman Drive, Santa Clara, California 95054, or by telephone (408) 654-7400.

We intend to disclose any waivers from or changes to our Code of Ethics by posting such information on our website. No waivers or substantive changes were made during fiscal year 2018.

ITEM 11. EXECUTIVE COMPENSATION

The information set forth under the sections titled "Information on Executive Officers," "Compensation Discussion and Analysis," "Compensation for Named Executive Officers," "Compensation for Directors," "Compensation Committee Interlocks and Insider Participation" and "Compensation Committee Report" contained in the definitive proxy statement for SVB Financial's 2019 Annual Meeting of Stockholders is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT, AND RELATED STOCKHOLDER MATTERS

The information set forth under the sections titled "Security Ownership of Directors and Executive Officers" and "Security Ownership of Principal Stockholders" contained in the definitive proxy statement for SVB Financial's 2019 Annual Meeting of Stockholders is incorporated herein by reference.

Our stockholders have approved each of our active equity compensation plans. The following table provides certain information as of December 31, 2018 with respect to our equity compensation plans:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (1)	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (2)
Equity compensation plans approved by stockholders	679,659	$ 137.19	3,315,727
Equity compensation plans not approved by stockholders	n/a	n/a	n/a
Total	679,659	$ 137.19	3,315,727

(1) Represents options granted under our 2006 Equity Incentive Plan. This number does not include securities to be issued for unvested restricted stock units of 597,296 shares.

(2) Includes shares available for issuance under our 2006 Equity Incentive Plan and 1,499,218 shares available for issuance under the 1999 Employee Stock Purchase Plan. This amount excludes securities already granted under our 2006 Equity Incentive Plan (as discussed above).

For additional information concerning our equity compensation plans, refer to Note 4—"Share-Based Compensation" of the "Notes to the Consolidated Financial Statements" under Part II, Item 8 of this report.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information set forth under the sections titled "Certain Relationships and Related Transactions" and "Corporate Governance and Board Matters-Board Independence and Leadership" in the definitive proxy statement for SVB Financial's 2019 Annual Meeting of Stockholders is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information set forth under the section titled "Principal Audit Fees and Services" contained in the definitive proxy statement for SVB Financial's 2019 Annual Meeting of Stockholders is incorporated herein by reference.

PART IV.

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) Financial Statements and Exhibits:

		Page
(1)	**Financial Statements.** The following consolidated financial statements of the registrant and its subsidiaries are included in Part II Item 8:	
	Report of Independent Registered Public Accounting Firm	97
	Consolidated Balance Sheets as of December 31, 2017 and 2016	99
	Consolidated Statements of Income for the three years ended December 31, 2017	100
	Consolidated Statements of Comprehensive Income for the three years ended December 31, 2017	101
	Consolidated Statements of Stockholders' Equity for the three years ended December 31, 2017	102
	Consolidated Statements of Cash Flows for the three years ended December 31, 2017	103
	Notes to the Consolidated Financial Statements	104
(2)	**Financial Statement Schedule.** The consolidated financial statements and supplementary data are contained in Part II Item 8. All schedules other than as set forth above are omitted because of the absence of the conditions under which they are required or because the required information is included in the consolidated financial statements or related notes in Part II Item 8.	97
(3)	**Exhibits.**	184

ITEM 16. FORM 10-K SUMMARY

None.

INDEX TO EXHIBITS

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
3.1	Restated Certificate of Incorporation	8-K	000-15637	3.1	May 31, 2005	
3.2	Amended and Restated Bylaws, effective as of February 19, 2019	8-K	000-15637	3.2	February 20, 2019	
4.1	Indenture, dated September 20, 2010, by and between SVB Financial and U.S. Bank National Association, as trustee	8-K	000-15637	4.1	September 20, 2010	
4.2	Form of 5.375% Senior Note due 2020	8-K	000-15637	4.2	September 20, 2010	
4.2	Officer's Certificate, dated as of January 29, 2015, relating to the 3.50% Senior Note Due 2025	8-K	000-15637	4.2	January 29, 2015	
4.3	Form of 3.50% Senior Note due 2025	8-K	000-15637	4.2	January 29, 2015	
10.1	Office Lease Agreement, dated as of September 15, 2004, between CA-Lake Marriott Business Park Limited Partnership and Silicon Valley Bank: 3001, 3003 and 3101 Tasman Drive, Santa Clara, CA 95054	8-K	000-15637	10.28	September 20, 2004	
*10.2	401(k) and Employee Stock Ownership Plan	10-K	000-15637	10.2	February 27, 2014	
*10.3	Amended and Restated Retention Program Plan (RP Years 1999 - 2007)	10-Q	000-15637	10.4	August 7, 2008	
*10.4	1999 Employee Stock Purchase Plan	10-Q	000-15637	10.1	August 8, 2016	
*10.5	Form of Indemnification Agreement	10-Q	000-15637	10.7	November 6, 2009	
*10.6	Incentive Compensation Plan	10-Q	000-15637	10.1	August 7, 2018	
*10.7	Deferred Compensation Plan					X
*10.8	Change in Control Severance Plan	8-K	000-15637	10.14	March 15, 2012	
*10.9	2006 Equity Incentive Plan	10-Q	000-15637	10.1	May 10, 2016	
*10.10	Form of Incentive Stock Option Agreement under 2006 Equity Incentive Plan+	10-Q	000-15637	10.16	August 7, 2009	
*10.11	Form of Nonqualified Stock Option Agreement under 2006 Equity Incentive Plan+	10-Q	000-15637	10.17	August 7, 2009	
*10.12	Form of Restricted Stock Unit Agreement under 2006 Equity Incentive Plan (for Executives)+	10-Q	000-15637	10.18	August 7, 2009	
*10.13	Form of Restricted Stock Unit Agreement for Employees under 2006 Equity Incentive Plan+	10-Q	000-15637	10.19	August 7, 2009	
*10.14	Form of Restricted Stock Award Agreement under 2006 Equity Incentive Plan+	10-Q	000-15637	10.20	August 7, 2009	
*10.15	Offer Letter dated November 2, 2006, for Michael Descheneaux	8-K	000-15637	10.31	April 17, 2007	
*10.16	Offer Letter dated April 25, 2007, for Michael Descheneaux	8-K/A	000-15637	10.32	May 2, 2007	
*10.17	Form of Restricted Stock Unit Agreement under 2006 Equity Incentive Plan (for Directors)+	10-Q	000-15637	10.23	August 7, 2009	
*10.18	Form of Restricted Stock Unit Election to Defer Settlement under 2006 Equity Incentive Plan (for Directors)+	10-Q	000-15637	10.24	November 10, 2008	
*10.19	Form of Restricted Stock Unit Election to Defer Settlement under 2006 Equity Incentive Plan (for Executives)+	10-Q	000-15637	10.27	November 10, 2008	
*10.20	Retention Program Plan (RP Years Beginning 2008)	10-Q	000-15637	10.26	August 7, 2008	
*10.21	Form of Letter Agreement with Michael Descheneaux re: Salary Changes	8-K	000-15637	10.31	May 14, 2009	
*10.22	Form of Stock Appreciation Right Agreement under 2006 Equity Incentive Plan+	10-Q	000-15637	10.32	August 7, 2009	
*10.23	Form of Restricted Stock Unit Agreement for Cash Settlement for Employees under 2006 Equity Incentive Plan+	10-Q	000-15637	10.33	August 7, 2009	
*10.24	Form of Restricted Stock Unit Agreement for Cash Settlement for Directors under 2006 Equity Incentive Plan+	10-Q	000-15637	10.34	August 7, 2009	
*10.25	Form of Restricted Stock Award Agreement under 2006 Equity Incentive Plan++	10-K	000-15637	10.33	February 27, 2014	
*10.26	Form of Incentive Stock Option Agreement under 2006 Equity Incentive Plan++	10-K	000-15637	10.34	February 27, 2014	
*10.27	Form of Nonqualified Stock Option Agreement under 2006 Equity Incentive Plan++	10-K	000-15637	10.35	February 27, 2014	

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Exhibit	Filing Date	
*10.28	Form of Restricted Stock Unit Agreement under 2006 Equity Incentive Plan++	10-K	000-15637	10.36	February 27, 2014	
*10.29	Form of Restricted Stock Unit Award Agreement under 2006 Equity Incentive Plan (Performance-Based)++	10-K	000-15637	10.37	February 27, 2014	
*10.30	Form of Stock Appreciation Rights Agreement under 2006 Equity Incentive Plan++	10-K	000-15637	10.38	February 27, 2014	
*10.31	UK Sub-Plan of the 2006 Equity Incentive Plan++	10-Q	000-15637	10.3	May 9, 2014	
*10.32	Form of U.K. Approved Stock Options and Award Agreement under the UK Sub-Plan++	10-Q	000-15637	10.4	May 9, 2014	
*10.33	Israeli Sub-Plan of the 2006 Equity Incentive Plan++	10-Q	000-15637	10.5	May 9, 2014	
*10.34	Form of Incentive Stock Option Agreement under 2006 Equity Incentive Plan+++	8-K	000-15637	10.2	January 9, 2015	
*10.35	Form of Nonqualified Stock Option Agreement under 2006 Equity Incentive Plan+++	8-K	000-15637	10.3	January 9, 2015	
*10.36	Form of Restricted Stock Unit Agreement under 2006 Equity Incentive Plan (Subject to Time-Based Vesting)+++	8-K	000-15637	10.4	January 9, 2015	
*10.37	Form of Restricted Stock Unit Agreement under 2006 Incentive Plan (Subject to Performance-Based Vesting)+++	8-K	000-15637	10.5	January 9, 2015	
*10.38	Form of Restricted Stock Award Agreement under 2006 Equity Incentive Plan+++	8-K	000-15637	10.6	January 9, 2015	
*10.39	Form of Stock Appreciation Rights Agreement under 2006 Equity Incentive Plan+++	8-K	000-15637	10.7	January 9, 2015	
*10.40	Form of U.K.-Approved Stock Option Agreement+++	8-K	000-15637	10.8	January 9, 2015	
*10.41	Service Agreement, dated July 14, 2009, between SVB Financial Group UK Limited and Philip Cox	10-K	000-15637	10.47	February 26, 2015	
*10.42	Offer Agreement dated April 28, 2017, by and between Daniel Beck and SVB Financial Group	8-K	000-15637	10.1	May 12, 2017	
*10.43	Letter Agreement dated May 11, 2017, by and between Michael Descheneaux and SVB Financial Group	8-K	000-15637	10.2	May 12, 2017	
21.1	Subsidiaries of SVB Financial					X
23.1	Consent of KPMG LLP, independent registered public accounting firm					X
31.1	Rule 13a-14(a) / 15(d)-14(a) Certification of Principal Executive Officer					X
31.2	Rule 13a-14(a) / 15(d)-14(a) Certification of Principal Financial Officer					X
32.1	Section 1350 Certifications					X
101.INS	XBRL Instance Document					X
101.SCH	XBRL Taxonomy Extension Schema Document					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document					X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document					X

* Denotes management contract or any compensatory plan, contract or arrangement.

\+ Forms applicable to grants made under the 2006 Equity Incentive Plan during 2013 and prior years.

++ Forms applicable to grants made under the 2006 Equity Incentive Plan during 2014.

+++ Forms applicable to grants made under the 2006 Equity Incentive Plan beginning in 2015.

SIGNATURES

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

SVB Financial Group

/s/ GREG W. BECKER

Greg W. Becker

President and Chief Executive Officer

Dated: February 28, 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:

Signature	Title	Date
/s/ ROGER F. DUNBAR **Roger F. Dunbar**	Chairman of the Board of Directors and Director	February 28, 2019
/s/ GREG W. BECKER **Greg W. Becker**	President, Chief Executive Officer and Director (Principal Executive Officer)	February 28, 2019
/s/ DANIEL J. BECK **Daniel J. Beck**	Chief Financial Officer (Principal Financial Officer)	February 28, 2019
/s/ KAMRAN F. HUSAIN **Kamran F. Husain**	Chief Accounting Officer (Principal Accounting Officer)	February 28, 2019
/s/ ERIC A. BENHAMOU **Eric A. Benhamou**	Director	February 28, 2019
/s/ JOHN S. CLENDENING **John S. Clendening**	Director	February 28, 2019
/s/ JOEL P. FRIEDMAN **Joel P. Friedman**	Director	February 28, 2019
/s/ KIMBERLY A. JABAL **Kimberly A. Jabal**	Director	February 28, 2019
/s/ JEFFREY N. MAGGIONCALDA **Jeffrey N. Maggioncalda**	Director	February 28, 2019
/s/ MARY J. MILLER **Mary J. Miller**	Director	February 28, 2019
/s/ KATE D. MITCHELL **Kate D. Mitchell**	Director	February 28, 2019
/s/ JOHN F. ROBINSON **John F. Robinson**	Director	February 28, 2019
/s/ GAREN K. STAGLIN **Garen K. Staglin**	Director	February 28, 2019

EXHIBIT 10.7

SVB Financial Group

Deferred Compensation Plan

Amended and Restated Effective January 23, 2019

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PURPOSES

The purposes of the SVB Financial Group Deferred Compensation Plan (the "Plan") are (a) to permit eligible employees to elect to defer receipt of compensation which would otherwise be payable to them currently as annual base pay or bonuses and (b) to provide investment alternatives for voluntary and mandatory deferred compensation.

The Plan is intended to be a "plan which is unfunded and is maintained by an employer primarily for the purpose of providing deferred compensation for a select group of management or highly compensated employees" within the meaning of Sections 201(2), 301(a)(3) and 401(a)(1) of ERISA and shall be implemented and administered in a manner consistent therewith. The Plan also is intended to comply with Section 409A of the Internal Revenue Code.

ARTICLE 1 – DEFINITIONS

Wherever used herein, the following terms have the meanings set forth below, unless context clearly requires a different meaning:

1.1 **"Account"** means an account established for the purpose of recording amounts credited on behalf of a Participant pursuant to Article 3 and/or Employer Contributions pursuant to Article 4, and any income, expenses, gains, losses or distributions included thereon. The Account shall be a bookkeeping entry only and shall be utilized solely as a device for the measurement and determination of the amounts to be paid to a Participant pursuant to the Plan.

1.2 **"Administrator"** means the Employer, or such other person or persons designated by the Employer to be responsible for the administration of the Plan.

1.3 **"Base Pay"** means the basic or regular rate of per payroll period remuneration paid to the Participant by the Employer.

1.4 **"Beneficiary"** means the persons, trusts, estates or other entities entitled under Section 7.2 to receive benefits under the Plan upon the death of a Participant.

1.5 **"Board"** means the Compensation Committee of Board of Directors of the Plan Sponsor.

1.6 **"Bonus"** means a bonus payment that is earned by an Eligible Employee during the Plan Year for services rendered to Employer and that the Administrator has designated as deferrable under the Plan prior to the commencement of any applicable Plan Year.

1.7 **"Code"** means the Internal Revenue Code of 1986, as amended from time to time.

1.8 **"Compensation"** means Base Pay and Bonus earned by an Eligible Employee during the Plan Year for services rendered to Employer as determined by the Administrator.

1.9 **"Deferral Election"** means an election an Eligible Employee makes as provided by Section 3.1.

1.10 **"Eligible Employee"** means an employee that Employer (a) determines to be a member of a select group of management or highly compensated employees within the meaning of Sections 201(2), 301(a)(3) and 401(a)(1) of ERISA, and (b) designates as an Eligible Employee for purposes of this Plan.

1.11 **"Employer"** means SVB Financial Group and all other members of SVB Controlled Group that it designates to participate in this Plan.

1.12 "**Employer Contributions**" means those contributions made to the Plan by Employer into the Participant's Account in accordance with Article 4.

1.13 **"ERISA"** means the Employee Retirement Income Security Act of 1974, as amended from time to time.

1.14 **"Participant"** means any Eligible Employee who participates in the Plan in accordance with Article 2.

1.15 **"Plan"** means this SVB Financial Group Deferred Compensation Plan, as set forth herein and as it may be amended from time to time.

1.16 **"Plan Sponsor"** means SVB Financial Group.

1.17 **"Plan Year"** means the calendar year; provided, however, that solely for purposes of Sections 3.1, 3.2 and 3.5, prior to the commencement of an applicable calendar year the Plan Administrator may determine that the Plan Year shall be a different period of roughly-equivalent time with respect to Base Pay deferral elections, which alternative period of time shall commence no sooner than the first day of the applicable calendar year, and the Plan Administrator shall timely communicate to Participants such alternative Plan Year for purposes of Participants' Base Pay deferral elections for the alternative Plan Year. Notwithstanding the foregoing, an alternative Plan Year shall not overlap with another Plan Year.

1.18 **"Separation from Service"** means a Participant's death, retirement, or other termination of employment with the SVB Controlled Group. The determination of whether a Participant has terminated employment shall be determined based on the facts and circumstances in accordance with the rules set forth in Code Section 409A and the regulations thereunder. Whether a Separation from Service has occurred is based on whether the facts and circumstances indicate that the Participant and the Employer reasonably anticipated that no further services would be performed for the Employer after a certain date or that the level of bona fide services the Participant would perform after such date (whether as an employee or as an independent contractor) would permanently decrease to less than twenty percent (20%) of the average level of bona fide services performed (whether as an employee or an independent contractor) over the immediately preceding 36-month period (or if employed by an Employer less than 36 months, such lesser period). A Participant will be deemed to have had a Separation from Service if the Participant's level of bona fide services performed decreases to a level that is twenty percent (20%) or less of the average level of services performed by the Participant during the immediately preceding 36-month period (or if the Participant has not been employed for 36 months, such less period of employment). A Participant shall not be deemed to have Separated from Service if the Participant continues to provide services to an Employer (whether as an employee or an independent contractor) at an annual rate that is fifty percent (50%) or more of the services rendered, on average, during the immediately preceding 36 months of employment with an

Employer (or if employed by an Employer less than 36 months, such lesser period). In addition to the foregoing, a Separation from Service will not be deemed to have occurred while a Participant is on military leave, sick leave, or other bona fide leave of absence if the period of such leave does not exceed six months, or if longer, so long as the Participant's right to reemployment with the Employer is provided either by statute or contract. If the period of leave exceeds six months and the Participant's right to reemployment is not provided either by statute or contract, then the Participant is deemed to have Separated from Service on the first day immediately following such six-month period.

1.19 **"Special Retention Incentives"** means retention incentives offered to selected key Participants as provided in Section 3.4.

1.20 **"Specified Employee"** means a Participant who is identified as a "specified employee" as of the date of his or her Separation from Service in accordance with the requirements of Treasury Regulation Section 1.409A-1(i).

1.21 **"SVB Controlled Group"** means the Employers and any corporation which is a member of a controlled group of corporations (as defined in Code Section 414(b)) which includes an Employer and any trade or business (whether or not incorporated) which is under common control (as defined in Code Section 414(c)) with an Employer.

1.22 **"Total Disability"** means total disability as determined by the Social Security Administration or other disability that complies with the requirements of Treasury Regulations Section 1.409A-3(i)(4).

1.23 **"Valuation Date"** means each business day of the Plan Year and such other date(s) as Employer designates.

ARTICLE 2 – PARTICIPATION

2.1 **Participation.** Each Eligible Employee shall become a Participant in the Plan by (a) executing a Deferral Election in accordance with the provisions of Article 3, (b) receiving an Employer Contribution pursuant to Article 4 or (c) being designated as a Participant in a Special Retention Incentive.

2.2 **Termination of Participation.** A Participant's participation in the Plan shall cease upon his or her termination of service with the Employer for any reason or his or her ceasing to qualify as an Eligible Employee. Upon any termination of participation, a Participant's deferrals and/or Employer Contributions, if any, shall cease but the provisions of Section 8.2 shall continue to apply.

2.3 **Other Termination of Employment.** If the Participant's employment is terminated prior to the end of a Special Retention Incentive Vesting Period for any reason other

than death or Total Disability, the Participant will forfeit all rights to payment of the Special Retention Incentive under this Plan.

ARTICLE 3 – DEFERRAL ELECTIONS

3.1 **Deferral Election.** Each Eligible Employee may elect to defer Compensation earned by him or her during a Plan Year by executing a Deferral Election in accordance with rules and procedures established by the Administrator and the provisions of this Article 3. The Deferral Election must separately specify for each type of Compensation (i.e., Base Pay and Bonus) the whole number percentage multiple that the Participant elects to defer and the timing and form of payment of the deferred amount.

A new Deferral Election must be timely executed for each Plan Year during which the Eligible Employee elects to defer Compensation. An Eligible Employee who does not timely execute a Deferral Election shall be deemed to have elected zero deferrals for such Plan Year.

The Administrator shall specify a period, ending no later than December 31st of the calendar year immediately preceding the Plan Year during which Deferral Elections may be made as to Compensation earned during a Plan Year. Each Deferral Election becomes irrevocable at the close of the specified period.

3.2 **Election to Defer Base Pay.** An Eligible Employee may elect to defer Base Pay for a Plan Year in any amount (in 1% increments) from 5% to 50% of Base Pay.

3.3 **Election to Defer Bonus.** An Eligible Employee may elect to defer (in 1% increments) from 5% to 100% of his or her Bonus for a Plan Year.

3.4 **Special Retention Incentives.** From time to time during the Plan Year, the Administrator, in its sole discretion, shall designate Special Retention Incentives to key employees as eligible for investment in this Plan during the retention qualifying period.

3.5 **Timing of Election to Defer.**

3.5.1 **Base Pay**. Each Eligible Employee who desires to defer Base Pay earned during a Plan Year must execute a Deferral Election within the period preceding the Plan Year specified by the Administrator.

3.5.2 **Bonus**. Each Eligible Employee who desires to defer a Bonus must execute a Deferral Election within the period preceding the Plan Year during which the Bonus is earned that is specified by the Administrator.

3.5.3 **Performance-Based Compensation**. Notwithstanding the foregoing, with respect to any amounts to be contributed to the Plan for a Plan Year

that can be treated as “performance-based compensation” as described in Code Section 409A(a)(4)(B)(iii) and the Treasury Regulations promulgated thereunder, a Deferral Election must be executed no later than the date which is six months before the end of the performance period in which the amount (i.e. Bonus) is earned, provided that the Participant performs services continuously from the later of the beginning of the performance period or the date the performance criteria are established through the date the election is made and the election may not be made after the date the amount of such performance-based compensation has become reasonably ascertainable. Performance-based compensation means compensation the amount of which, or entitlement to, is contingent on satisfying pre-established organizational or individual performance criteria relating to a performance period of at least 12 consecutive months. Performance criteria are pre-established if established in writing by not later than 90 days after the beginning of the performance period; provided the outcome of the criteria are substantially uncertain at the time the criteria are established.

3.5.4 **Initial Year of Eligibility**. In the case of the first Plan Year in which an Employee first becomes classified or designated as an Eligible Employee, if and to the extent permitted by the Administrator, the individual may make an election no later than thirty (30) days after the date he or she becomes an Eligible Employee to defer Base Pay and/or Bonus (as applicable), for services to be performed after the election or to elect the time and form of payment of any Employer Contribution. A Deferral Election will be deemed to apply to Bonus for services performed after the election if the election applies to no more than an amount equal to the total Bonus for the performance period multiplied by the ratio of the number of days remaining in the performance period after the election over the total number of days in the performance period. This paragraph will not apply to an Employee who is a participant in any other account balance deferred compensation plans maintained by any member of the SVB Controlled Group which is required to be aggregated with this Plan under Code Section 409A.

3.5.5 **Initial Deferral Election with Respect to Certain Forfeitable Rights**. Notwithstanding the foregoing, if an Eligible Employee has a right to a payment in a subsequent tax year that is subject to a condition requiring the Eligible Employee to perform services for the Employer for at least 12 months after the Eligible Employee obtains the legally binding right to the to avoid forfeiture of the payment (as described in Treasury Regulations Section 1.409A-2(a)(5)), the Participant may make a Deferral Election no later than 30 days after the Participant obtains the legally binding right to the payment, provided the Participant makes the election at least 12

months prior to the earliest date on which the applicable forfeiture condition could lapse.

3.6 **Election of Payment Schedule and Form of Payment.** At the time an Eligible Employee completes a Deferral Election in accordance with Section 3.5, the Eligible Employee must separately elect the time and form of payment for each type of Compensation being deferred (i.e., for Base Pay and Bonus). To the extent permitted by the Administrator, an Eligible Employee may elect the time and form of payment of an Employer Contribution pursuant to the applicable procedures in Section 3.5.

A Participant may designate a specific Plan Year to commence distribution of all or a portion of the Participant's Account. The Plan Year must be at least three Plan Years after the first day of the Plan Year during which the election is effective. A Participant may also elect to receive a distribution of all or a portion of the Participant's Account upon the Participant's Separation from Service. Notwithstanding the foregoing, in the event that a Participant's Separation from Service occurs prior to a Plan Year that a Participant has selected to commence distribution of all or a portion of his or her Account, such portion of the Participant's Account shall commence distribution upon the Participant's Separation from Service. In the event that a Participant (or Employer) fails to make a valid election with respect to the time of payment for deferrals of any type of Compensation or receipt of Employer Contributions for a Plan Year, then such amounts shall be paid upon the Participant's Separation from Service.

A Participant must elect to receive distribution of the Participant's Account in either a single lump sum in cash or in annual cash installments over a period of up to ten years. In the event that a Participant fails to make a valid election with respect to the form of payment for deferrals of any type of Compensation and/or receipt of Employer Contributions for a Plan Year, then such deferrals shall be paid in a single lump sum.

ARTICLE 4 – EMPLOYER CONTRIBUTIONS

4.1 **Employer Contributions**. The Administrator, in its discretion, may credit additional amounts as Employer Contributions to the Account of any Eligible Employee, Participant or group of Participants. No such contribution to an Eligible Employee, Participant or group of Participants shall imply any right on the part of other Eligible Employees or Participants to receive a similar contribution, nor are such contributions required to be uniform with respect to the Participants for whom they are made.

4.2 **Timing**. The Administrator will make any Employer Contributions under Section 4.1 for a Plan Year at such times as Code Section 409A or any other applicable laws, rules and regulations may permit.

4.3 **Deferral Election**. To the extent permitted by the Administrator, an Eligible Employee or Participant may elect the time and form of payment of any Employer Contributions being made to the Plan on his or her behalf under Section 4.1. Any such election shall be subject to the Deferral Election rules set forth in Article 3 of the Plan. In the event that a the Participant is not permitted to elect the time and form of payment for an Employer Contribution, Employer may set the time and form of payment either before the Participant obtains the legally binding right to the payment or, if later, the date the an employee could have otherwise elected the time and form of payment under Article 3 of the Plan or as otherwise permitted in accordance with Section 409A of the Code.

4.4 **Vesting**. The vesting rules for any amounts credited to the Participant's Account as Employer Contributions are set forth in Section 7.1.2 of the Plan.

4.5 **Distribution**. The distribution rules for any amounts credited to the Participant's Account as Employer Contributions are set forth in Article 8 of the Plan.

ARTICLE 5 – PARTICIPANT ACCOUNT

5.1 **Individual Accounts.** The Administrator will establish and maintain a bookkeeping Account for each Participant which will reflect deferrals made pursuant to Article 3, and Employer Contributions made pursuant to Article 4, if any, along with earnings, expenses, gains and losses credited thereto, attributable to the hypothetical investments made with the amounts in the Participant's Account as provided in Article 6. The amount a Participant elects to defer in accordance with Article 3 shall be credited to the Participant's Account at the time the amount subject to the Deferral Election would otherwise have been payable to the Participant but for his or her election to defer. Each Employer Contribution made pursuant to Article 4 shall be credited to a Participant's Account on the date approved by Employer or, if the Employer has not approved a specific date, within 30 days of the date the Employer approves crediting an Employer Contribution to the Participant's Account. The Administrator will establish and maintain such other accounts and records as it decides in its discretion to be reasonably required or appropriate to discharge its duties under the Plan.

ARTICLE 6 – INVESTMENT OF CONTRIBUTIONS

6.1 **Investment Options.** The amount in a Participant's Account shall be treated as invested in the investment options designated for this purpose by the Administrator.

6.2 **Adjustment of Accounts.** The amount in a Participant's Account shall be adjusted for hypothetical investment earnings or losses in an amount equivalent to the gains or losses reported by the investment options selected by the Participant or Beneficiary from among the investment options provided in Section 6.1. A Participant may, in accordance with rules and procedures established by the

Administrator, change the investments to be used for the purpose of calculating future hypothetical investment adjustments to the Participant's Account or to future Participant deferrals and/or Employer Contributions effective as of the Valuation Date coincident with or next following notice to the Administrator. The Account of each Participant shall be adjusted as of each Valuation Date to reflect: (a) the hypothetical investment earnings and/or losses described above; (b) Participant deferrals and/or Employer Contributions, if any; and (c) distributions or withdrawals from the Account.

ARTICLE 7 – RIGHT TO BENEFITS

7.1 **Vesting.**

7.1.1 **Vesting for Voluntary Elected Deferral Amounts.** Except as provided in Sections 7.1.2 and 7.1.3, a Participant, at all times, has a 100% nonforfeitable interest in voluntary elected deferral amounts credited to his or her Account.

7.1.2 **Vesting for Employer Contributions**. At the time that the Administrator approves any Employer Contributions to be made to a Participant's Account for a Plan Year, the Administrator shall also determine, in its sole discretion, whether such Employer Contributions shall be subject to a substantial risk of forfeiture and the applicable vesting period (e.g., time or performance based vesting). Unless otherwise provided by the Employer at the time of approval of an Employer Contribution on behalf of a Participant, a Participant's Employer Contributions under the Plan will become 100% vested (nonforfeitable) upon the occurrence of any of the following events:

7.1.2.1 The Participant's Total Disability;

7.1.2.2 Participant's death; or

7.1.2.3 Participant's involuntary Separation from Service due to job elimination.

7.1.3 In the event that a Participant's Employer Contributions become 100% nonforfeitable due to the occurrence of an event in Sections 7.1.2.1 or 7.1.2.3, such benefit will be paid to the Participant in a lump sum with 60 days of such event or, in the event of the Participant's death, paid pursuant to Section 7.2 below.

7.1.4 **Vesting for Special Retention Incentives**. These awards are subject to time-based vesting requirements (and other vesting requirements as the Administrator may determine from time to time) based on the following schedule:

Vesting Period	**Retention Incentive to Salary Multiple**
3 years	Less than or equal to one times annual salary
4 years	Greater than one times annual salary and less than or equal to two times annual salary
5 years	Greater than two times annual salary

7.2 **Death.** The balance or remaining balance credited to a Participant's Account shall be paid to his or her Beneficiary in a single lump sum payment as soon as practicable following the date of death, but in no event later than the end of the year in which the death occurred or, if later, the 15th day of the third month immediately following the date of death. If multiple Beneficiaries have been designated, each Beneficiary shall receive a single lump sum payment of his or her specified portion of the Account as soon as practicable following the date of death, but in no event later than the end of the year in which the death occurred or, if later, the 15th day of the third month immediately following the date of death.

A Participant may designate a Beneficiary or Beneficiaries, or change any prior designation of Beneficiary or Beneficiaries in accordance with rules and procedures established by the Administrator.

A copy of the death notice or other sufficient documentation must be filed with and approved by the Administrator. If upon the death of the Participant there is, in the opinion of the Administrator, no designated Beneficiary for part or all of the Participant's Account, such amount will be paid to his or her estate (such estate shall be deemed to be the Beneficiary for purposes of the Plan) in a single lump sum payment.

ARTICLE 8 – DISTRIBUTION OF BENEFITS

8.1 **Amount of Benefits.** The amount credited to a Participant's Account as determined under Articles 5 and 7 shall determine and constitute the basis for the value of benefits payable to the Participant under the Plan.

8.2 **Method and Timing of Distributions for Voluntary Deferrals and Employer Contributions.**

8.2.1 **Method and Timing of Distributions for a Specified Plan Year.** In the event a Participant has selected a specific Plan Year to begin distribution of all or a portion of the voluntary deferrals and/or Employer Contributions (if any) credited to his or her Account, such distribution shall commence in January of the Plan Year that the Participant had elected for beginning such distribution from his or her Account, and shall be made in the form specified by the Participant in accordance with the provisions of Article 3.

8.2.2 **Method and Timing of Distributions for Separation from Service.** Subject to Section 8.4, in the event that all or any portion of a Participant's Account is distributable upon the Participant's Separation from Service, such distribution shall commence in January of the first Plan Year that commences six months after the Participant's date of Separation from Service, and shall be made in the form specified by the Participant in accordance with the provisions of Article 3.

8.3 **Method and Timing of Distributions for Special Retention Incentives.** Distributions for Special Retention Incentive will occur as soon as administratively feasible following the vesting date specified by the Administrator, but in no event more than 60 days.

8.4 **Cashouts of Amounts Not Exceeding $10,000.** If the amount credited to the Participant's Account does not exceed $10,000 at the time of the Participant's Separation from Service, the Employer may pay such amount to the Participant in a single lump sum payment as soon as practicable following such termination or cessation of service regardless of whether the Participant had made different elections of time or form of payment as to the amount credited to his or her Account or whether the Participant was receiving installments at the time of such termination. A distribution made to a Specified Employee shall not be made before the date that is six months after the date of his or her Separation from Service.

ARTICLE 9 – AMENDMENT AND TERMINATION

9.1 **Amendment by Employer.** The Plan Sponsor reserves the right to amend the Plan (for itself and each Employer) through action of the Board. An amendment must be in writing and executed by an officer authorized to take such action. Each amendment shall be effective when approved by the Board. No amendment can directly or indirectly deprive any current or former Participant or Beneficiary of all or any portion of his or her Account, which had accrued prior to the amendment.

9.2 **Retroactive Amendments.** An amendment made by the Plan Sponsor in accordance with Section 9.1 may be made effective on a date prior to the first day of the Plan Year in which it is adopted if such amendment is necessary or appropriate

to enable the Plan to satisfy the applicable requirements of the Code or ERISA or to conform the Plan to any change in federal law or to any regulations or ruling thereunder. Any retroactive amendment by the Plan Sponsor shall be subject to the provisions of Section 9.1.

9.3 **Plan Termination.** The Plan has been adopted with the intention and expectation that it will be continued indefinitely. Each Employer, however, reserves the right to terminate the Plan with respect to its participating employees. Each Employer has no obligation or liability whatsoever to maintain the Plan for any length of time and may discontinue contributions under the Plan or terminate the Plan at any time without any liability hereunder for any such discontinuance or termination.

9.4 **Distribution Upon Termination of the Plan.** Upon termination of the Plan, no further contributions shall be made under the Plan and if such termination meets the distribution acceleration requirements of Treasury Regulation Section 1.409A-3(j)(4)(ix), all amounts credited to each Participant's Account shall be paid out as soon as administratively feasible in accordance with such regulations in a single lump sum payment regardless of the elections the Participant had made concerning the time and form of payment of the amounts credited to his or her Account and regardless of whether the Participant was receiving installments at the time of such Plan termination.

ARTICLE 10 – THE TRUST

10.1 **Establishment of Trust.** The Plan Sponsor may but is not required to establish a trust to hold amounts, which the Plan Sponsor may contribute from time to time to correspond to some or all amounts credited to Participants under Section 5.1. If the Plan Sponsor elects to establish a trust, the provisions of Sections 10.2 and 10.3 shall become operative.

10.2 **Grantor Trust.** Any trust established by the Plan Sponsor shall be between the Plan Sponsor and a trustee pursuant to a separate written agreement under which assets are held, administered and managed, subject to the claims of the Plan Sponsor's creditors in the event of the Plan Sponsor's insolvency, until paid to the Participant and/or his or her Beneficiaries specified in the Plan. The trust is intended to be treated as a grantor trust under the Code, and the establishment of the trust shall not cause the Participant to realize current income on amounts contributed thereto.

10.3 **Investment of Trust Funds.** Any amounts contributed to the trust by the Plan Sponsor shall be invested by the trustee in accordance with the provisions of the trust and the instructions of the Administrator. Trust investments need not reflect the hypothetical investments selected by Participants under Section 6.1 for the purpose of adjusting Accounts and the earnings or investment results of the trust

shall not affect the hypothetical investment adjustments to Participants' Accounts under the Plan.

ARTICLE 11 – MISCELLANEOUS

11.1 **Acceleration of Payments Permitted Under Code Section 409A.** Notwithstanding anything in this Plan to the contrary, the Administrator may provide that a Participant will receive all or a portion of his or her Account prior to the time specified in this Plan to the extent such acceleration is permitted under Code Section 409A.

11.2 **Unsecured General Creditor of the Employer.** Participants and their Beneficiaries, heirs, successors and assigns shall have no legal or equitable rights, interests or claims in any property or assets of the Employer. For purposes of the payment of benefits under the Plan, any and all of the Employer's assets shall be, and shall remain, the general, unpledged, unrestricted assets of the Employer. Each Employer's obligation under the Plan shall be merely that of an unfunded and unsecured promise to pay money in the future.

11.3 **Employer's Liability.** Each Employer's liability for the payment of benefits under the Plan shall be defined only by the Plan and by the Deferral Elections entered into between a Participant and the Employer. An Employer shall have no obligation or liability to a Participant under the Plan except as provided by the Plan and a Deferral Election or agreements. An Employer shall have no liability to Participants employed by other Employers.

11.4 **Limitation of Rights.** Neither the establishment of the Plan, nor any amendment thereof, nor the creation of any fund or account, nor the payment of any benefits, will be construed as giving to the Participant or any other person any legal or equitable right against the Employer or Administrator, except as provided herein; and in no event will the terms of employment or service of the Participant be modified or in any way affected hereby.

11.5 **Assignment of Benefits.** Except as hereinafter provided with respect to marital disputes, none of the benefits or rights of a Participant or any Beneficiary of a Participant shall be subject to the claim of any creditor. In particular, to the fullest extent permitted by law, all such benefits and rights shall be free from attachment, garnishment, or any other legal or equitable process available to any creditor of the Participant and his or her Beneficiary. Neither the Participant nor his or her Beneficiary shall have the right to alienate, anticipate, commute, pledge, encumber, or assign any of the payments which he or she may expect to receive, contingently or otherwise, under this Plan, except the right to designate a Beneficiary to receive death benefits provided hereunder. In cases of marital dispute, the Employer shall observe the terms of the Plan unless and until ordered to do otherwise by a state or Federal court. As a condition of participation, a Participant agrees to hold the

Employer harmless from any harm that arises out of the Employer's obeying the final order of any state or Federal court, whether such order effects a judgment of such court or is issued to enforce a judgment or order of another court. A distribution made to comply with a court-approved settlement incident to divorce or to comply with Federal conflict of interest requirements shall be permitted, notwithstanding the provisions of Article 3 or any elections made by the Participant to the contrary.

11.6 **Facility of Payment.** If the Administrator determines, on the basis of medical reports or other evidence satisfactory to the Administrator, that the recipient of any benefit payments under the Plan is incapable of handling his or her affairs by reason of minority, illness, infirmity or other incapacity, the Administrator may direct the Employer to disburse such payments to a person or institution designated by a court which has jurisdiction over such recipient or a person or institution otherwise having the legal authority under State law for the care and control of such recipient. The receipt by such person or institution of any such payments therefore, and any such payment to the extent thereof, shall discharge the liability of the Employer for the payment of benefits hereunder to such recipient.

11.7 **Notices.** Any notice or other communication in connection with the Plan shall be deemed delivered in writing if addressed as provided below and if either actually delivered at said address or, in the case of a letter, five business days shall have elapsed after the same shall have been deposited in the United States mails, first-class postage prepaid and registered or certified:

(a) If it is sent to the Employer or Administrator, it will be at the address specified by the Employer; or

(b) In each case at such address as the addressee shall have specified by written notice delivered in accordance with the foregoing to the addressor's then effective notice address.

11.8 **Tax Withholding.** The Employer shall have the right to deduct from all payments or deferrals made under the Plan any tax required by law to be withheld. If the Employer concludes that tax is owed with respect to any deferral or payment hereunder, the Employer shall withhold such amounts from any payments due the Participant, as permitted by law, or otherwise make appropriate arrangements with the Participant or his or her Beneficiary for satisfaction of such obligation. Tax, for purposes of this Section 11.8 means any federal, state, local or any other governmental income tax, employment or payroll tax, excise tax, or any other tax or assessment owing with respect to amounts deferred, any earnings thereon, and any payments made to Participants under the Plan.

11.9 **Indemnification.** Each Employer shall indemnify and hold harmless each employee, officer, or director of an Employer to whom is delegated duties, responsibilities, and authority with respect to the Plan against all claims, liabilities, fines and penalties, and all expenses reasonably incurred by or imposed upon him

or her (including but not limited to reasonable attorney fees) which arise as a result of his or her actions or failure to act in connection with the operation and administration of the Plan to the extent lawfully allowable and to the extent that such claim, liability, fine, penalty, or expense is not paid for by liability insurance purchased or paid for by an Employer. Notwithstanding the foregoing, an Employer shall not indemnify any person for any such amount incurred through any settlement or compromise of any action unless the Employer consents in writing to such settlement or compromise.

11.10 **Governing Law.** The Plan will be construed, administered and enforced according to ERISA, and to the extent not preempted thereby, the laws of the State of California.

ARTICLE 12 – PLAN ADMINISTRATION

12.1 **Powers and Responsibilities of the Administrator.** The Administrator has the full power and the full responsibility to administer the Plan in all of its details, subject, however, to the applicable requirements of ERISA. The Administrator's powers and responsibilities include, but are not limited to, the following:

(a) To make and enforce such rules and regulations as it deems necessary or proper for the efficient administration of the Plan;

(b) To interpret the Plan, its interpretation thereof in good faith to be final and conclusive on all persons claiming benefits under the Plan;

(c) To decide all questions concerning the Plan and the eligibility of any person to participate in the Plan;

(d) To administer the claims and review procedures specified in Section 12.2;

(e) To compute the amount of benefits which will be payable to any Participant, former Participant or Beneficiary in accordance with the provisions of the Plan;

(f) To determine the person or persons to whom such benefits will be paid;

(g) To authorize the payment of benefits;

(h) To comply with the reporting and disclosure requirements of Part 1 of Subtitle B of Title I of ERISA;

(i) To appoint such agents, counsel, accountants, and consultants as may be required to assist in administering the Plan;

(j) By written instrument, to allocate and delegate its responsibilities, including the formation of an Administrative Committee to administer the Plan.

12.2 **Claims and Review Procedures.**

(a) Claims Procedure. If any person believes he or she is being denied any rights or benefits under the Plan, such person may file a claim in writing with the Administrator within one year of the date of the event giving rise to the claim for benefits under the Plan. If any such claim is wholly or partially denied, the Administrator will notify such person of its decision in writing. Such notification will contain (i) specific reasons for the denial, (ii) specific reference to pertinent Plan provisions, (iii) a description of any additional material or information necessary for such person to perfect such claim and an explanation of why such material or information is necessary, and (iv) information as to the steps to be taken if the person wishes to submit a request for review. Such notification will be given within 90 days after the claim is received by the Administrator (or within 180 days, if special circumstances require an extension of time for processing the claim, and if written notice of such extension and circumstances is given to such person within the initial 90-day period).

(b) Review Procedure. Within 60 days after the date on which a person receives a written notification of denial of claim, such person (or his or her duly authorized representative) may (i) file a written request with the Administrator for a review of his or her denied claim and of pertinent documents and (ii) submit written issues and comments to the Administrator. The Administrator will notify such person of its decision in writing. Such notification will be written in a manner calculated to be understood by such person and will contain specific reasons for the decision as well as specific references to pertinent Plan provisions. The decision on review will be made within 60 days after the request for review is received by the Administrator (or within 120 days, if special circumstances require an extension of time for processing the request, such as an election by the Administrator to hold a hearing, and if written notice of such extension and circumstances is given to such person within the initial 60-day period).

(c) No action at law or equity shall be brought to recover benefits under the Plan unless the action is commenced within two (2) years after the occurrence of the loss for which a claim is made. Except as required by applicable law, no action at law or equity shall be brought to recover a benefit under the Plan unless and until the claimant has:

(i) submitted a claim for benefits;

(ii) been notified by the Board that the benefits (or a portion thereof) are denied;

(iii) filed a written request for a review of denial with the Board; and

(iv) been notified in writing that the denial has been affirmed.

12.3 **Plan Administrative Costs.** All reasonable costs and expenses (including legal, accounting, and employee communication fees) incurred by the Administrator in administering the Plan shall be paid by the Employer.

12.4 **Code Section 409A.** The Plan shall be interpreted and construed as necessary to comply with Code Section 409A and any regulations or other guidance promulgated thereunder. Any provision that is noncompliant with Code Section 409A is deemed amended to comply with Code Section 409A Code or if it cannot be so amended is void. The Employer does not guarantee the tax treatment of any payment or benefit under the Plan and the Participant shall at all times be responsible for any and all tax liabilities and payments related to the benefits provided hereunder.

Approved by the Compensation Committee on January 23, 2019. Refer to official Compensation Committee Minutes for approval record.

SVB Financial Group Annual Report on Form 10-K

Exhibit 21.1-Subsidiaries of SVB Financial Group

The following is a list of the direct and indirect subsidiaries of SVB Financial Group as of December 31, 2018:

Subsidiary	Jurisdiction of Incorporation or Organization
Gold Hill Venture Lending Partners 03, LLC	California
Gold Hill Venture Lending 03, LP	Delaware
Gold Hill Venture Lending 03-A, LP	Delaware
Gold Hill Venture Lending 03-B, LP	Delaware
Gold Hill Venture Lending 03-C, LP	Delaware
GHVL 03-C, Inc.	Delaware
GHVL, LP	Delaware
Silicon Valley Bank	California
SVB Asset Management	California
SVB Securities	California
SPD Silicon Valley Bank Co., Ltd.	China
SVB Wealth Advisory, Inc.	Delaware
SVB International Finance, Inc.	United States*
The Silicon Valley Bank Foundation	California
SVB Financial Group UK Limited	United Kingdom
SVB Global Financial, Inc.	Delaware
SVB Israel Advisors, Ltd.	Israel
SVB India Advisors, Pvt. Ltd.	India
SVB Global Services India LLP	India
SVB Business Partners (Beijing) Co. Ltd.	China
Lunar Merger Sub LLC	Delaware
SVB Analytics, Inc.	Delaware
Silicon Valley BancVentures, Inc.	California
CP I, L.P.	California
SVB Capital Partners II, LLC	Delaware
CP II, L.P.	Delaware
SVB Capital Partners III, LLC	Delaware
Capital Partners III, L.P.	Delaware
SVB Capital Partners IV, LLC	Delaware
Capital Partners IV, L.P.	Delaware
SVB Venture Capital Investment Management (Shanghai) Co. Limited	China
Shanghai Yangpu Venture Capital Fund (LP)	China
Shengwei Shengxiang Capital Hangzhou Venture Capital Fund (LP)	China
Qualified Investors Fund, LLC	California
Qualified Investors Fund II, LLC	Delaware
Qualified Investors Fund III, LLC	Delaware
Qualified Investors Fund IV, LLC	Delaware
Qualified Investors Fund V, LLC	Delaware
SVB Growth Investors, LLC	Delaware
Capital Preferred Return Fund, L.P.	Delaware
Growth Partners, L.P.	Delaware
SVB Strategic Investors, LLC	California
Strategic Investors Fund, L.P.	California
SVB Strategic Investors II, LLC	Delaware
Strategic Investors Fund II, L.P.	Delaware
SVB Strategic Investors III, LLC	Delaware
Strategic Investors Fund III, L.P.	Delaware
SVB Strategic Investors IV, LLC	Delaware
Strategic Investors Fund IV, L.P.	Delaware
Venture Investment Managers, L.P.	Delaware

SVB Strategic Investors V, LLC	Delaware
Strategic Investors Fund V, L.P.	Delaware
Strategic Investors Fund V-A, L.P	Delaware
Strategic Investors Fund V-A Opportunity, L.P	Delaware
Strategic Investors Fund V-B, L.P.	Delaware
SVB Strategic Investors VI, LLC	Delaware
Strategic Investors Fund VI, L.P.	Delaware
Strategic Investors Fund VI-A, L.P.	Delaware
SVB Strategic Investors VII, LLC	Delaware

Subsidiary	Jurisdiction of Incorporation or Organization
Strategic Investors Fund VII, L.P.	Delaware
Strategic Investors Fund VII-A, L.P.	Delaware
SVB Strategic Investors VIII, LLC	Delaware
Strategic Investors Fund VIII, L.P.	Delaware
Strategic Investors Fund VIII-A, L.P.	Delaware
Strategic Investors Fund VIII-B, L.P.	Delaware
Strategic Investors Fund VIII Cayman, L.P.	Cayman Islands
Strategic Investors Fund IX, LLC	Delaware
Strategic Investors Fund IX Cayman, L.P.	Cayman Islands
Strategic Investors Fund IX-A Cayman, L.P.	Cayman Islands
Strategic Investors Fund IX, L.P.	Delaware
Strategic Investors Fund IX-A, L.P.	Delaware
Strategic Investors Fund IX-B, L.P.	Delaware
Strategic Investors Fund IX Master, L.P.	Delaware
Sprout Endurance Partners, LLC	Delaware
Sprout Endurance Partners, L.P.	Delaware
Sprout Endurance Partners Cayman, L.P.	Cayman Islands
SVB Capital Venture Overage, LLC	Delaware
Venture Overage Fund, L.P.	Delaware

* Edge Act Corporation

EXHIBIT 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders
SVB Financial Group:

We consent to the incorporation by reference in the registration statements on Form S-8 (No. 333-213281, 333-213279, 333-198147, 333-192471, 333-188707, 333-183323, 333-176232, 333-168836, 333-134655, 333-133262, 333-118091, 333-108434, 333-92410, 333-59590, 333-39680, 333-89641, 333-68857, 333-28185, 333-05489, 033-60467) and registration statements on Form S-3 (No. 333-201641 and 333-195878) of SVB Financial Group and subsidiaries (the Company) of our reports dated February 28, 2019, with respect to the consolidated balance sheets of SVB Financial Group and subsidiaries as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, stockholders' 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 the effectiveness of internal control over financial reporting as of December 31, 2018, which report appears in the December 31, 2018 annual report on Form 10-K of the Company.

/s/ KPMG LLP

San Francisco, California
February 28, 2019

EXHIBIT 31.1

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, Greg Becker, certify that:

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

Date: February 28, 2019

/s/ GREG BECKER

Greg Becker

President and Chief Executive Officer

(Principal Executive Officer)

EXHIBIT 31.2

RULE 13a-14(a)/15d-14(a) CERTIFICATION

I, Daniel Beck, certify that:

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

Date: February 28, 2019

/s/ DANIEL BECK

Daniel Beck

Chief Financial Officer

(Principal Financial Officer)

EXHIBIT 32.1

SECTION 1350 CERTIFICATIONS

I, Greg Becker, certify, pursuant to 18 U.S.C. Section 1350, that, to my knowledge, the annual report of SVB Financial Group on Form 10-K for the annual period ended December 31, 2018, (i) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and (ii) that the information contained in such Form 10-K fairly presents, in all material respects, the financial condition and results of operations of SVB Financial Group.

Date: February 28, 2019

/s/ GREG BECKER

Greg Becker

President and Chief Executive Officer

(Principal Executive Officer)

I, Daniel Beck, certify, pursuant to 18 U.S.C. Section 1350, that, to my knowledge, the annual report of SVB Financial Group on Form 10-K for the annual period ended December 31, 2018, (i) fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and (ii) that the information contained in such Form 10-K fairly presents, in all material respects, the financial condition and results of operations of SVB Financial Group.

Date: February 28, 2019

/s/ DANIEL BECK

Daniel Beck

Chief Financial Officer

(Principal Financial Officer)