

---

**MERRILL LYNCH INTERNATIONAL**

---

**ANNUAL REPORT AND FINANCIAL STATEMENTS**  
**FOR THE YEAR ENDED 31 DECEMBER 2019**

THURSDAY



\*A916DS3N\*

A02

19/03/2020

#257

COMPANIES HOUSE

---

## MERRILL LYNCH INTERNATIONAL

---

### COMPANY INFORMATION

---

|                             |                                                                                                                            |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Directors</b>            | J.Y. Bahurel<br>M. Butler<br>R.J. Keys<br>B.A. Mensah<br>R.P. Thorne<br>P.J.P. de Weck (Chair)<br>L.M. White               |
| <b>Company secretary</b>    | Merrill Lynch Corporate Services Limited                                                                                   |
| <b>Registered number</b>    | 2312079                                                                                                                    |
| <b>Registered office</b>    | 2 King Edward Street<br>London<br>EC1A 1HQ                                                                                 |
| <b>Independent auditors</b> | PricewaterhouseCoopers LLP<br>Chartered Accountants and Statutory Auditors<br>7 More London Riverside<br>London<br>SE1 2RT |

---

**MERRILL LYNCH INTERNATIONAL**

---

**CONTENTS**

---

|                                          | <b>Pages</b>    |
|------------------------------------------|-----------------|
| <b>Strategic Report</b>                  | <b>1 - 8</b>    |
| <b>Directors' Report</b>                 | <b>9 - 16</b>   |
| <b>Independent Auditors' Report</b>      | <b>17 - 19</b>  |
| <b>Income Statement</b>                  | <b>20</b>       |
| <b>Statement of Comprehensive Income</b> | <b>21</b>       |
| <b>Statement of Financial Position</b>   | <b>22</b>       |
| <b>Statement of Changes in Equity</b>    | <b>23 - 24</b>  |
| <b>Notes to the Financial Statements</b> | <b>25 - 106</b> |

---

## MERRILL LYNCH INTERNATIONAL

---

### STRATEGIC REPORT FOR THE YEAR ENDED 31 DECEMBER 2019

---

The directors present their Strategic Report for Merrill Lynch International ("MLI", "the Company") for the year ended 31 December 2019.

The Company's immediate parent is ML UK Capital Holdings Limited ("MLUKCH"). The ultimate parent of the Company is Bank of America Corporation (NYSE: BAC) ("BAC" or "the Corporation"). The Company is BAC's largest entity outside the United States ("US") and helps serve the core financial needs of global corporations and institutional investors.

The Company's head office is in the United Kingdom ("UK") with branches in Dubai and Qatar, along with a representative office in Zurich.

The Company has the ability to conduct business with international clients and trade throughout the European Economic Area. The Company is authorised and regulated by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA").

As at 31 December 2019, the Company was rated by Fitch (A+/F1) (2018: A+/F1) and Standard & Poor's (A+/A-1) (2018: A+/A-1).

#### MARKET ENVIRONMENT

##### *UK Exit from the European Union ("Brexit")*

On 31 January 2020, the UK formally exited the European Union ("EU"). Upon exit, the UK has entered into a transition period, which is scheduled to end on 31 December 2020, unless otherwise extended. During this time the UK is negotiating with the EU to establish a free trade agreement and other terms of departure. The final outcome of negotiations between the UK and the EU regarding the terms and conditions of the withdrawal from the EU remain unclear. Short and long-term global economic and market volatility and disruptions to regional and global financial markets may occur, including as a result of currency fluctuations and trade relations. There can be no guarantee that the UK and the EU will reach an agreement on trade or any other matters during the transition period or that the transition period will be extended if agreements are not reached.

There may be heightened uncertainty and/or market volatility if trade and other agreements are not reached by the end of the transition period, including with regard to cross-border conduct of financial services and the treatment of existing financial transactions and contracts.

In preparation for the withdrawal, the Company will continue to assess potential risks, including operational, regulatory and legal risks.

---

MERRILL LYNCH INTERNATIONAL

---

STRATEGIC REPORT (CONTINUED)  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

*London Interbank Offered Rate reform*

Reforms to and uncertainty regarding Interbank Offered Rates ("IBORs"), including the London Interbank Offered Rate ("LIBOR"), and certain other rates or indices may adversely affect the Company's business, financial condition and results of operations and could result in reputational harm to the Company.

In 2017, the UK FCA announced that it will no longer require participating banks to submit rates for LIBOR after 2021. The continuation of LIBOR on the current basis cannot be guaranteed after 2021, and there is substantial risk that LIBOR will be modified by 2021 or discontinued thereafter. This announcement, in conjunction with financial benchmark reforms and changes in short-term interbank lending markets more generally, have resulted in uncertainty about the potential or actual discontinuation of IBOR, including LIBOR, and certain other rates or indices that serve as "benchmarks". Such benchmarks are used extensively in the global financial markets and in the Company's business. In particular, LIBOR is used in many of the Company's products and contracts. These reforms and actions may result in significant uncertainty as to future rules or methodologies used to calculate benchmarks, cause new or reformed benchmarks to perform differently from the discontinued benchmarks they are replacing, cause existing benchmarks to disappear or become unavailable or unrepresentative, or have other consequences that cannot be fully anticipated, which expose the Company to various financial, operational and legal risks.

Certain alternative reference rates ("ARRs") have been proposed to replace LIBOR and other IBORs. For example, the ARR Committee, a group of private-market participants and official-sector entities convened by the Federal Reserve Board and the Federal Reserve Bank of New York, has recommended that the Secured Overnight Financing Rate ("SOFR") replace US dollar LIBOR. However, the market transition from IBORs to ARRs is complex and pervasive throughout a number of different types of products and global financial markets.

There can be no assurance that ARRs will be adequate alternatives to IBORs, that the Company's existing assets and liabilities are based on or linked to IBORs that will transition successfully to ARRs, of the timing of adoption and degree of integration and acceptance of such ARRs in the global financial markets, or the future availability or representativeness of such ARRs. The Company's products and contracts that reference IBORs, in particular LIBOR, may contain language that determines when a successor rate including the ARR and/or the applicable spread adjustment to the designated rate (including IBORs) would be selected or determined. If a trigger is satisfied, the products and contracts may give the calculation agent discretion over the successor rate to be selected. The considerable uncertainty as to how the financial services industry will address the discontinuance of IBORs and/or such IBORs ceasing to be acceptable reference rates in financial instruments could ultimately result in client disputes and litigation surrounding the proper interpretation of the Company's IBOR-based products and contracts. Accordingly, uncertainty regarding ARRs may continue to impact the Company's business, operations and financial condition repeatedly and for an extended period.

The discontinuation of IBORs, including LIBOR, will require the Company to remediate IBOR based products and contracts, including related hedging arrangements, that mature after the discontinuation date of the IBOR. These changes may adversely affect the yield on loans or securities held by the Company, amounts received and paid on derivative contracts entered into, the value of such loans, securities or derivative instruments, the trading market for such products and contracts, and the Company's ability to effectively use hedging instruments to manage risk. While some of these outstanding IBOR-based products and contracts include fallback provisions to ARRs, many of the Company's outstanding IBOR-based products and contracts do not include fallback provisions or adequate fallback mechanisms requiring remediation to modify their terms. However, some outstanding IBOR-based products and contracts are particularly challenging to modify due to the requirement that all impacted parties consent to such modification.

In light of the extensive use of IBOR-based products and contracts by the Company and other market participants, there can be no assurance that the Company and other market participants will be able to successfully modify all outstanding IBOR-based products and contracts or be adequately prepared for a discontinuation of an IBOR at the time that such IBOR may cease to be published or otherwise discontinued.

---

## MERRILL LYNCH INTERNATIONAL

---

### STRATEGIC REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

Also, there can be no assurance that existing or new provisions for replacement or successor rates in the IBOR-based products and contracts will include adequate methodologies for adjustments between the applicable IBOR and the corresponding successor rate or that the characteristics of the successor rates will be similar to or produce the economic equivalent of the benchmarks they seek to replace. For example, SOFR and other ARR have compositions and characteristics that differ significantly from the benchmarks they replace, have limited history, and may demonstrate less predictable performance than the benchmarks they replace.

Changes or uncertainty resulting from the market transition from IBORs to ARRs could adversely affect the return on and pricing, liquidity and value of outstanding IBOR-based products and contracts, cause significant market dislocations and disruptions that are relevant to the Company's business segment, potentially increase the cost of and access to capital, increase the risk of litigation or other disputes, including in connection with the interpretation and enforceability of, or the historical marketing practices or disclosures with respect to, outstanding IBOR-based products and contracts with counterparties, and/or increase expenses related to the transition to ARRs, among other adverse consequences. Additionally, given the complexity of the transition to ARRs, the Company expects that the process may result in significant increased costs and also divert management time and attention from other areas of the business.

The market transition from IBORs to ARRs may alter the Company's risk profile and risk management strategies, including derivatives and hedging strategies, modelling and analytics, valuation tools, product design and systems, controls, procedures and operational infrastructure. This may prove challenging given the limited history of many of the proposed ARRs, and may increase the costs and risks related to potential regulatory compliance, requirements or inquiries. Among other risks, various products and contracts may transition to ARRs at different times or in different manners, with the result that the Company may face significant unexpected interest rate, pricing or other exposures across business or product lines. Reforms to and uncertainty regarding market transition from current IBORs to ARRs and other factors, including the pace of the transition to ARRs, the specific terms and parameters for market acceptance of any ARRs, prices of and liquidity of trading markets for products based on ARRs, and the Company's ability to transition and develop appropriate systems and analytics for one or more ARRs, may adversely affect the Company's business, including the ability to serve customers and maintain market share, financial condition or results of operations and could result in reputational harm to the Company.

#### *Geopolitical*

In Europe, the political and economic environment remains challenging due to slowing GDP growth, debt concerns of certain EU countries and elevated recessionary risks, including in Germany and the UK. The current degree of European political and economic uncertainty could increase and create additional market volatility and negatively impact the Company's business and results of operations.

The Company is subject to numerous political, economic, market, reputational, operational, legal, regulatory and other risks in the jurisdictions in which it operates. The Company does business throughout the world including in emerging markets. Economic or geopolitical stress in one or more countries could have a negative global impact, resulting in reduced market value and economic output. The businesses and revenues are subject to risk of loss from currency fluctuations, financial, social or judicial instability, electoral outcomes, changes in governmental policies or policies of central banks, expropriation, nationalisation and/or confiscation of assets, price controls, high inflation, natural disasters, capital controls, currency redenomination risk, exchange controls, protectionist trade policies, continued trade tensions between the US and important trading partners (particularly China and the EU) including the risk that tariffs continue to rise and other restrictive actions are taken that weigh heavily on regional trade volumes and domestic demand through falling business sentiment and lower consumer confidence, unfavourable political and diplomatic developments, and changes in legislation. These risks are especially elevated in emerging markets.

Furthermore, changes in fiscal, monetary or regulatory policy could adversely affect the Company's business operations, organisational structure and results of operations. The Company is also subject to geopolitical risks including for example; acts or threats of terrorism and/or military conflicts which could adversely affect business and economic conditions globally.

---

## MERRILL LYNCH INTERNATIONAL

---

### STRATEGIC REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

Direct and indirect effects of the coronavirus outbreak are impacting the global economy, markets, and the Company's counterparties and clients. The Company cannot predict the coronavirus's potential future direct or indirect effects; however, the Company is taking actions to mitigate the impacts on the Company. While the Company does not currently believe it likely, the coronavirus's effects could have a material negative impact on the Company's future results of operations.

#### SECTION 172 (1) STATEMENT

The Directors of the Company act and take decisions in accordance with their statutory duty under Section 172 of the Companies Act 2006 (the "Act"). The following, as well as relevant information provided in the "Statement on Corporate Governance" in the Directors' Report, detail the way in which the Directors have regard to the matters set out in Section 172 (1) (a) to (f) of the Act in overseeing and promoting the success of the Company.

The Company is also supervised by the UK PRA and the UK FCA and subject to relevant UK and EU regulatory requirements. As a wholly-owned subsidiary of BAC, it also adopts and is subject to, where appropriate, relevant BAC level policies and standards, including the BAC Code of Conduct, the BAC Risk Framework and conflicts of interest policies for specific lines of business.

As required by relevant financial regulation and internal governing documents, the Board of Directors of MLI (the "Board") is responsible for defining, overseeing, making decisions where relevant and being accountable for the implementation of the Company's governance arrangements that ensure effective, prudent and ethical management and oversight of the Company. This includes setting the business strategy for the Company; monitoring financial performance; ensuring that capital, liquidity, risk and compliance are properly monitored and managed; and ensuring the proper organisational structure and internal control framework are in place, while considering the interests of key stakeholders, including the Company's shareholder.

Board approval of the Company's annual strategy and MLI Risk Appetite Statement, adoption of the BAC Risk Framework, the BAC Code of Conduct and conflict of interest policies, as well as oversight of the businesses conducted in MLI and of the conduct and employee matters by the MLI Governance Committee, are examples of the manner in which the Directors have had regard to the matters set out in Section 172 (1) (a) to (f) of the Act in their oversight and promotion of the success of the Company. The "Statement on Corporate Governance", "Employee Engagement" and "Stakeholder Engagement" in the Directors' Report on pages 10 - 15 provide further information on these activities.

In addition to the above, this year, the Board and its Committees have overseen and received regular reporting on the following additional strategic matters: Brexit; LIBOR reform; and Management of Climate Change Risk as part of their consideration of any long term consequences of any decisions. In doing so, the impact that any decisions may have upon both the stakeholder and employee engagement agendas has been considered.

#### PRINCIPAL RISKS AND UNCERTAINTIES

The Company's risk management objectives and policies, as well as exposures in relation to the seven key risk types (market, credit, operational, liquidity, reputational, strategic and compliance risks) are described in the notes to the financial statements (see note 29).

---

## MERRILL LYNCH INTERNATIONAL

---

### STRATEGIC REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### RISK GOVERNANCE

The Board ensures suitable risk management and controls through its Committees, the MLI Board Risk Committee ("MLI BRC"), the MLI Audit Committee and the MLI Governance Committee.

The MLI BRC assists the Board in fulfilling its responsibility for reviewing all Company-wide risk-creating activities and to ensure that they are restricted to those activities that can be prudently managed.

The MLI Management Risk Committee ("MLI MRC") reports to the MLI BRC and is responsible for providing management oversight and approval of (or reviewing and recommending to the MLI BRC, the Board or other committees, as appropriate) strategic risk, market risk, credit risk, liquidity risk, operational risk, compliance risk, reputational risk and stress testing activities as well as balance sheet, capital and liquidity management.

The MLI Audit Committee assists the Board in fulfilling its oversight responsibilities relating to the Company's internal financial controls, the preparation and integrity of the Company's financial statements, the Company's relationship with its independent auditor, and the performance and independence of the Company's Internal Audit and Compliance functions.

The MLI Governance Committee assists the Board in fulfilling its oversight of compliance with remuneration policies and regulatory requirements, and nominates candidates to fill Board vacancies for the Board's approval. The MLI Governance Committee acts as the nomination committee and the remuneration committee of the Board.

#### MANAGEMENT OF CLIMATE CHANGE RISK

MLI is enhancing its risk management framework including risk governance, in line with industry standards and regulatory requirements, in order to manage the financial risks arising from climate change. The changes will be proportionate to the nature, scale and complexity of MLI's businesses and over time the framework is expected to mature from a qualitative to a more quantitative basis. MLI currently applies a judgemental approach to the assessment of this type of financial risk. For further information on BAC's Environmental, Social and Governance ("ESG") approach and Environmental and Social Risk Policy ("ESRP") Framework, refer to the section titled "Stakeholder Engagement" in the Directors' report on pages 14 - 15.

#### BUSINESS REVIEW AND FUTURE DEVELOPMENTS

The Company's performance during 2019 reflects global macroeconomic and geopolitical uncertainties.

The activity previously undertaken in the Stockholm branch has been undertaken by an EU affiliate from February 2019. Following the transfer of assets, liabilities and employees in February 2019, the MLI Stockholm branch was closed. The impact of the branch closure was immaterial to the activities and financials of the Company.

In preparation for Brexit, during the year certain clients allowed existing trades to mature in MLI and executed new activity with other EU affiliates. Certain other clients, totalling approximately 1% of MLI's client base, have novated existing positions from the Company to EU affiliates, with a net carrying value on transfer being a net liability representing less than 1% of short inventory.

The directors expect the principal activities of the Company will continue during 2020.

---

**MERRILL LYNCH INTERNATIONAL**

---

**STRATEGIC REPORT (CONTINUED)  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**Divisional performance**

The Company's results are wholly derived from the Global Banking and Markets business which represents a single class of business. Within Global Banking and Markets, three principal business divisions operate within the Company. These three principal business divisions are Fixed Income, Currencies and Commodities ("FICC"), Equities, and Investment Banking ("IBK").

FICC net revenue was down \$491 million on prior year, Equities net revenue was down \$499 million on prior year, and IBK net revenue was down \$30 million on prior year. The lower revenues year on year were driven by the weaker performance in the first half of the year with revenues lower than the first half of 2018. This was driven by a particularly strong first half of 2018 in addition to a fall in client volumes as Brexit uncertainty and lower volatility weighed on the markets with all the major US Banks reporting a reduction in sales and trading revenue year on year ranging from down 5% to down 16%. The revenues reported in the second half of 2019 performed in line with the comparable periods of the past three years.

**Income statement summary**

|                                                                             | <b>2019<br/>\$M</b> | <b>2018<br/>\$M</b> | <b>Change<br/>\$M</b> |
|-----------------------------------------------------------------------------|---------------------|---------------------|-----------------------|
| Interest income                                                             | 1,974               | 1,770               | 204                   |
| Interest expense                                                            | (2,507)             | (2,200)             | (307)                 |
| <b>Net interest expense</b>                                                 | <b>(533)</b>        | <b>(430)</b>        | <b>(103)</b>          |
| Net trading revenues                                                        | 2,374               | 3,401               | (1,027)               |
| Gains from other financial instruments at fair value through profit or loss | 935                 | 545                 | 390                   |
| Other operating income:                                                     |                     |                     |                       |
| Service fee income                                                          | 704                 | 688                 | 16                    |
| Investment and brokerage services                                           | 468                 | 496                 | (28)                  |
| Investment banking income                                                   | 599                 | 629                 | (30)                  |
| Other income                                                                | 67                  | 75                  | (8)                   |
|                                                                             | 1,838               | 1,888               | (50)                  |
| <b>Operating revenues</b>                                                   | <b>5,147</b>        | <b>5,834</b>        | <b>(687)</b>          |
| <b>Net operating revenue</b>                                                | <b>4,614</b>        | <b>5,404</b>        | <b>(790)</b>          |
| Administrative expenses                                                     | (4,423)             | (4,500)             | 77                    |
| <b>Profit before tax</b>                                                    | <b>191</b>          | <b>904</b>          | <b>(713)</b>          |

---

## MERRILL LYNCH INTERNATIONAL

---

### STRATEGIC REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### **Net interest expense**

Interest income and interest expense comprises interest calculated using the effective interest rate method for financial assets measured at amortised cost or fair value through other comprehensive income ("FVOCI"), and for financial liabilities not measured at fair value through profit or loss.

#### **Net trading revenues**

This income reflects the performance of the Company's trading businesses and the risk management, thereof. These businesses largely operate through derivative contracts with corporate or institutional investors. Hedging strategies are employed in a number of ways and can include purchasing or selling stock, bonds, asset-backed securities or corporate debt.

#### **Gains/(losses) from other financial instruments at fair value through profit or loss ("FVPL")**

Gains and losses arising from changes in the fair value of other financial instruments mandatorily or designated at fair value are included in the income statement in the period in which they arise.

#### **Service fee income**

This income is generated through the Company's services to the broader BAC group. Service fee income is computed under arm's length principles in accordance with BAC's Global Transfer Pricing Policy.

#### **Investment and brokerage services**

This income primarily relates to brokerage fees arising from the Company's activities in fulfilling client orders for purchases and sales of global equities and traded bonds on global exchanges.

#### **Investment banking income**

This income reflects the fee income as a result of the Company's various advisory services, which includes mergers and acquisitions advice, IPOs and other corporate transactions.

#### **Other income**

Other income includes items not determined to be part of normal trading activities.

#### **Administrative expenses**

Expenses include compensation costs, direct trading related costs and service fee expenses.

Service fee expenses relate to the purchase of services from other affiliates in the BAC group. The charges are computed under arm's length principles reflecting the economic contribution of the affiliate in accordance with BAC's Global Transfer Pricing Policy

#### **Taxation**

The Company's effective tax rate for the year is negative 25.1% (2018: positive 28.1%) which compares favourably to the statutory rate, driven mainly by recognition of deferred tax on timing differences previously unrecognised. The other factors affecting the tax credit for the year are detailed in note 9.

---

## MERRILL LYNCH INTERNATIONAL

---

### STRATEGIC REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### Capital

The Company makes "Pillar 3" disclosures as required under the Capital Requirements Directive IV ("CRD IV"). Company information is included as part of the Pillar 3 disclosures of MLI made available on the firm's website in accordance with part eight of the European Commission's Capital Requirements Regulation ("CRR"). This can be obtained via <http://investor.bankofamerica.com>.

The Company's capital resources were \$35,015 million as at 31 December 2019 (2018: \$34,980 million).

#### Liquidity

The Company is subject to the Basel III liquidity requirements legislated in the EU by the CRR and CRD IV. The Company must maintain a minimum portfolio of unencumbered High Quality Liquid Assets as defined by the European Commission's Delegated Act on the Liquidity Coverage Ratio ("LCR").

The Company was in excess of its regulatory liquidity requirement in both 2019 and 2018.

#### KEY PERFORMANCE INDICATORS

The results of the Company were as follows:

Profit on ordinary activities before taxation amounted to \$191 million (2018: \$904 million).

Profit for the year after tax ("PAT") amounted to \$239 million (2018: \$650 million).

Net operating revenue for the year amounted to \$4,614 million (2018: \$5,404 million). All three principal business divisions reported lower revenues compared to 2018.

Return on Assets ("RoA") was 0.06% (2018: 0.18%). RoA is calculated as PAT divided by total assets. Return on Equity ("RoE") was 0.7% (2018: 1.8%). RoE is calculated as PAT divided by total equity.

Administrative expenses for the year amounted to \$4,423 million (2018: \$4,500 million). Service fee expenses have reduced from prior year, largely as a result of changes made to the allocation methodology for legal entity shared expenses, which form part of service fee expenses, with a resulting decrease in the allocation compared to the prior year.

Net assets as at 31 December 2019 were \$36,552 million (2018: \$36,906 million). The reduction is due to the dividend of \$650 million (2018: \$650 million) paid in 2019 in respect of the year ended 31 December 2018.

As the Company adopts BAC's global approach to ESG issues, related non-financial key performance indicators are typically measured on a regional or global basis and such specific metrics are considered to be less relevant to reporting at the MLI level.

This report was approved by the Board on 10 March 2020 and signed on its behalf.

**B.A. Mensah**  
Director



---

## MERRILL LYNCH INTERNATIONAL

---

### DIRECTORS' REPORT FOR THE YEAR ENDED 31 DECEMBER 2019

---

The directors present their report and the financial statements for the year ended 31 December 2019.

#### DIRECTORS' RESPONSIBILITIES STATEMENT

The directors are responsible for preparing the Annual Report and the financial statements in accordance with applicable law and regulation.

Company law requires the directors to prepare financial statements for each financial year. Under that law the directors have prepared the financial statements in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 'Reduced Disclosure Framework', and applicable law). Under company law the directors must not approve the financial statements unless they are satisfied that they give a true and fair view of the state of affairs of the Company and of the profit or loss of the Company for that period.

In preparing the financial statements, the directors are required to:

- select suitable accounting policies and then apply them consistently;
- state whether applicable United Kingdom Accounting Standards, comprising FRS 101, have been followed, subject to any material departures disclosed and explained in the financial statements;
- make judgements and accounting estimates that are reasonable and prudent; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the Company will continue in business.

The directors are also responsible for safeguarding the assets of the Company and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The directors are responsible for keeping adequate accounting records that are sufficient to show and explain the Company's transactions, and disclose with reasonable accuracy at any time the financial position of the Company and enable them to ensure that the financial statements comply with the Companies Act 2006.

The directors of the Company who were in office during the year and up to the date of approval of this report, except where noted, were:

J.Y. Bahurel  
S. Schmidt Bies (resigned 1 January 2020)  
M. Butler  
C.A.C. Ighodaro (resigned 14 May 2019)  
R.J. Keys  
B.A. Mensah  
R.P. Thorne  
P.J.P. de Weck  
L.M. White (appointed 10 May 2019)

#### MATTERS COVERED IN THE STRATEGIC REPORT

Details regarding a review of the business, including future developments, existence of branches outside of the UK, and principal risks and uncertainties are provided in the Strategic Report on pages 1 - 8.

---

## MERRILL LYNCH INTERNATIONAL

---

### DIRECTORS' REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### ELECTRONIC DISTRIBUTION

The directors are responsible for ensuring that the Company's financial statements are published on the website of the Company's ultimate parent, BAC. The work carried out by the auditors does not involve consideration of these matters and accordingly, the auditors accept no responsibility for any changes that may have occurred to the financial statements since they were initially published on the website. Legislation in the UK governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

#### DIRECTORS' THIRD PARTY INDEMNITY PROVISIONS

The directors have the benefit of an indemnity which is a qualifying third party indemnity provision as defined by Section 234 of the Companies Act 2006. The indemnity was in force throughout the last financial year and remains in force.

#### STATEMENT ON CORPORATE GOVERNANCE

In accordance with The Companies (Miscellaneous Reporting) Regulations 2018, the Board adopted the FRC Wates Corporate Governance Principles for Large Private Companies ("the Wates principles") on 12 March 2019. In doing so, the Board noted that the principles were largely in line with the Company's existing governance arrangements. The following provides details on how the Board has fulfilled the Wates Principles over the course of the year.

##### Principle One - Purpose and Leadership

As noted in the Strategic Report, the Company is BAC's largest entity outside of the US and helps service the core financial needs of global corporations and institutional investors. The Company's head office is in the UK with branches in Dubai and Qatar; along with a representative office in Zurich. The Company has the ability to conduct business with international clients and trade throughout the European Economic Area.

The Board develops and promotes the purpose of the Company and ensures that its values, strategy and culture are aligned to it. The Board also approves the strategy for the Company on an annual basis. The 2019 MLI Strategy, in keeping with the broad BAC strategy of "Responsible Growth", is developed to take account of the impact of the Company's activities on its clients, employees, regulators and the wider community, and ensures the impact of any decisions take in to account the following:

**Responsible Growth:** Grow and win in the market, within our client focused strategy, within our risk framework and in a sustainable manner.

**Operational Excellence:** Work smarter for our clients and optimise the way we do business.

**Culture:** Make MLI the best place to work: drive diversity, respect, meritocracy, and give back to the communities in which we work.

The Board also formally adopts the BAC Code of Conduct, to which all employees are required to adhere and which defines the culture of the organisation as follows: "Our culture comes from how we run the company every day, by acting responsibly and managing risk well, which includes our commitments to honest and ethical behaviour, acting with integrity, and complying with applicable laws, rules, regulations and policies. We recognise that cultivating a strong culture is an ongoing effort, fostered day after day in both formal and informal ways. Building a unified culture requires thoughtful, purposeful action, and we do this by ensuring all of our employees from different businesses, companies, and countries are aligned to our purpose of making financial lives better...through the power of every connection."

---

## MERRILL LYNCH INTERNATIONAL

---

### DIRECTORS' REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

The Code of Conduct contains detailed requirements to ensure that employees abide by the principles of managing risk well, acting ethically, being fair and honest in communications, safeguarding and not misusing information, protecting the Company's assets, conducting financial affairs responsibly, complying with all applicable laws and regulations, valuing each and every teammate and growing the business responsibly.

See the "Employee Engagement" section for further details of how the Board engages with employees on matters related to the purpose and culture of the Company.

#### **Principle Two - Board Composition**

The Board is comprised of executive, non-executive and independent non-executive directors, who bring solid experience and the ability to challenge and be fully independent of the executive directors. The independent non-executive Chair provides a level of independent oversight to the proper execution of the governance activities of the Company and the Board. As required under relevant regulation, the Chairs of each of the Board committees are independent non-executive directors.

The Chair has responsibility for chairing and overseeing the role of the Board and is responsible for leading the development of and monitoring the effective implementation of policies and procedures for the induction, training and professional development of all members of the Board, for leading the development of the Company's culture by the Board as a whole and is responsible for the Company's performance of its obligations under Fitness and Propriety as required by applicable regulation in respect of its notified non-executive directors.

The CEO has responsibility, under the immediate direction of the Board, for carrying out the management of the conduct of the whole of the business (or relevant activities) of the Company.

MLI is subject to requirements under UK and EU regulation regarding board size and composition and director suitability. The MLI Governance Committee, in consultation with the Company's shareholder, the Company's CEO and Chair, identifies and evaluates individual candidates for their qualifications to become directors and recommends qualified candidates to the Board to fill vacancies as the need arises. Before any appointment is made by the Board, the MLI Governance Committee is evaluating the balance of skills, knowledge, experience and diversity on the Board, and, in light of this evaluation, prepared a description of the role and capabilities required for a particular appointment.

Pursuant to the terms of the charter for the MLI Governance Committee, in identifying suitable candidates the MLI Governance Committee shall consider the overall knowledge, skills, experience and expertise represented on the Board, as well as the qualifications and suitability of each candidate, taking care that appointees have sufficient time available to devote to the position. Furthermore, the MLI Governance Committee considers candidates from a wide range of backgrounds and considers candidates on merit and against objective criteria and with due regard for the benefits of diversity on the Board, including, but not limited to, gender. In addition, pursuant to the terms of its charter, the MLI Governance Committee is responsible for deciding on a target for the representation of the underrepresented gender on the Board and how to meet it (as required).

All Board members, including the non-executive and independent non-executive directors participate in regular training and development activities appropriate to their roles. The effectiveness of the Board is regularly assessed by way of a formal review, and output from such reviews is used to develop actions to further enhance governance processes.

#### **Principle Three - Director Responsibilities**

MLI's directors execute their responsibilities by way of appropriate governance structures including the Board and its Committees, in order to hold management to account.

Examples of key activities performed by the directors through the Board and its Committees include annual review and approval of MLI's strategic plan, in consideration of the capital plan, financial operating plan, liquidity requirements and risk appetite.

---

## MERRILL LYNCH INTERNATIONAL

---

### DIRECTORS' REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

Strategic decisions relating to the Company are presented and discussed at the MLI BRC and the Board. The Board ensures suitable risk management and controls through the MLI BRC, the MLI Audit Committee, the MLI Governance Committee and the MLI MRC, also conducting periodic reviews of risk management strategies to ensure their continuing effectiveness. The "Risk Governance" section of the Strategic Report on page 5 contains further details.

#### **Principle Four - Opportunity and Risk**

The Board is asked to consider and, if it sees fit, adopt the BAC Risk Framework annually, which sets out the responsibility of the Board and its Committees for managing risk across the seven defined risk types: strategic risk, credit risk, market risk, liquidity risk, operational risk, compliance risk and reputational risk. Compliance with the Risk Framework is required to be assessed annually. The Board through the MLI BRC has a risk identification process, which through the application of the Risk Framework, guides the development of the risk appetite for the Company and the setting of risk limits which provide a structure for setting direction for the Company. The Board is responsible for approving the Company's Risk Appetite Statement on an annual basis and monitors compliance with it on an ongoing basis. The Company's Risk Appetite Statement is developed in consideration with the BAC Risk Appetite, BAC Risk Framework and principles of Responsible Growth. This overall Risk Framework enables the Board and its Committees to be able to identify the impact of decision-making on its stakeholders over the longer term.

The main strategic opportunity for MLI is to continue to serve the core financial needs of global corporations and institutional investors and operate to grow and win in the market, with a client focussed strategy, within the Risk Framework and Risk Appetite, and in a sustainable manner, to provide long-term value to stakeholders.

A culture of managing risk well is fundamental to the Company's core values and operating principles. It requires focus on risk in all activities and encourages the necessary mind-set and behaviour to enable effective risk management and promote sound risk-taking within the Company's risk appetite. Sustaining a culture of managing risk well throughout the organisation is critical to the success of the Company and is a clear expectation of the Company's executive management team and Board. For details of the principal risks and uncertainties and how the risk environment is managed, see the Strategic Report and note 29.

#### **Principle Five - Remuneration**

As a wholly-owned subsidiary of BAC, MLI's compensation policies are aligned to BAC's policies, while being fully compliant with EU and UK remuneration regulation. The MLI Governance Committee is charged with oversight of the development of, and implementation of the Company's remuneration policies and practices to support risk management goals and also to encourage alignment with shareholder interests and the achievement of long-term, sustainable results in an appropriate manner.

The cornerstone of BAC's remuneration philosophy across all lines of business is to pay for performance – Company, line of business and individual performance. Through the Company's performance management process, employees understand performance expectations for their role through ongoing dialogue with their manager. The performance management process is designed and monitored by the Leadership Development function in Human Resources. This process is reviewed periodically so that it meets the needs of managers to assess and communicate performance expectations. Throughout the year, employees receive coaching on their performance and ultimately receive a rating for their full year of performance based upon their achievement of goals for their job. Each employee's performance is assessed on quantitative and qualitative objectives as well as specific behaviours, and performance is factored into each employee's incentive remuneration award. Depending on the employee, quantitative performance objectives may be focused on Company-wide, line of business, or product results. Qualitative performance objectives may include quality and sustainability of earnings, successful implementation of strategic initiatives, adoption of risk culture/adherence to risk framework and operating principles and other core values of the Company. The Company does not remunerate or assess employees' performance in a way that encourages employees to act in a manner that conflicts with the duties owed to the Company's clients.

---

## MERRILL LYNCH INTERNATIONAL

---

### DIRECTORS' REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

Refer to the "Employee Engagement" section for further information.

#### **Principle Six - Stakeholder Relationships and Engagement**

MLI considers its key stakeholders to be its clients, shareholders, employees, regulators and the community.

Stakeholders are apprised of Company's position and prospects by structured reporting and communications. These include by way of example: public filings and disclosures (including Pillar 3 information); specific filings to regulators and tax authorities; and internal updates and meetings for employees. The Board is kept apprised of stakeholder communication.

The Board reviews metrics associated with Stakeholder interests including, for example: business results, risk and control metrics, employee engagement, client complaints, and vendor payment performance.

Refer to the "Section 172 (1) Statement" in the Strategic Report on Page 4 and the sections titled "Employee Engagement" and "Stakeholder Engagement" below for further information.

#### **EMPLOYEE ENGAGEMENT**

The employees of the Company are fundamental to its success and the Board is responsible for overseeing meaningful engagement with the workforce. All activities are underpinned by policies with training, monitoring and evaluation processes in place to ensure that roles are fulfilled in an effective and consistent manner and in compliance with all applicable regulatory and legal requirements. In addition, the Board and its Committees have a key role in the oversight of MLI's culture, setting the tone at the top and holding management accountable for maintaining high ethical standards. They do this in a number of ways, including: 1) regularly requesting and receiving quarterly updates from senior management on matters related to how MLI manages conduct risk, such as employee training and issue prevention, detection, escalation, management and reporting; 2) overseeing incentive plan design and governance processes to provide an appropriate balance of risk and compensation outcomes; 3) evaluating performance for executive officers across a range of factors, such as the manner in which results are achieved, accountability in driving a strong risk-management culture; 4) meeting with key managers below the senior-most management level to assess for themselves how conduct and culture expectations are cascaded throughout the organisation; and 5) reviewing on an annual basis the results of the global Employee Engagement Survey that are relevant to MLI, including the Engagement and Diversity & Inclusion indices. In addition, the Board and its Committees are routinely briefed on the metrics, benefits, programmes and policies designed to support the MLI workforce.

The Company is committed to creating an inclusive workplace where everyone has the same opportunities regardless of their gender, gender identity, gender expression, marital status, race, colour, nationality, ethnic or national origins, age, religion, sexual orientation, responsibility for dependants or physical or mental disability. This is reflected in its Human Resources policies, guidelines and procedures. With regard to disabled employees specifically, applications for employment by disabled persons are fully and fairly considered having regard to the aptitudes and abilities of each applicant. Efforts are made to enable any employees who become disabled during employment to continue their careers with the Company. Training, career development and promotion of disabled persons is, as far as possible, identical to that of employees who are not disabled.

The Company has nine employee networks which provide development and networking opportunities for the diverse employee population. MLI has signed up to the HM Treasury Women in Finance Charter, signalling its commitment to increasing the number of women at senior levels, and complies with disclosure requirements under the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017. There are a number of programmes in MLI to support this outcome, including a development programme for all female Vice Presidents. The Governance Committee receives regular information on these programmes and initiatives.

---

## MERRILL LYNCH INTERNATIONAL

---

### DIRECTORS' REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

The Company maintains a mandatory training programme, underpinned by a standard operating procedure and process, which is owned and monitored by the Compliance team. This includes training on, amongst other things, the Company's Code of Conduct, whistleblowing, anti-money laundering, and market abuse. In addition, other training courses are made available to individuals to support applicable development in their individual roles. A further suite of training is provided to managers to ensure they are appropriately trained on how to communicate and have workplace conversations, effective delegation, giving feedback and coaching, promoting teamwork and inclusion and managing risk responsibly.

See also "Principle Five - Remuneration", in the "Statement on Corporate Governance", above.

#### STAKEHOLDER ENGAGEMENT

As set out in "Principle Six – Stakeholder Relationships and Engagement" in the Statement on Corporate Governance, above, the Company considers its key stakeholders to be its clients, shareholders, employees, regulators and the community.

There is regular engagement with clients by executive directors and management, with reporting to the Board on key aspects of client engagement and compliance with regulatory requirements regarding treating customers fairly and other matters. Furthermore, as required under relevant legislation the Company has a client complaints procedure and there is reporting to the Board regarding client complaints. The concerns of the Company's sole shareholder are considered in a variety of ways, including through direct engagement between MLI non-executive directors and both BAC non-executive directors and BAC senior management, as well as by management's engagement with BAC senior management. The Board engages with employees through the employee engagement processes discussed in more detail in the "Employee Engagement" section above. Regulators have regular communication and dialogue with the Board to discuss their views on risks to the Company and the industry. The Board also reviews payment practices reporting and reports on vendor management programmes. The Company's interaction with the community is primarily driven through its broader ESG programmes, which the Board oversees and which are discussed below.

The Company as a wholly-owned subsidiary of BAC, delivers on its purpose to help make financial lives better through the power of every connection through Responsible Growth. An ESG perspective helps define how BAC delivers Responsible Growth and contributes to the work it does to help drive the global economy.

#### Environment

- Investing in the transition to a low carbon economy
- Financing sustainable projects, energy efficiency, greenhouse gas emissions
- Reducing our environmental footprint

#### Social

- Advancing economic mobility and social progress
- Offering responsible products and services
- Creating a supportive and inclusive workplace

#### Governance

- Holding ourselves accountable
- Managing risk well
- Providing transparency

The ESG leadership enables the Company to pursue growing business opportunities and manage risks associated with addressing the world's biggest environmental and social challenges. It defines how the Company deploys its capital and resources, informs its business practices, and helps determine how and when the Company uses its voice in support of its values. Integrated across the Company's lines of business, the ESG focus reflects how the Company is held accountable and is allowed to create shared success with its clients and communities.

---

## MERRILL LYNCH INTERNATIONAL

---

### DIRECTORS' REPORT (CONTINUED) FOR THE YEAR ENDED 31 DECEMBER 2019

---

ESG underscores how the Company seeks growth within its Risk Framework, including how it engages external stakeholders and provides strong oversight of environmental and social risks that present themselves through its business activities. This includes the responsible products and services delivered to clients; how business opportunities are evaluated; and how the Company helps enable social progress and economic mobility in local communities around the world. Ultimately, through the Company's commitment to ESG principles it builds trust and credibility as a company people want to work for, invest in, and do business with.

BAC have established an Environmental and Social Risk Policy ("ESRP") Framework to provide additional clarity and transparency around how it approaches environmental and social risks, which touch almost every aspect of its business. Like all risks, environmental and social risks require coordinated governance, clearly defined roles and responsibilities, and well-developed processes to ensure they are identified, measured, monitored and managed appropriately and in a timely manner.

This ESRP Framework is aligned with the Enterprise Risk Framework, which outlines BAC's approach to risk management and each employee's responsibilities for risk management.

The Company takes a proactive approach to identifying and managing risks, which includes an ongoing and rigorous process for identifying the issues that are most material to the Company. This process includes formal and informal engagement with both internal and external stakeholders, including clients, shareholders, socially responsible investment firms, and experts from community development and environmental organisations. The importance of risk issues is weighed up in relation to the Company's stakeholders and to its business success.

A key aspect of the Company's strategy is active and extensive engagement with its clients. This engagement allows the Company to deepen its collective understanding of issues, learn and share perspectives, and, often, create connections between stakeholders with differing views.

The BAC ESRP Framework, reporting of the ESG metrics aligned with external frameworks and the ESG performance data summary can be found online at: [about.bankofamerica.com](http://about.bankofamerica.com).

#### DISCLOSURE OF INFORMATION TO AUDITORS

Each of the persons who are directors at the time when this Directors' Report is approved has confirmed that:

- so far as the director is aware, there is no relevant audit information of which the Company's auditors are unaware, and
- the director has taken all the steps that ought to have been taken as a director in order to be aware of any relevant audit information and to establish that the Company's auditors are aware of that information.

#### EVENTS AFTER THE END OF THE REPORTING PERIOD

Except for the proposed dividend noted on the following page, there have been no significant events affecting the Company since the year end which would have impacted the financial positions of the Company if retrospectively applied.

---

**MERRILL LYNCH INTERNATIONAL**

---

**DIRECTORS' REPORT (CONTINUED)  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**DIVIDEND**

In 2019 a dividend of \$650 million (2018: \$650 million) was paid in respect of the year ended 31 December 2018. The directors recommend the payment of a dividend for the year ended 31 December 2019 of \$191 million (\$0.02 per share).

This report was approved by the Board on 10 March 2020 and signed on its behalf.

A handwritten signature in black ink, appearing to read 'B.A. Mensah', with a stylized flourish at the end.

**B.A. Mensah**  
Director

---

## MERRILL LYNCH INTERNATIONAL

---

### INDEPENDENT AUDITORS' REPORT TO THE MEMBER OF MERRILL LYNCH INTERNATIONAL

---

#### Report on the audit of the financial statements

##### Opinion

In our opinion, Merrill Lynch International's financial statements:

- give a true and fair view of the state of the Company's affairs as at 31 December 2019 and of its profit for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice (United Kingdom Accounting Standards, comprising FRS 101 "Reduced Disclosure Framework", and applicable law); and
- have been prepared in accordance with the requirements of the Companies Act 2006.

We have audited the financial statements, included within the Annual Report and Financial Statements (the "Annual Report"), which comprise: the statement of financial position as at 31 December 2019; the income statement, the statement of comprehensive income, the statement of changes in equity for the year then ended; and the notes to the financial statements, which include a description of the significant accounting policies.

##### Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (UK) ("ISAs (UK)") and applicable law. Our responsibilities under ISAs (UK) are further described in the Auditors' responsibilities for the audit of the financial statements section of our report. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

##### Independence

We remained independent of the Company in accordance with the ethical requirements that are relevant to our audit of the financial statements in the UK, which includes the FRC's Ethical Standard, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

##### Conclusions relating to going concern

ISAs (UK) require us to report to you when:

- the directors' use of the going concern basis of accounting in the preparation of the financial statements is not appropriate; or
- the directors have not disclosed in the financial statements any identified material uncertainties that may cast significant doubt about the Company's ability to continue to adopt the going concern basis of accounting for a period of at least twelve months from the date when the financial statements are authorised for issue.

We have nothing to report in respect of the above matters.

However, because not all future events or conditions can be predicted, this statement is not a guarantee as to the Company's ability to continue as a going concern. For example, the terms on which the United Kingdom may withdraw from the European Union are not clear, and it is difficult to evaluate all of the potential implications on the Company's trade, customers, suppliers and the wider economy.

##### Reporting on other information

The other information comprises all of the information in the Annual Report other than the financial statements and our auditors' report thereon. The directors are responsible for the other information. Our opinion on the financial statements does not cover the other information and, accordingly, we do not express an audit opinion

---

## MERRILL LYNCH INTERNATIONAL

---

### INDEPENDENT AUDITORS' REPORT TO THE MEMBER OF MERRILL LYNCH INTERNATIONAL

---

or, except to the extent otherwise explicitly stated in this report, any form of assurance thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If we identify an apparent material inconsistency or material misstatement, we are required to perform procedures to conclude whether there is a material misstatement of the financial statements or a material misstatement of the other information. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report based on these responsibilities.

With respect to the Strategic Report and Directors' Report, we also considered whether the disclosures required by the UK Companies Act 2006 have been included.

Based on the responsibilities described above and our work undertaken in the course of the audit, ISAs (UK) require us also to report certain opinions and matters as described below.

#### **Strategic Report and Directors' Report**

In our opinion, based on the work undertaken in the course of the audit, the information given in the Strategic Report and Directors' Report for the year ended 31 December 2019 is consistent with the financial statements and has been prepared in accordance with applicable legal requirements.

In light of the knowledge and understanding of the Company and its environment obtained in the course of the audit, we did not identify any material misstatements in the Strategic Report and Directors' Report.

#### **Responsibilities for the financial statements and the audit**

##### *Responsibilities of the directors for the financial statements*

As explained more fully in the Directors' Responsibilities Statement set out on page 9, the directors are responsible for the preparation of the financial statements in accordance with the applicable framework and for being satisfied that they give a true and fair view. The directors are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the directors are responsible for assessing the Company's ability to continue as a going concern, disclosing as applicable, matters related to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Company or to cease operations, or have no realistic alternative but to do so.

##### *Auditor's responsibilities for the audit of the financial statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

A further description of our responsibilities for the audit of the financial statements is located on the FRC's website at: [www.frc.org.uk/auditorsresponsibilities](http://www.frc.org.uk/auditorsresponsibilities). This description forms part of our auditors' report.

---

## MERRILL LYNCH INTERNATIONAL

---

### INDEPENDENT AUDITORS' REPORT TO THE MEMBER OF MERRILL LYNCH INTERNATIONAL

---

#### Use of this report

This report, including the opinions, has been prepared for and only for the Company's member in accordance with Chapter 3 of Part 16 of the Companies Act 2006 and for no other purpose. We do not, in giving these opinions, accept or assume responsibility for any other purpose or to any other person to whom this report is shown or into whose hands it may come save where expressly agreed by our prior consent in writing.

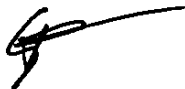
#### Other required reporting

##### Companies Act 2006 exception reporting

Under the Companies Act 2006 we are required to report to you if, in our opinion:

- we have not received all the information and explanations we require for our audit; or
- adequate accounting records have not been kept by the Company, or returns adequate for our audit have not been received from branches not visited by us; or
- certain disclosures of directors' remuneration specified by law are not made; or
- the financial statements are not in agreement with the accounting records and returns.

We have no exceptions to report arising from this responsibility.



Simon Hunt (Senior Statutory Auditor)

for and on behalf of

**PricewaterhouseCoopers LLP**

Chartered Accountants and Statutory Auditors

7 More London Riverside

London

SE1 2RT

10 March 2020

---

**MERRILL LYNCH INTERNATIONAL**

---

**INCOME STATEMENT  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

|                                                                               | Note | 2019<br>\$M  | As restated<br>2018<br>\$M |
|-------------------------------------------------------------------------------|------|--------------|----------------------------|
| Interest income                                                               | 3    | 1,974        | 1,770                      |
| Interest expense                                                              | 3    | (2,507)      | (2,200)                    |
| <b>Net interest expense</b>                                                   |      | <b>(533)</b> | <b>(430)</b>               |
| Net trading revenues *                                                        |      | 2,374        | 3,401                      |
| Gains from other financial instruments at fair value through profit or loss * |      | 935          | 545                        |
| Other operating revenues *                                                    | 4    | 1,838        | 1,888                      |
| <b>Net operating revenue</b>                                                  |      | <b>4,614</b> | <b>5,404</b>               |
| Administrative expenses                                                       | 5    | (4,423)      | (4,500)                    |
| <b>Total operating profit</b>                                                 |      | <b>191</b>   | <b>904</b>                 |
| <b>Profit before tax</b>                                                      |      | <b>191</b>   | <b>904</b>                 |
| Tax on profit                                                                 | 9    | 48           | (254)                      |
| <b>Profit for the financial year</b>                                          |      | <b>239</b>   | <b>650</b>                 |

The notes on pages 25 to 106 form part of these financial statements.

\* Prior period restated - For more information refer to note 1.1.

---

**MERRILL LYNCH INTERNATIONAL**

---

**STATEMENT OF COMPREHENSIVE INCOME  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

|                                                                                                              |    | <b>2019<br/>\$M</b> | <b>2018<br/>\$M</b> |
|--------------------------------------------------------------------------------------------------------------|----|---------------------|---------------------|
| Profit for the financial year                                                                                |    | <u>239</u>          | <u>650</u>          |
| <b>Other comprehensive (expense)/income:</b>                                                                 |    |                     |                     |
| <b>Items that may be subsequently reclassified to profit or loss:</b>                                        |    |                     |                     |
| Movement in fair value of debt securities at FVOCI                                                           |    | <u>(5)</u>          | <u>(1)</u>          |
|                                                                                                              |    | (5)                 | (1)                 |
| <b>Items that will not be reclassified to profit or loss:</b>                                                |    |                     |                     |
| Gains/(losses) related to defined benefit plan assets and actuarial valuation of defined benefit obligations | 11 | 66                  | (285)               |
| Movement in deferred tax relating to pension                                                                 | 18 | <u>(16)</u>         | <u>72</u>           |
|                                                                                                              |    | 50                  | (213)               |
| <b>Other comprehensive profit/(loss) for the year, net of tax</b>                                            |    | <u>45</u>           | <u>(214)</u>        |
| <b>Total comprehensive income for the year</b>                                                               |    | <u><u>284</u></u>   | <u><u>436</u></u>   |

The notes on pages 25 to 106 form part of these financial statements.

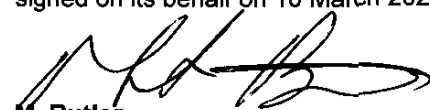
**MERRILL LYNCH INTERNATIONAL**  
**REGISTERED NUMBER: 2312079**

**STATEMENT OF FINANCIAL POSITION**  
**AS AT 31 DECEMBER 2019**

|                                                             | Note   | 2019<br>\$M          | 2018<br>\$M          |
|-------------------------------------------------------------|--------|----------------------|----------------------|
| <b>Non current assets</b>                                   |        |                      |                      |
| Pension                                                     | 11     | 324                  | 242                  |
| Investments                                                 | 13     | 238                  | 144                  |
|                                                             |        | <u>562</u>           | <u>386</u>           |
| <b>Current assets</b>                                       |        |                      |                      |
| Long inventory positions                                    | 15     | 204,831              | 194,563              |
| Debt securities at FVOCI                                    |        | 3,612                | 2,790                |
| Resale agreements and securities borrowed transactions *    | 16     | 106,939              | 103,299              |
| Debtors *                                                   | 17     | 60,317               | 56,737               |
| Cash at bank and in hand                                    |        | 5,500                | 13,231               |
|                                                             |        | <u>381,199</u>       | <u>370,620</u>       |
| <b>Creditors: Amounts falling due within one year</b>       |        |                      |                      |
| Bank loans and overdrafts                                   |        | 1,000                | 631                  |
| Short inventory positions                                   | 19     | 176,295              | 176,521              |
| Repurchase agreements and securities loaned transactions *  | 20     | 87,399               | 84,970               |
| Creditors *                                                 | 21     | 67,853               | 67,584               |
| <b>Net current assets</b>                                   |        | <u>48,652</u>        | <u>40,914</u>        |
| <b>Total assets less current liabilities</b>                |        | <u>49,214</u>        | <u>41,300</u>        |
| <br>Creditors: Amounts falling due after more than one year | <br>22 | <br><u>12,662</u>    | <br><u>4,394</u>     |
| <b>Net assets</b>                                           |        | <u><u>36,552</u></u> | <u><u>36,906</u></u> |
| <b>Capital and reserves</b>                                 |        |                      |                      |
| Called up share capital                                     | 23     | 7,933                | 7,933                |
| Share premium account                                       |        | 4,499                | 4,499                |
| Other reserves                                              | 24     | 9,187                | 9,192                |
| Profit and loss account                                     | 24     | 14,933               | 15,282               |
|                                                             |        | <u><u>36,552</u></u> | <u><u>36,906</u></u> |

\* These balances have been re-presented. Refer to notes 16, 17, 20 and 21.

The financial statements on pages 20 to 106 were approved and authorised for issue by the Board and were signed on its behalf on 10 March 2020.

  
**M. Butler**  
 Director

---

**MERRILL LYNCH INTERNATIONAL**

---

**STATEMENT OF CHANGES IN EQUITY  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

|                                                                                                                                 | <b>Called up<br/>share<br/>capital</b> | <b>Share<br/>premium<br/>account</b> | <b>Other<br/>reserves</b> | <b>Profit and<br/>loss<br/>account</b> | <b>Total<br/>equity</b> |
|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------|---------------------------|----------------------------------------|-------------------------|
|                                                                                                                                 | <b>\$M</b>                             | <b>\$M</b>                           | <b>\$M</b>                | <b>\$M</b>                             | <b>\$M</b>              |
| At 1 January 2019                                                                                                               | <u>7,933</u>                           | <u>4,499</u>                         | <u>9,192</u>              | <u>15,282</u>                          | <u>36,906</u>           |
| Profit for the year                                                                                                             | -                                      | -                                    | -                         | 239                                    | 239                     |
| Gains related to defined benefit plan<br>assets and actuarial valuation of defined<br>benefit obligations (net of deferred tax) | -                                      | -                                    | -                         | 50                                     | 50                      |
| Movement in fair value of debt securities at<br>FVOCI                                                                           | -                                      | -                                    | (5)                       | -                                      | (5)                     |
| Dividends paid                                                                                                                  | -                                      | -                                    | -                         | (650)                                  | (650)                   |
| Group share based payment costs                                                                                                 | -                                      | -                                    | -                         | 188                                    | 188                     |
| Group share based payment costs<br>recharged                                                                                    | -                                      | -                                    | -                         | (176)                                  | (176)                   |
| <b>At 31 December 2019</b>                                                                                                      | <u><b>7,933</b></u>                    | <u><b>4,499</b></u>                  | <u><b>9,187</b></u>       | <u><b>14,933</b></u>                   | <u><b>36,552</b></u>    |

The notes on pages 25 to 106 form part of these financial statements. For further details see notes 11, 12, 23, and 24.

---

**MERRILL LYNCH INTERNATIONAL**

---

**STATEMENT OF CHANGES IN EQUITY  
FOR THE YEAR ENDED 31 DECEMBER 2018**

---

|                                                                                                                                     | Called up<br>share capital | Share<br>premium<br>account | Other<br>reserves | Profit and<br>loss account | Total equity |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------------------|-------------------|----------------------------|--------------|
|                                                                                                                                     | \$M                        | \$M                         | \$M               | \$M                        | \$M          |
| At 31 December 2017                                                                                                                 | 7,933                      | 4,499                       | 9,193             | 15,386                     | 37,011       |
| Impact on adoption of IFRS 9                                                                                                        | -                          | -                           | -                 | 107                        | 107          |
| At 1 January 2018                                                                                                                   | 7,933                      | 4,499                       | 9,193             | 15,493                     | 37,118       |
| Profit for the year                                                                                                                 | -                          | -                           | -                 | 650                        | 650          |
| Losses related to defined benefit<br>plan assets and actuarial valuation<br>of defined benefit obligations (net of<br>deferred tax) | -                          | -                           | -                 | (213)                      | (213)        |
| Movement in fair value of debt<br>securities at FVOCI                                                                               | -                          | -                           | (1)               | -                          | (1)          |
| Dividends paid                                                                                                                      | -                          | -                           | -                 | (650)                      | (650)        |
| Group share based payment costs *                                                                                                   | -                          | -                           | -                 | 169                        | 169          |
| Group share based payment costs<br>recharged *                                                                                      | -                          | -                           | -                 | (167)                      | (167)        |
| At 31 December 2018                                                                                                                 | 7,933                      | 4,499                       | 9,192             | 15,282                     | 36,906       |

The notes on pages 25 to 106 form part of these financial statements.

\* Restated - For more information refer to note 1.1.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES

The principal accounting policies, which have been applied consistently throughout the current and prior year, except where noted, are set out below.

##### 1.1 BASIS OF PREPARATION OF FINANCIAL STATEMENTS

The financial statements have been prepared in accordance with the Companies Act 2006, Financial Reporting Standard 100 ("FRS 100") - Application of Financial Reporting Requirements and Financial Reporting Standard 101 ("FRS 101") - Reduced Disclosure Framework.

FRS 100 and FRS 101 set out the disclosure exemptions for the individual financial statements of entities that otherwise apply the recognition, measurement and disclosure requirements of International Financial Reporting Standards that have been adopted in the EU ("EU-adopted IFRS"). References to accounting standards in these financial statements will accordingly relate to applicable International Financial Reporting Standards ("IFRS") and International Accounting Standards ("IAS").

The financial statements have been prepared under the historical cost convention, as modified to include certain assets and liabilities at fair value. The Company does not maintain historical cost information on items at fair value as this is not relevant to the operation of the business.

The preparation of financial statements in conformity with FRS 101 requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in applying the Company's accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions and estimates are significant to the financial statements are disclosed in note 2.

##### *Restatement of 2018 revenues for non-market making derivatives*

Revenue generated on non-market making derivatives used for risk management purposes have been presented as part of net trading revenues. This is a change in presentation to align the presentation with the homogenous balance sheet treatment of the derivative portfolio as well as the reporting presentation of the wider Group. Prior year balances have been restated in accordance with IAS 8 - Accounting Policies, Changes in Estimates and Errors to ensure presentation is on a comparable basis. The restatement impacted the following categories within Operating Revenues:

- Net trading revenues increased by \$347 million (2018: \$480 million)
- Gains from other financial instruments at FVPL has decreased by \$450 million (2018: \$427 million)
- Other income has increased by \$103 million (2018: decrease of \$53 million)

##### *Restatement of 2018 group share based payment costs not recharged*

Group share based payment cost not recharged has now been presented gross in the statement of changes in equity. It was previously presented net of group share based payment costs and group share based payment costs not recharged in error. Prior year balances have been restated in accordance with IAS 8 - Accounting Policies, Changes in Estimates and Errors to ensure presentation is on a comparable basis.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.2 NEW AND AMENDED STANDARDS ADOPTED BY THE COMPANY

There are no standards, amendments or interpretations that are effective for the first time for the financial year beginning 1 January 2019 that have had a material impact on the Company.

##### 1.3 FRS 101 - REDUCED DISCLOSURE EXEMPTIONS

The Company has taken advantage of the following disclosure exemptions under FRS 101:

- the requirements of paragraphs 45(b) and 46-52 of IFRS 2 Share based payment
- the requirements of paragraphs 40 (A-D) of IAS 1 Presentation of Financial Statements to disclose a third balance sheet on retrospective accounting policy changes, restatements, or reclassifications
- the requirements of IAS 7 Statement of Cash Flows
- the requirements of paragraphs 30 and 31 of IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors
- the requirements in IAS 24 Related Party Disclosures to disclose related party transactions entered into between two or more members of a group, provided that any subsidiary which is a party to the transaction is wholly owned by such a member

##### 1.4 GOING CONCERN

The directors have a reasonable expectation, based on current and anticipated future performance, that the Company will continue in operational existence for the foreseeable future. The financial statements of the Company have, therefore, been prepared on a going concern basis.

##### 1.5 INCORPORATION AND DOMICILE INFORMATION

The Company is a private unlimited company incorporated and domiciled in England and Wales, with branches in Dubai and Qatar along with a representative office in Zurich.

##### 1.6 CONSOLIDATED FINANCIAL STATEMENTS

The Company has taken advantage of the exemption in Section 401 of the Companies Act 2006 from the obligation to prepare and deliver consolidated financial statements as the Company is a wholly owned subsidiary of BAC, which prepares consolidated financial statements that include the Company. Accordingly, these financial statements present information about the Company as an individual undertaking and not about its group.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**1. ACCOUNTING POLICIES (continued)**

**1.7 FOREIGN CURRENCIES**

The financial statements have been presented in US dollars, which is also the functional currency of the Company.

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions.

Monetary assets and liabilities denominated in foreign currencies are subsequently re-translated into the functional currency using the exchange rates prevailing at the reporting date. Exchange gains and losses on monetary assets and liabilities are recognised in the income statement.

Treatment of changes in the fair value of monetary securities denominated in foreign currency classified as FVOCI, is dependent on the nature of the underlying change:

- Exchange gains and losses related to changes in amortised cost are recognised in the income statement
- Other changes in carrying amount are recognised in OCI.

Non-monetary assets and liabilities in a foreign currency that are not measured at fair value are not subsequently re-translated for movements in prevailing exchange rates.

Exchange gains and losses on non-monetary financial assets and liabilities held at FVPL are recognised in the income statement as part of the fair value gain or loss.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.8 INTEREST INCOME AND EXPENSE

###### *Amortised cost and effective interest rate*

The amortised cost of a financial asset or financial liability is the amount at which the financial asset or financial liability is measured on initial recognition less the principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount and, for financial assets, adjusted for any expected credit loss allowance.

The effective interest rate is the rate that exactly discounts estimated future cash receipts or payments through the expected life of the financial asset or financial liability to the gross carrying amount of a financial asset (that is to say, the amortised cost before any impairment allowance) or to the amortised cost of a financial liability.

When calculating the effective interest rate for financial instruments other than credit-impaired assets, the Company estimates cash flows considering all contractual terms of the financial instrument, but does not consider expected credit losses. For financial assets that are credit-impaired at initial recognition, a credit-adjusted effective interest rate is calculated using estimated future cash flows including expected credit losses.

The calculation of the effective interest rate includes all amounts received or paid by the Company that are an integral part of the overall return, direct incremental transaction costs related to the acquisition or issue of a financial instrument and all other premiums and discounts.

###### *Calculation of interest income and expense*

Interest income and expense for all financial instruments measured at amortised cost are recognised on an accruals basis using the effective interest method. Interest income on interest bearing financial assets measured at FVOCI under IFRS 9 is also recorded using the effective interest rate method.

The effective interest rate is applied to the gross carrying amount of the financial asset (for non-credit impaired assets) or to the amortised cost of the liability.

For financial assets that have become credit-impaired subsequent to initial recognition, the effective interest rate is applied to the amortised cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

For financial assets that were credit-impaired on initial recognition, the credit-adjusted effective interest rate is applied to the amortised cost of the financial asset. The calculation of interest income does not revert to a gross basis, even if the credit risk of the asset improves.

Interest income and expense on all trading assets and liabilities, and other financial instruments measured at FVPL, are recognised using the contractual interest rate in net trading revenues and net gains/(losses) on other financial instruments at FVPL, respectively.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

1. ACCOUNTING POLICIES (continued)

1.9 OPERATING REVENUES

The Company has disclosed operating revenues instead of turnover as this more accurately reflects the results and nature of the Company's activities.

*Net trading revenues*

Trading revenue comprises realised and unrealised gains and losses on trading, including dividend income on cash equities, and gains and losses on derivatives held for the purpose of hedging foreign currency exposure. Unrealised gains, which represent changes in fair value of inventories, are recognised within trading revenue as they arise.

*Gains and losses from other financial instruments at FVPL*

Gains and losses arising from changes in the fair value of other financial instruments mandatorily or designated at fair value are included in the income statement in the period in which they arise.

Other operating revenues include:

*Service fee income*

Charges made to affiliated companies to remunerate the Company for services provided or to reimburse the Company for expenditure incurred, are recognised on an accruals basis.

*Investment and brokerage services*

Profit earned on fulfilling customer orders is recognised on an accruals basis. Commission revenue earned from certain customer equity transactions is recorded net of related brokerage, clearing and exchange fees.

*Investment banking income*

Investment banking income includes underwriting, financial advisory services, and syndication fee income. The Company accounts for revenues from contracts with customers under IFRS 15. As such, revenues from these services are recognised when the performance obligations related to the underlying transactions are completed, as detailed below.

- Underwriting income consists of fees earned for the placement of a customer's debt or equity securities. The revenue is generally earned based on a percentage of the fixed number of shares or principal placed. Once the number of shares or notes is determined and the service is completed, the underwriting fees are recognised.

- Financial advisory services income consist of fees earned for assisting customers with transactions related to mergers and acquisitions and financial restructurings. Revenue varies depending on the size and number of services performed for each contract and is generally contingent on successful execution of the transaction. Revenue is typically recognised once the transaction is completed and all services have been rendered. Additionally, the Company may earn a fixed fee in merger and acquisition transactions to provide a fairness opinion, with the fees recognised when the opinion is delivered to the customer.

- Syndication fee income represent fees earned as the agent responsible for structuring, arranging and administering a loan syndication. Revenue is typically recognised once the transaction is completed and all services have been rendered.

*Other income*

Other income includes items not determined to be part of normal trading activities.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.10 RETIREMENT BENEFIT SCHEMES

The Company participates in defined benefit and defined contribution pension schemes in the UK.

For the defined benefit scheme, the Company recognises a net asset or liability, being the difference between the present value of the defined benefit obligation at the end of the reporting period and the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality UK corporate bonds that have terms to maturity approximating to the terms of the related pension obligation.

Remeasurement gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to shareholders' funds in OCI in the period in which they arise.

The income statement includes interest charged or credited on the defined benefit assets and liabilities, the impact of foreign currency revaluation and service costs.

The Company also operates defined contribution plans which receive contributions calculated as a percentage of each employee's plan salary based on their length of service. The Company's legal or constructive obligation for these plans is limited to the contributions. The contributions are recognised as staff costs when they are due.

##### 1.11 INVESTMENTS

###### Investments in subsidiary companies

A subsidiary is defined as an entity that is controlled by another entity. An investor controls an investee when it is exposed or has rights to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Where the Company holds equity or equity-like instruments in a subsidiary, the balance is held within investments in subsidiaries. Investments in subsidiaries are held at cost less provision for impairment. Other non-equity holdings in special purpose entities are recognised at fair value within long trading inventory.

At each reporting date, the Company reviews the carrying amounts of its investments in subsidiary companies to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. The recoverable amount is the higher of the fair value less costs to sell and the value in use. In the event of impairment, the carrying amount of the asset is reduced accordingly and the amount of the loss recognised in the income statement.

###### Other investments

Other investments represent investments in unlisted equity investments which are mandatorily classified at FVPL in accordance with IFRS 9. Profit or loss on disposal of investments and dividends received from investments are disclosed in the income statement within gains/losses from other financial instruments at FVPL.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.12 FINANCIAL ASSETS

The Company recognises financial assets in the statement of financial position when it becomes a party to the contractual provisions of the instrument. Management determines the classification of the Company's financial assets at initial recognition. The Company classifies its financial assets as measured at: amortised cost, FVOCI or FVPL.

A financial asset is classified as measured at amortised cost if it meets both of the following conditions and is not designated as at FVPL:

1. The asset is held within a business model whose objective is to hold assets to collect contractual cash flows; and,
2. The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

A debt instrument is classified as measured at FVOCI only if it meets both of the following conditions and is not designated as at FVPL:

1. The asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets; and,
2. The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

The Company's cash and debtors, securities borrowed for cash, and reverse repurchase agreements that are not considered to be managed on a fair value basis, meet the requirements to be measured at amortised cost. In addition, investments in debt securities held to meet everyday and regulatory liquidity requirements meet the requirements to be measured at FVOCI.

All other financial assets, including long inventory positions, are classified as measured at FVPL. The Company has not elected to present changes in the fair value of non-trading equity investments in OCI.

In addition, on initial recognition, the Company may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortised cost or at FVOCI as at FVPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

Financial assets are not reclassified subsequent to their initial recognition, except in the period after the Company changes its business model for managing those financial assets.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.13 FINANCIAL LIABILITIES

The Company recognises financial liabilities in the statement of financial position when it becomes a party to the contractual provisions of the instrument. The Company classifies its financial liabilities in the following categories: amortised cost or FVPL.

A financial liability is classified at FVPL when it is held for trading. A liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term or if it is part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit-taking.

Financial liabilities are designated at FVPL to significantly reduce measurement inconsistencies that would arise if related instruments were treated as held for trading and the underlying financial liabilities were carried at amortised cost, or when doing so is consistent with the Company's risk management strategy.

Short inventory positions, including derivative liabilities held for trading or held for risk management purposes, are measured at fair value through profit or loss. Structured debt and similar instruments that do not meet the definition of a derivative are presented as creditors and are designated as at FVPL. Repurchase agreements and securities loaned transactions are either designated at FVPL or held at amortised cost. All remaining financial liabilities including customer payables, amounts owed to brokers, dealers and clearing houses and other creditors are held at amortised cost.

When the Company designates a financial liability as at FVPL, the amount of change in the fair value of the liability that is attributable to changes in its credit risk is presented in OCI as a debit valuation adjustments reserve. However, if on initial recognition of the financial liability the Company assesses that presentation in OCI would create, or enlarge, an accounting mismatch, then the gains and losses attributable to changes in the credit risk of the liability are also presented in profit or loss. Amounts presented in the debit valuation adjustments reserve are not subsequently transferred to profit or loss. When these instruments are derecognised, the related cumulative amount in the reserve is transferred to retained earnings.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.14 IMPAIRMENT

The Company calculates a probability-weighted loss allowance for Expected Credit Loss ("ECL") on its financial assets that are debt instruments, financial guarantees, and commitments that are not measured at FVPL. The Company's credit exposures under these instruments are typically significantly less than 12 months in duration or otherwise are generally assessed as having no significant increase in credit risk since initial recognition. As a result, ECL is calculated on a 12 month basis. In the event that significant financial difficulty or default of a counterparty indicates that an asset is credit-impaired, the ECL allowance is assessed on a lifetime basis, taking into account ECL that result from all possible default events over the expected life of the financial instrument.

Debtor balances are written off, either partially or in full, when there is no realistic prospect of recovery. This is generally the case when the Company determines that the borrower does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company's procedures for recovery of amounts due.

##### 1.15 RECOGNITION OF DAY ONE PROFIT OR LOSS

Evidence of the fair value of a financial instrument at initial recognition is the transaction price (i.e. the fair value of the consideration given or received), unless the fair value of that instrument is evidenced by comparison with other observable current market transactions in the same instrument (i.e. without modification or repackaging), or is based on a valuation technique whose variables include only data from observable markets.

The Company has entered into transactions where fair value is determined using valuation models for which not all inputs are market observable prices or rates. The difference between the transaction price and the model valuation, commonly referred to as "day one profit or loss", is not recognised immediately in the income statement.

The timing of recognition of deferred day one profit or loss is determined individually and is either deferred until the instrument's fair value can be determined using market observable inputs or realised through disposal or settlement. Day one profit or loss is deferred on instruments classified as level 3 within the hierarchy defined in IFRS 13 - Fair Value Measurement (see note 31), and a minimum threshold is applied per trade which on an aggregate basis is immaterial to the Company.

The financial instrument is subsequently measured at fair value. Subsequent changes in fair value are recognised immediately in the income statement.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.16 DIVIDEND DISTRIBUTION

Dividend distributions to the Company's shareholder are recognised as a liability in the Company's financial statements in the period in which the dividends are approved by the Company's shareholder.

##### 1.17 PHYSICAL COMMODITIES

Physical commodity inventories are held at fair value less costs to sell with changes in value recognised as net trading revenue as they arise.

##### 1.18 CURRENT AND DEFERRED TAXATION

The tax expense for the period comprises current and deferred tax. Tax is recognised in the income statement, except to the extent that it relates to items recognised in OCI or directly in shareholders' funds. In this case, the tax is also recognised in OCI or directly in shareholders' funds, respectively.

Current tax, including UK corporation tax and foreign taxes, is provided for at amounts expected to be paid or recovered using the tax rates and laws that have been enacted or substantively enacted by the reporting date.

Deferred tax is recognised on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. Deferred tax is determined using tax rates and laws that have been enacted or substantively enacted by the reporting date and is measured at the average tax rates that are expected to apply when the related deferred income tax asset is realised or the deferred tax liability is settled.

Deferred tax assets are recognised only to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised over the Company's planning horizon.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.19 SECURITIES FINANCING TRANSACTIONS

The Company enters into resale and repurchase agreements and securities borrowed and loaned transactions to accommodate customers and earn interest rate spreads (also referred to as "matched-book transactions"), to obtain securities for settlement and to finance inventory positions.

Resale and repurchase agreements are accounted for as secured financing transactions. Resale agreements are recorded at amortised cost, being their contractual amounts plus accrued interest, or mandatorily at FVPL, as a result of the business model assessment under IFRS 9. Repurchase agreements are recorded at amortised cost or at fair value under the fair value option election. Resale and repurchase agreements recorded at fair value are generally valued based on pricing models that use inputs with observable levels of price transparency.

Contractual interest coupon on resale and repurchase agreements at amortised cost are recorded as interest income or interest expense, as appropriate. Where resale and repurchase agreements are recorded at FVPL, interest is included with changes in the fair value of resale and repurchase agreements and presented in gains or losses from other financial instruments at FVPL.

Securities borrowed transactions require the Company to provide the counterparty with collateral in the form of cash, letters of credit, or other securities. The Company receives collateral in the form of cash or other securities for securities loaned transactions. Securities borrowed transactions are recorded at amortised cost, being the amount of cash collateral advanced. Securities loaned transactions are recorded at amortised cost or at fair value under the fair value option election. Where transactions are at FVPL, the fees paid or received by the Company are included with changes in the fair value and presented in gains or losses from other financial instruments at FVPL. For all other securities loaned transactions, the fees paid or received by the Company are recorded as interest income or expense.

The Company's policy is to obtain possession of collateral with a market value equal to or in excess of the principal amount loaned under the agreements. To ensure that the market value of the underlying collateral remains sufficient, collateral is generally valued daily and the Company may require counterparties to deposit additional collateral or may return collateral pledged when appropriate.

Securities financing transactions give rise to negligible credit risk as a result of these collateral provisions. These instruments therefore are managed based on market risk rather than credit risk.

Substantially all repurchase and resale and securities borrowed and loaned activities are transacted under master agreements that give the Company the right, in the event of default of the counterparty, to liquidate collateral held and to offset receivables and payables with the same counterparty. The Company offsets certain repurchase and resale agreement balances with the same counterparty on the statement of financial position (see note 28).

Securities received under resale and securities borrowed agreements and securities delivered under repurchase and securities lending agreements are generally not recognised on or derecognised from the statement of financial position as the risks and rewards of ownership are not obtained from or relinquished to the counterparty. Subsequent sales of securities that the Company has borrowed are recognised as short inventory positions and are measured at fair value.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.20 OFFSETTING

Where the Company has the legal right to net settle and intends to do so (with any of its debtors or creditors) on a net basis, or to realise the asset and settle the liability simultaneously, the balance included within the financial statements is the net balance due to or from the counterparty. Central clearing counterparties ("CCP") are individually assessed to identify if net settlement criteria are met. Where this is achieved, assets and liabilities facing the CCP are offset.

##### 1.21 DERECOGNITION OF FINANCIAL ASSETS AND LIABILITIES

The Company derecognises a financial asset only when the contractual rights to the cash flows from the asset expire or it transfers substantially all the risks and rewards of ownership of the asset to another party. If the Company neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Company recognises its retained interest in the asset and an associated liability for amounts it may have to pay. If the Company retains substantially all the risks and rewards of ownership of a transferred financial asset, the Company continues to recognise the financial asset and also recognises a secured borrowing for the cash proceeds received.

On derecognition of a financial asset, the difference between the carrying amount of the asset (or the carrying amount allocated to the portion of the asset derecognised) and the sum of the consideration received and any cumulative gain that had been recognised in OCI is recognised in profit or loss.

The Company derecognises a financial liability when its contractual obligations are discharged or cancelled, or expire.

Modifications to the terms of financial assets and liabilities may result in derecognition if it is deemed that the modification results in an expiry of the contractual rights and obligations of the original instrument.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 1. ACCOUNTING POLICIES (continued)

##### 1.22 TRADE AND SETTLEMENT DATED TRANSACTIONS

In general, funding financial instruments (e.g. securities financing transactions) are recognised and derecognised on the statement of financial position on a settlement date basis. Trading financial instruments (e.g. debt securities, equities, derivatives, etc.) are recognised and derecognised on the statement of financial position on a trade date basis.

##### 1.23 SHARE BASED PAYMENTS

BAC grants equity based payment awards to employees of the Company under various incentive schemes.

For most awards, expense is generally recognised proportionately over the vesting period net of estimated forfeitures, unless the employee meets certain retirement eligibility criteria. For awards to employees that meet retirement eligibility criteria, BAC accrues the expense in the year prior to grant. For employees that become retirement eligible during the vesting period, the Company recognises expense from the grant date to the date on which the employee becomes retirement eligible, net of estimated forfeitures.

As this is a group share based payment arrangement, all awards are treated by the Company as equity settled share based payment plans and are measured based on the fair value of those awards at grant date. The fair value determined at the grant date is expensed over the vesting period, based on the Company's estimate of the number of shares that will eventually vest. The Company has entered into a chargeback agreement with BAC under which it is committed to pay BAC the market value at grant date as well as subsequent movements in fair value of those awards to BAC at the time of delivery to its employees.

##### 1.24 FINANCIAL GUARANTEES AND COMMITMENTS

Financial guarantee contracts are contracts that require the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due, in accordance with the terms of the debt.

Financial guarantees are initially recognised in the financial statements at fair value on the date the guarantee was given. Subsequent to initial recognition, the Company's liabilities under such guarantees are measured at the higher of the initial measurement, less amortisation calculated to recognise in the income statement the fee income earned on a straight line basis over the life of the guarantee, and the amount determined in accordance with the ECL model.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 2. CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS

The preparation of financial statements in conformity with FRS 101 requires the use of accounting estimates and assumptions concerning the future. The resulting accounting estimates will, by definition, seldom equal the related actual results. It also requires management to exercise judgement in the process of applying the Company's accounting policies. The estimates and assumptions that have a significant risk of causing an adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below.

##### Estimates

###### a) Pensions

The Company has an obligation to pay pension benefits to certain employees and former employees of the BAC group. The cost of these benefits and the present value of the obligation depend on a number of factors, including: life expectancy, salary increases, asset valuations and the discount rate on corporate bonds. Management utilises the valuation provided by actuaries and estimates these factors in determining the net pension obligation in the statement of financial position. The assumptions reflect historical experience and current trends. See note 11 for further information concerning the defined benefit pension scheme.

###### b) Deferred tax

The Company has recognised a deferred tax asset in its financial statements which requires judgement in determining the extent of its recoverability at each reporting date. The Company's expectations as to the level of future taxable profits take into account the Company's long-term financial and strategic plans, and anticipated future tax-adjusting items. In making this assessment, account is taken of business plans, the Board approved operating plan and the expected future economic outlook, as well as the risks associated with future regulatory change. Management also apply judgement when determining the appropriate period over which future profits are considered probable. These forecasts require the use of assumptions and estimates. Where the temporary differences are related to losses, relevant tax law is considered to determine the availability of the losses to offset against the future taxable profits. See note 18 for further information concerning deferred tax.

###### c) Valuation of financial instruments

Fair value is defined under IFRS 13 - Fair Value Measurement, as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The Company's policy for valuation of financial instruments is included in note 31. The fair values of financial instruments that are not quoted in financial markets are determined by using valuation techniques based on models such as discounted cash flow models, option pricing models and other methods consistent with accepted economic methodologies for pricing financial instruments. These models incorporate observable, and in some cases unobservable inputs including security prices, interest rate yield curves, option volatility, currency rates, commodity prices or equity prices and correlations between these inputs.

Where models are used to determine fair values, they are periodically reviewed by qualified personnel independent of the area that created them. All models are certified before they are used, and models are calibrated to ensure that output reflects actual data and comparative market prices. These estimation techniques are necessarily subjective in nature and involve several assumptions.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**2. CRITICAL ACCOUNTING ESTIMATES AND JUDGEMENTS (continued)**

**Judgements**

**a) Classification of financial assets**

The classification of financial assets is based on an assessment of the business model within which the assets are held. The Company follows the guidance of IFRS 9 in determining whether the contractual terms of the financial asset are solely payments of principal and interest on the principal amount outstanding. In some cases this determination requires significant judgement, for example when grouping portfolios of assets managed under the same business model or when assessing the impact of contractual terms for contractually linked instruments.

In order to perform the business model assessment, the Company evaluates, among other factors, the strategy of the business and types of management information used to measure performance of the portfolio as well as information regarding sales from the portfolio. Contractual cash flow information is considered by reviewing transaction and structure documentation in conjunction with line of business experts to ensure that relevant terms are analysed. See accounting policy note 1.12 for further details regarding classification of financial assets.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

3. INTEREST INCOME AND EXPENSE

|                                                          | 2019<br>\$M    | 2018<br>\$M    |
|----------------------------------------------------------|----------------|----------------|
| <b>Interest income</b>                                   |                |                |
| Resale agreements and securities borrowed transactions   | 806            | 832            |
| Debtors, cash at bank and in hand                        | 1,168          | 938            |
|                                                          | <u>1,974</u>   | <u>1,770</u>   |
| <b>Interest expense</b>                                  |                |                |
| Repurchase agreements and securities loaned transactions | (1,239)        | (1,125)        |
| Bank loans and overdrafts, creditors                     | (1,252)        | (1,040)        |
| Negative interest on debt securities at FVOCI            | (16)           | (35)           |
|                                                          | <u>(2,507)</u> | <u>(2,200)</u> |
| <b>Net interest expense</b>                              | <u>(533)</u>   | <u>(430)</u>   |

Interest income due from affiliated companies within resale agreements and securities borrowed transactions was \$624 million (2018: \$700 million), and within debtors, cash at bank and in hand was \$601 million (2018: \$438 million).

Interest expense due to affiliated companies within repurchase agreements and securities loaned transactions was \$647 million (2018: \$488 million), and within bank loans and overdrafts, creditors was \$730 million (2018: \$448 million).

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

4. OTHER OPERATING REVENUES

|                                   | 2019<br>\$M | 2018<br>\$M |
|-----------------------------------|-------------|-------------|
| Service fee income                | 704         | 688         |
| Investment and brokerage services | 468         | 496         |
| Investment banking income         |             |             |
| Underwriting income               | 373         | 205         |
| Financial advisory services       | 159         | 200         |
| Syndication fees                  | 67          | 224         |
| Other income *                    | 67          | 75          |
|                                   | <hr/>       | <hr/>       |
| Total other operating revenues    | 1,838       | 1,888       |
|                                   | <hr/>       | <hr/>       |

\* Prior period restated - For more information see note 1.1.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**5. ADMINISTRATIVE EXPENSES**

|                                       | <b>2019</b>  | <b>2018</b> |
|---------------------------------------|--------------|-------------|
|                                       | <b>\$M</b>   | <b>\$M</b>  |
| Staff costs (see note 7)              | <b>1,127</b> | 1,064       |
| Service fee expense                   | <b>2,043</b> | 2,345       |
| Foreign exchange losses               | <b>258</b>   | 87          |
| Brokerage, clearing and exchange fees | <b>606</b>   | 600         |
| Other operating expenses              | <b>389</b>   | 404         |
|                                       | <b>4,423</b> | 4,500       |

In 2019 changes were made to the allocation methodology for legal entity shared expenses, which form part of service fee expenses. These changes were made to further refine methodologies and to update them for changes in service provision arrangements between entities. The result was a decrease in the allocation compared to the prior year.

**6. AUDITORS' REMUNERATION**

The Company paid the following amounts to its auditors in respect of the audit of the financial statements and for other services provided to the Company:

|                                                                                            | <b>2019</b> | <b>2018</b> |
|--------------------------------------------------------------------------------------------|-------------|-------------|
|                                                                                            | <b>\$M</b>  | <b>\$M</b>  |
| Fees payable to the Company's auditors for the audit of the Company's financial statements | <b>2.2</b>  | 2.9         |
| Fees payable to the Company's auditors for audit related assurance services                | <b>0.8</b>  | 0.9         |
|                                                                                            | <b>3.0</b>  | 3.8         |

Included within fees payable to the Company's auditors for audit related assurance services was \$0.4 million (2018: \$0.6 million) in relation to services provided for Client Money (Client Asset Assurance Standard) reporting to the FCA.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**7. STAFF COSTS**

Staff costs, including directors' remuneration, were as follows:

|                       | <b>2019<br/>\$M</b> | <b>2018<br/>\$M</b> |
|-----------------------|---------------------|---------------------|
| Wages and salaries    | <b>956</b>          | 911                 |
| Social security costs | <b>134</b>          | 117                 |
| Pension costs         | <b>37</b>           | 36                  |
|                       | <b><u>1,127</u></b> | <b><u>1,064</u></b> |

Included within wages and salaries are charges relating to share-based compensation plans, see note 32 for further details.

Included within pension costs is a credit of \$3 million (2018: credit of \$5 million) relating to the defined benefit pension scheme. For further details see note 11.

In accordance with CRR/CRD IV the Company's disclosure in respect of remuneration under CRR article 450 (consolidated along with all other BAC entities operating in the UK) will be posted at <http://investor.bankofamerica.com> in conjunction with the publication of these financial statements.

The average monthly number of employees, including the directors, during the year was as follows:

|                                    | <b>2019<br/>No.</b> | <b>2018<br/>No.</b> |
|------------------------------------|---------------------|---------------------|
| Trading, sales and advisory        | <b>992</b>          | 1,084               |
| Support, operations and technology | <b>1,002</b>        | 870                 |
|                                    | <b><u>1,994</u></b> | <b><u>1,954</u></b> |

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

**8. DIRECTORS' REMUNERATION**

Of the directors that served during the year, 9 (2018: 10) directors were remunerated by the Company and the amounts included below are those relating to their services as directors for the Company and its subsidiaries based on a time allocation basis. Emoluments in relation to services performed for other group companies are not disclosed in the Company's financial statements.

Remuneration paid to directors of the Company was:

|                                                       | 2019<br>\$ | 2018<br>\$ |
|-------------------------------------------------------|------------|------------|
| Emoluments                                            | 10,150,675 | 11,401,184 |
| Contributions to defined contribution pension schemes | 17,350     | 20,830     |

|                                                                                       | 2019<br>No. | 2018<br>No. |
|---------------------------------------------------------------------------------------|-------------|-------------|
| <b>Number of directors who:</b>                                                       |             |             |
| Exercised share options                                                               | -           | -           |
| By whom shares are receivable or have been received under long term incentive schemes | 4           | 3           |
| Were members of a defined benefit pension scheme                                      | 1           | 1           |
| Were members of a defined contribution pension scheme                                 | 4           | 4           |

Remuneration disclosed includes amounts paid to the highest paid director as follows:

|                                                       | 2019<br>\$ | 2018<br>\$ |
|-------------------------------------------------------|------------|------------|
| Emoluments                                            | 4,622,350  | 5,615,071  |
| Contributions to defined contribution pension schemes | 12,731     | 10,189     |

The highest paid director did not exercise share options in the current or prior year.

During the current and preceding year the highest paid director received shares under a long term incentive scheme.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

9. TAXATION

|                                                | 2019<br>\$M | 2018<br>\$M |
|------------------------------------------------|-------------|-------------|
| <b>Corporation tax</b>                         |             |             |
| UK corporation tax                             | 9           | 71          |
| Adjustments in respect of prior periods        | (31)        | (15)        |
| Double taxation relief                         | (14)        | (46)        |
| Bank surcharge                                 | 5           | 41          |
|                                                | <u>(31)</u> | <u>51</u>   |
| <b>Foreign tax</b>                             |             |             |
| Foreign tax on income for the year             | 55          | 50          |
| <b>Total current tax</b>                       | <u>24</u>   | <u>101</u>  |
| <b>Deferred tax</b>                            |             |             |
| Origination and reversal of timing differences | (49)        | 165         |
| Impact of change in tax rates                  | 8           | (11)        |
| Impact of bank surcharge on deferred tax       | (31)        | (1)         |
| <b>Total deferred tax</b>                      | <u>(72)</u> | <u>153</u>  |
| <b>Income tax (credit)/expense</b>             | <u>(48)</u> | <u>254</u>  |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**9. TAXATION (continued)**

**Factors affecting tax charge for the year**

The tax on the Company's profit before tax differs from the amount that would arise using the tax rate applicable as follows:

|                                                                                             | <b>2019<br/>\$M</b> | <b>2018<br/>\$M</b> |
|---------------------------------------------------------------------------------------------|---------------------|---------------------|
| Profit before tax                                                                           | <b>191</b>          | <b>904</b>          |
| Profit multiplied by standard rate of corporation tax in the UK of 19.00%<br>(2018: 19.00%) | <b>36</b>           | <b>172</b>          |
| <b>Effects of:</b>                                                                          |                     |                     |
| Expenses not deductible for tax purposes                                                    | <b>26</b>           | <b>26</b>           |
| Adjustments in respect of prior periods                                                     | <b>(31)</b>         | <b>(15)</b>         |
| Non-taxable income                                                                          | <b>(2)</b>          | <b>-</b>            |
| Impact of bank surcharge on deferred tax                                                    | <b>(31)</b>         | <b>(1)</b>          |
| Impact of bank surcharge on current tax                                                     | <b>5</b>            | <b>41</b>           |
| Movement on valuation allowance relating to tax losses                                      | <b>26</b>           | <b>129</b>          |
| Movement of previously unrecognised timing differences                                      | <b>(118)</b>        | <b>(90)</b>         |
| Impact of foreign taxes                                                                     | <b>33</b>           | <b>3</b>            |
| Re-measurement of deferred tax - change in UK tax rate                                      | <b>8</b>            | <b>(11)</b>         |
| <b>Total tax (credit)/charge for the year</b>                                               | <b>(48)</b>         | <b>254</b>          |

The Company is a banking company as defined by the Finance (No 2) Act 2015. As such, from 1 January 2016, it has been subject to an 8% surcharge on its profits.

**Factors that may affect future tax charges**

Factors that may affect future tax charges are disclosed in note 18.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

**10. SEGMENTAL REPORTING**

The Company's results are wholly derived from the Global Banking and Markets business which represents a single class of business. The Company is exempt from the requirements of IFRS 8 Operating Segments.

The Company operates in three geographic regions, being Europe, Middle East and Africa ("EMEA"), the Americas and Asia Pacific ("APAC"). Due to the highly integrated nature of international financial markets, the Company identifies its geographic performance based on the business unit structure used to manage the capital or expense deployed in the region as applicable. The methodology for allocating revenue to geographic regions is dependent on estimates and management judgement.

The table below presents the total net operating revenues of the Company by geographic region:

|                                     | <b>2019</b>  | <b>2018</b> |
|-------------------------------------|--------------|-------------|
|                                     | <b>\$M</b>   | <b>\$M</b>  |
| EMEA                                | <b>2,855</b> | 3,248       |
| Americas                            | <b>909</b>   | 1,166       |
| APAC                                | <b>850</b>   | 990         |
| <b>Total net operating revenues</b> | <b>4,614</b> | 5,404       |

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 11. PENSION

The Company participates in a number of defined benefit and defined contribution pension schemes in the UK. The schemes are funded with the assets held in separate trustee administered funds.

##### Defined benefit scheme

The major defined benefit scheme is the final salary section of the Bank of America Merrill Lynch UK Pension Plan (the "Plan"), which was closed to new entrants with effect from 30 June 1997 and to future accrual from existing members with effect from 30 June 2004. The funding cost relating to the Plan is assessed in accordance with the advice of independent qualified actuaries using the projected unit credit method.

The Company is one of a number of BAC employer companies based in the UK which participate in the Plan.

The Plan operates under the UK statutory Scheme Funding Regime established by the Pensions Act 2004. The Plan's assets were in excess of its technical provisions as at the last formal actuarial valuation which was carried out as at 31 December 2018.

IFRIC 14 is an interpretation of IAS 19 - Employee Benefits which relates to the recognition of pension plan surpluses. As currently disclosed, the Company is able to utilise the whole of the Plan surplus in scenarios set out in IFRIC 14. Accordingly, there is no asset ceiling on the amount of surplus that is currently recognised in the statement of financial position.

The defined benefit plan is administered by a separate trust that is legally separated from the Company. By law, the board of trustees is required to act in the best interests of participants to the Plan and has the responsibility of setting investment, contribution, and other relevant policies.

The Company is deemed to be the sponsoring entity to the Plan and as a result, the Company recognises the present value of the defined benefit obligation, the fair value of the Plan assets, and the associated costs of the Plan.

|                                                                            | 2019<br>\$M | 2018<br>\$M |
|----------------------------------------------------------------------------|-------------|-------------|
| <b>Amounts recognised on the statement of financial position:</b>          |             |             |
| Fair value of scheme assets                                                | 2,086       | 1,840       |
| Present value of funded defined benefit obligations                        | (1,762)     | (1,598)     |
| <b>Net pension asset recognised in the statement of financial position</b> | <b>324</b>  | <b>242</b>  |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**11 PENSION (continued)**

The movement in the defined benefit net asset over the year is as follows:

|                                                                               | Present<br>value of<br>obligation<br>\$M | Fair value of<br>plan assets<br>\$M | Total<br>\$M |
|-------------------------------------------------------------------------------|------------------------------------------|-------------------------------------|--------------|
| <b>2019</b>                                                                   |                                          |                                     |              |
| As at 1 January 2019                                                          | (1,598)                                  | 1,840                               | 242          |
| Service cost                                                                  | (5)                                      | -                                   | (5)          |
| Interest (expense)/income                                                     | (43)                                     | 51                                  | 8            |
| <b>Pension (expense)/income recognised in income statement</b>                | <u>(48)</u>                              | <u>51</u>                           | <u>3</u>     |
| <b>Remeasurements in OCI:</b>                                                 |                                          |                                     |              |
| Gains on plan assets, excluding amounts included in interest income/(expense) | -                                        | 188                                 | 188          |
| Gains from change in demographic assumptions                                  | 5                                        | -                                   | 5            |
| Losses from change in financial assumptions                                   | (129)                                    | -                                   | (129)        |
| Gains from plan experience                                                    | 2                                        | -                                   | 2            |
| <b>Total amount recognised in OCI</b>                                         | <u>(122)</u>                             | <u>188</u>                          | <u>66</u>    |
| Exchange differences                                                          | (67)                                     | 79                                  | 12           |
| <b>Contributions:</b>                                                         |                                          |                                     |              |
| Employer                                                                      | -                                        | 1                                   | 1            |
| <b>Payments from plan:</b>                                                    |                                          |                                     |              |
| Benefit payments                                                              | 73                                       | (73)                                | -            |
| As at 31 December 2019                                                        | <u>(1,762)</u>                           | <u>2,086</u>                        | <u>324</u>   |

Approximately 6% of the liabilities are attributable to current employees, 68% to former employees and 26% to current pensioners.

Employer contributions of \$1 million were paid into the Plan in the year by the Company. No recharge was made for these costs to the other scheme participants. It is estimated that the Company will also pay contributions of \$1 million into the Plan in 2020.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**11. PENSION (continued)**

|                                                                                | Present<br>value of<br>obligation<br>\$M | Fair value of<br>plan assets<br>\$M | Total<br>\$M |
|--------------------------------------------------------------------------------|------------------------------------------|-------------------------------------|--------------|
| <b>2018</b>                                                                    |                                          |                                     |              |
| As at 1 January 2018                                                           | (1,728)                                  | 2,265                               | 537          |
| Service cost                                                                   | (9)                                      | -                                   | (9)          |
| Interest (expense)/income                                                      | (42)                                     | 56                                  | 14           |
| <b>Pension (expense)/income recognised in income statement</b>                 | <u>(51)</u>                              | <u>56</u>                           | <u>5</u>     |
| <b>Remeasurements in OCI:</b>                                                  |                                          |                                     |              |
| Losses on plan assets, excluding amounts included in interest (expense)/income | -                                        | (251)                               | (251)        |
| Gains from change in demographic assumptions                                   | 7                                        | -                                   | 7            |
| Gains from change in financial assumptions                                     | 31                                       | -                                   | 31           |
| Losses from plan experience                                                    | (72)                                     | -                                   | (72)         |
| <b>Total amount recognised in OCI</b>                                          | <u>(34)</u>                              | <u>(251)</u>                        | <u>(285)</u> |
| Exchange differences                                                           | 98                                       | (116)                               | (18)         |
| <b>Contributions:</b>                                                          |                                          |                                     |              |
| Employer                                                                       | -                                        | 3                                   | 3            |
| <b>Payments from plan:</b>                                                     |                                          |                                     |              |
| Benefit payments                                                               | 117                                      | (117)                               | -            |
| As at 31 December 2018                                                         | <u>(1,598)</u>                           | <u>1,840</u>                        | <u>242</u>   |

Approximately 8% of the liabilities are attributable to current employees, 66% to former employees and 26% to current pensioners.

Employer contributions of \$3 million were paid into the Plan in the year by the Company. No recharge was made for these costs to the other scheme participants.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

**11. PENSION (continued)**

The significant actuarial assumptions were as follows:

|                                                       | 2019  | 2018  |
|-------------------------------------------------------|-------|-------|
| Discount rate                                         | 2.00% | 2.80% |
| RPI inflation                                         | 3.05% | 3.50% |
| CPI inflation                                         | 2.05% | 2.40% |
| Salary growth rate                                    | 4.55% | 5.00% |
| Pension growth rate - subject to a 5% cap in any year | 2.95% | 3.25% |
| Pension growth rate - subject to a 3% cap in any year | 2.25% | 2.25% |
| Pension growth rate - fixed at 3%                     | 3.00% | 3.00% |
| Average life expectancy:                              |       |       |
| Life expectancy for male aged 62                      | 26.3  | 26.4  |
| Life expectancy for female aged 62                    | 28.1  | 28.3  |
| Life expectancy at 62 for male currently aged 45      | 27.4  | 27.8  |
| Life expectancy at 62 for female currently aged 45    | 29.4  | 29.8  |

The mortality assumptions are based on actuarial advice in accordance with published statistics and past experience and allow for expected future improvements in mortality rates. The salary and pension growth rates are all linked to inflation, with the exception of the fixed increase of 3%.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

11. PENSION (continued)

The Plan assets are invested in the following asset classes:

|                                               | 2019<br>\$M  | 2018<br>\$M  |
|-----------------------------------------------|--------------|--------------|
| Return-seeking funds                          | 510          | 770          |
| Index-linked funds                            | 308          | 205          |
| Liability driven investments and money market | 832          | 463          |
| Annuity buy-in                                | 436          | 402          |
| <b>Total Plan assets</b>                      | <b>2,086</b> | <b>1,840</b> |

Of the \$2,086 million Plan assets, \$545 million (2018: \$617 million) are quoted within an active market.

In 2018, the Trustees of the Plan bought a bulk annuity to meet the future pension payments for all of its then retired members. The annuity is written in the name of the Trustees and remains an asset of the Plan. It is valued for accounting purposes using the same assumptions set out on page 51 and its value is the same for both plan asset and present value of obligation purposes.

The Plan exposes the Company to a number of risks, the most significant of which are:

**Asset volatility**

The liabilities are calculated using a discount rate set with reference to corporate bond yields; if assets underperform this yield, this will create a deficit. The Plan holds a proportion of return-seeking assets which, though expected to outperform corporate bonds in the long-term, create volatility and risk in the short-term. The allocation to growth assets is monitored to ensure it remains appropriate given the Plan's long term objectives.

**Changes in bond yields**

A decrease in corporate bond yields will increase the value placed on the Plan's liabilities for accounting purposes. Although the Plan's assets include a swap strategy that is designed to mitigate a fall in swap yields, movements in both "z spread" and credit spread may mean that movements in the yields on corporate bonds and the Plan's swap portfolio do not match each other.

**Inflation risk**

A significant proportion of the Plan's benefit obligations are linked to inflation, and higher inflation will lead to higher liabilities. In most cases, caps on the level of inflationary increases are in place to protect against extreme inflation. The Plan's swap strategy is also designed to protect the Plan against an increase in inflation.

**Life expectancy**

The majority of the Plan's liabilities are to provide benefits for the life of the member, so increases in life expectancy will result in an increase in the liabilities.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**11. PENSION (continued)**

The sensitivity of the defined benefit obligation to changes in the weighted principal assumptions is:

|                                                              | <b>Defined<br/>benefit<br/>obligation<br/>\$M</b> | <b>Estimated<br/>2020<br/>service cost<br/>\$M</b> |
|--------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------|
| Current figures as at 31 December 2019                       | 1,762                                             | 4                                                  |
| <b>Following a 1.0% decrease in the discount rate</b>        |                                                   |                                                    |
| Change                                                       | 411                                               | 2                                                  |
| New value                                                    | 2,174                                             | 6                                                  |
| <b>Following a 1.0% increase in the inflation assumption</b> |                                                   |                                                    |
| Change                                                       | 258                                               | 1                                                  |
| New value                                                    | 2,021                                             | 5                                                  |
| <b>Following an increase in life expectancy of one year</b>  |                                                   |                                                    |
| Change                                                       | 54                                                | -                                                  |
| New value                                                    | 1,817                                             | 4                                                  |

The above sensitivity analyses are based on a change in assumption, while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions might be correlated. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method (that is, present value of the defined benefit obligation calculated with the projected unit credit method at the end of the reporting period) has been applied as when calculating the pension liability recognised within the statement of financial position.

The discount rate and inflation sensitivity information shown above has been prepared using the same method as adopted when adjusting the results of the latest funding valuation to the statement of financial position date. The inflation sensitivity takes account of the corresponding impacts on both salary and pension growth and is based on both RPI and CPI inflation assumptions.

The life expectancy sensitivity information shown above is approximate and has been determined taking into account the duration of the liabilities and the overall profile of the Plan membership.

The history of asset values, defined benefit obligation and surplus is set out below:

|                                | <b>2019<br/>\$M</b> | <b>2018<br/>\$M</b> | <b>2017<br/>\$M</b> | <b>2016<br/>\$M</b> |
|--------------------------------|---------------------|---------------------|---------------------|---------------------|
| Fair value of scheme assets    | 2,086               | 1,840               | 2,265               | 2,160               |
| Defined benefit obligation     | (1,762)             | (1,598)             | (1,728)             | (1,740)             |
| <b>Net pension asset value</b> | <b>324</b>          | <b>242</b>          | <b>537</b>          | <b>420</b>          |

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 11. PENSION (continued)

Following the 31 December 2018 actuarial funding valuation, it was agreed on the basis of actuarial advice that the participating companies would pay the following:

- The agreed contributions for members to the Money Purchase Section of the Plan;
- 0.5% of Plan salaries in respect of spouses' death in service pensions for relevant members of the Plan;
- Lump sum death in service premiums;
- Any levies due to the Pension Protection Fund; and
- Other expenses.

The contribution requirement is monitored following each annual funding review and any contribution payments may be adjusted accordingly.

The Plan duration is an indicator of the weighted-average time until benefit payments are paid. For the Plan as a whole, the duration is approximately 22 years.

#### Defined contribution schemes

The major defined contribution scheme is the Bank of America Merrill Lynch UK Pension Plan – Money Purchase Section. The cost is a percentage of each employee's plan salary based on their length of service and are charged to the income statement in the period in which they fall due.

The Company's pension cost for the year in respect of defined contribution schemes was \$40 million (2018: \$41 million).

#### 12. DIVIDENDS

|                                                           | 2019<br>\$M | 2018<br>\$M |
|-----------------------------------------------------------|-------------|-------------|
| Dividends paid: \$0.08 per share (2018: \$0.08 per share) | 650         | 650         |

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

13. INVESTMENTS

|                      | Investments<br>in subsidiary<br>companies<br>\$M | Other<br>investments<br>\$M | Total<br>\$M |
|----------------------|--------------------------------------------------|-----------------------------|--------------|
| Cost or valuation    |                                                  |                             |              |
| At 1 January 2019    | 51                                               | 93                          | 144          |
| Additions            | 86                                               | -                           | 86           |
| Fair value movements | -                                                | 8                           | 8            |
| At 31 December 2019  | 137                                              | 101                         | 238          |

**Investments in subsidiary companies**

The Company has an investment of \$137 million (2018: \$51 million) in Fundo de Investimento Financeiro Multimercado Iceberg ("Iceberg"). The Company exercises power and control over Iceberg. It is therefore disclosed as a subsidiary undertaking in accordance with IFRS 10 - Consolidated Financial Statements. Under its legal form, Iceberg would not be classified as a subsidiary. During the year, there was a net capital injection of \$86 million into Iceberg.

The Company has an investment of \$0.1 million (2018: \$0.1 million) in Merrill Lynch, Pierce, Fenner & Smith Limited ("MLPF&S Limited").

The Company's remaining investments in subsidiaries amount to \$381 (2018: \$381).

For further details on the Company's investments in subsidiaries, see note 14.

**Other investments**

Other investments, which are held at fair value, consist of unlisted equity securities.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 14. SUBSIDIARY UNDERTAKINGS

The following are subsidiary undertakings of the Company:

| Name                                                           | Class of shares | Holding | Principal activity                                                                                                |
|----------------------------------------------------------------|-----------------|---------|-------------------------------------------------------------------------------------------------------------------|
| MLPF&S Limited                                                 | Ordinary        | 100%    | Intercompany funding                                                                                              |
| Bank of America Merrill Lynch UK Pension Plan Trustees Limited | Ordinary        | 100%    | Trustee of the Bank of America Merrill Lynch UK Pension Plan and the Merrill Lynch (UK) Defined Contribution Plan |
| Merrill Lynch Nominees Limited                                 | Ordinary        | 100%    | Nominee company for affiliated companies                                                                          |
| Citygate Nominees Limited                                      | Ordinary        | 100%    | Nominee company for affiliated companies                                                                          |
| S. N. C. Nominees Limited                                      | Ordinary        | 100%    | Nominee company for affiliated companies                                                                          |
| N. Y. Nominees Limited                                         | Ordinary        | 100%    | Nominee company for affiliated companies                                                                          |
| Chetwynd Nominees Limited                                      | Ordinary        | 100%    | Nominee company for affiliated companies                                                                          |
| Iceberg                                                        | Quotas          | 100%    | Government bonds, futures and Bovespa index flexible options                                                      |

There have been no changes to subsidiary undertakings and holding % during the year.

All of the above, except Iceberg, are incorporated in the UK and registered at; 2 King Edward Street, London, EC1A 1HQ. Iceberg is incorporated in Brazil and registered at; Av. Paulista, 1.111, 12th Floor, Bela Vista, Sao Paulo, 01311-920, Brazil.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**14. SUBSIDIARY UNDERTAKINGS (continued)**

The Company also holds the controlling interests in the following special purpose entities ("SPEs") which are included at fair value in long trading inventory.

| <b>Name</b>                   | <b>Country of incorporation</b> |
|-------------------------------|---------------------------------|
| Pyxis LTD                     | Cayman Islands                  |
| Ironwood Trustee (Pty) Ltd    | South Africa                    |
| Newgate Funding Plc           | United Kingdom                  |
| Oxygen - Series 17, 21 and 43 | Cayman Islands                  |

The total assets on the Company's statement of financial position relating to controlling interests in SPEs are \$358 million (2018: \$284 million). The total size of those SPEs, which is calculated as the principal outstanding of the SPE, is \$359 million (2018: \$287 million).

The principal activity of all of the above SPEs is to act as a structured issuance vehicle.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**15. LONG INVENTORY POSITIONS**

|                                             | <b>2019</b>    | 2018       |
|---------------------------------------------|----------------|------------|
|                                             | <b>\$M</b>     | <b>\$M</b> |
| Derivative assets                           | <b>153,674</b> | 144,459    |
| Equities and convertible debentures         | <b>40,143</b>  | 34,598     |
| Corporate debt and preferred stock          | <b>2,760</b>   | 3,258      |
| Mortgage-backed and asset-backed securities | <b>782</b>     | 1,191      |
| Non-US governments and agencies             | <b>6,664</b>   | 10,227     |
| US government and agencies                  | <b>641</b>     | 827        |
| Commodities                                 | <b>167</b>     | 3          |
|                                             | <b>204,831</b> | 194,563    |

Balances with affiliated companies within long inventory positions were \$29,807 million (2018: \$23,308 million).

**Day one profit / (loss)**

Included in the above is the amount that has yet to be recognised in the income statement relating to the difference between the fair value at recognition (being the transaction price) and the amount that would have arisen had valuation techniques used for subsequent measurement been applied at initial recognition, less any subsequent releases. The breakdown is as follows:

|                                                                 | <b>2019</b> | 2018       |
|-----------------------------------------------------------------|-------------|------------|
|                                                                 | <b>\$M</b>  | <b>\$M</b> |
| At 1 January                                                    | <b>35</b>   | 89         |
| Day one profit on new trades not recognised in income statement | <b>29</b>   | 38         |
| Settlements/disposals                                           | <b>(2)</b>  | (13)       |
| Released due to subsequent observability of inputs              | <b>(17)</b> | (79)       |
| <b>At 31 December</b>                                           | <b>45</b>   | 35         |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**16. RESALE AGREEMENTS AND SECURITIES BORROWED TRANSACTIONS**

|                                                        | <b>2019<br/>\$M</b> | <b>2018<br/>\$M</b> |
|--------------------------------------------------------|---------------------|---------------------|
| Resale agreements and securities borrowed transactions | <b>106,939</b>      | <b>103,299</b>      |

The Company has presented its resale agreements and securities loaned transactions on the face of the statement of financial position in order to better disaggregate its debtor balance. Comparative amounts have been re-presented accordingly.

Balances with affiliated companies within resale agreements and securities borrowed transactions were \$65,642 million (2018: \$47,240 million).

Included within resale agreements and securities borrowed transactions, \$63,901 million were mandatorily at FVPL (2018: \$54,249 million).

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**17. DEBTORS**

**Debtors due within 1 year:**

|                                        |             | <b>2019<br/>\$M</b> | <b>2018<br/>\$M</b> |
|----------------------------------------|-------------|---------------------|---------------------|
| <b>Trade debtors</b>                   | <b>Note</b> |                     |                     |
| Customer receivables                   |             | <b>43,180</b>       | 38,440              |
| Brokers, dealers and clearing houses   |             | <b>10,555</b>       | 11,219              |
|                                        |             | <b>53,735</b>       | 49,659              |
| <b>Other debtors</b>                   |             |                     |                     |
| Amounts owed from affiliated companies |             | <b>794</b>          | 1,452               |
| Other debtors and prepayments          |             | <b>1,417</b>        | 1,023               |
|                                        |             | <b>2,211</b>        | 2,475               |
| <b>Debtors due after 1 year:</b>       |             |                     |                     |
| Amounts owed from affiliated companies |             | <b>4,110</b>        | 4,394               |
| Deferred tax                           | 18          | <b>261</b>          | 209                 |
|                                        |             | <b>4,371</b>        | 4,603               |
|                                        |             | <b>60,317</b>       | 56,737              |

The Company has presented its resale agreements and securities loaned transactions on the face of the statement of financial position in order to better disaggregate its debtor balance. This amounted to \$106,939 million at 31 December 2019 (2018: \$103,299 million). Refer to note 16. It was previously presented as part of debtors. Comparative amounts have been re-presented accordingly.

Balances with affiliated companies within customer receivables were \$18,199 million (2018: \$14,602 million), and within brokers, dealers and clearing houses were \$6,022 million (2018: \$5,978 million).

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**18. DEFERRED TAX**

|                                                                        | <b>2019<br/>\$M</b> | 2018<br>\$M |
|------------------------------------------------------------------------|---------------------|-------------|
| Losses                                                                 | <b>33</b>           | 57          |
| Temporary differences with respect to share based payments             | <b>102</b>          | -           |
| Temporary differences with respect to loan relationships               | <b>207</b>          | 213         |
| Temporary differences in relation to the retirement benefit obligation | <b>(81)</b>         | (61)        |
|                                                                        | <b>261</b>          | 209         |
| Provision at start of year                                             | <b>209</b>          | 286         |
| Tax relating to components of other comprehensive income               | <b>(16)</b>         | 72          |
| Deferred tax charged to the income statement - losses                  | <b>(27)</b>         | (163)       |
| Deferred tax charged/(credited) to the income statement - pension      | -                   | (3)         |
| Deferred tax charged to the income statement - share based payments    | <b>76</b>           | -           |
| Impact of change in UK tax rate                                        | <b>(8)</b>          | 12          |
| Impact of bank surcharge on deferred tax                               | <b>31</b>           | 1           |
| Foreign exchange differences                                           | <b>(4)</b>          | 4           |
|                                                                        | <b>261</b>          | 209         |

The deferred tax asset is recognised on the basis of estimated future taxable profits over the Company's planning horizon. Having considered the expected performance of the business, the directors are of the opinion that these projections support the recognition of the deferred tax asset at 31 December 2019 of \$261 million (2018: \$209 million).

During 2019, the relevant deferred tax balances were re-measured as a result of the changes in the UK main corporation tax rate which were substantively enacted on 15 September 2016, to 17% from 1 April 2020.

The Company has unrecognised deferred tax assets totalling \$6,103 million (2018: \$6,248 million), primarily in relation to losses. The re-measurement as a result of changes in the UK corporation tax rate, has resulted in a net increase of the unrecognised deferred tax asset of \$7 million (2018: increase \$1 million).

In the current year the deferred tax asset balance includes an amount of \$102 million relating to the temporary difference arising on share based payments that was not recognised in 2018. Prior year has not been restated in accordance with IAS 8 - Accounting Policies, Changes in Estimates and Errors.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

19. SHORT INVENTORY POSITIONS

|                                     | 2019<br>\$M    | 2018<br>\$M    |
|-------------------------------------|----------------|----------------|
| Derivative liabilities              | 153,903        | 142,475        |
| Equities and convertible debentures | 13,779         | 18,879         |
| Corporate debt and preferred stock  | 1,297          | 2,341          |
| Non-US government and agencies      | 6,783          | 12,693         |
| US governments and agencies         | 533            | 133            |
|                                     | <u>176,295</u> | <u>176,521</u> |

Balances with affiliated companies within short inventory positions were \$38,064 million (2018: \$28,427 million).

20. REPURCHASE AGREEMENTS AND SECURITIES LOANED TRANSACTIONS

|                                                          | 2019<br>\$M   | 2018<br>\$M   |
|----------------------------------------------------------|---------------|---------------|
| Repurchase agreements and securities loaned transactions | <u>87,399</u> | <u>84,970</u> |

The Company has presented its repurchase agreements and securities loaned transactions on the face of the statement of financial position in order to better disaggregate its creditor balance. Comparative amounts have been re-presented accordingly.

Balances with affiliated companies within repurchase agreements and securities loaned transactions were \$59,814 million (2018: \$40,193 million).

Within repurchase agreements and securities loaned transactions, \$57,185 million (2018: \$46,448 million) were designated at FVPL. The amount contractually required to pay at maturity to the holder of these obligations was \$57,163 million (2018: \$46,454 million).

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**21. CREDITORS**

|                                      | <b>2019<br/>\$M</b>       | <b>2018<br/>\$M</b> |
|--------------------------------------|---------------------------|---------------------|
| <b>Trade creditors</b>               |                           |                     |
| Customer payables                    | <b>43,092</b>             | 38,989              |
| Brokers, dealers and clearing houses | <b>4,703</b>              | 7,662               |
|                                      | <hr/> <b>47,795</b> <hr/> | <hr/> 46,651 <hr/>  |
| <b>Other creditors</b>               |                           |                     |
| Amounts owed to affiliated companies | <b>14,963</b>             | 15,964              |
| Other creditors and accruals         | <b>5,095</b>              | 4,969               |
|                                      | <hr/> <b>20,058</b> <hr/> | <hr/> 20,933 <hr/>  |
|                                      | <hr/> <b>67,853</b> <hr/> | <hr/> 67,584 <hr/>  |

The Company has presented its repurchase agreements and securities loaned transactions on the face of the statement of financial position in order to better disaggregate its creditor balance. This amounted to \$87,399 million at 31 December 2019 (2018: \$84,970 million). Refer to note 20. It was previously presented as part of creditors. Comparative amounts have been re-presented accordingly.

Balances with affiliated companies within customer payables were \$7,208 million (2018: \$3,052 million), and within brokers, dealers and clearing houses were \$379 million (2018: \$1,393 million).

At 31 December 2019, the Company also had financial liabilities designated at FVPL presented within amounts owed to affiliated companies totalling \$8,578 million (2018: \$5,134 million), and within other creditors and accruals totalling \$3,877 million (2018: \$3,611 million).

Included within other creditors and accruals is \$60 million (2018: \$61 million) relating to taxation and social security.

The Company has available a multi-currency credit facility of \$500 million (2018: \$11,400 million) from an affiliated company. The undrawn element at 31 December 2019 was \$500 million (2018: \$9,572 million).

At 31 December 2019, the Company had a provision of \$25 million under IAS 37 - Provisions, Contingent Liabilities and Contingent Assets to reflect the payment that is expected to be made to the UK tax authority, Her Majesty's Revenue and Customs ("HMRC") in respect of VAT on Head Office expense allocations. The timing of the expected payment is not known at this time. HMRC are conducting an industry-wide review of the VAT treatment of these services. This amount is also reflected in other creditors and accruals. The provision has been measured based on:

- the value of services that have specifically been queried by the tax authorities, and;
- conclusions made from previous communication with those authorities

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

22. CREDITORS: AMOUNTS FALLING DUE AFTER MORE THAN ONE YEAR

|                                    | 2019<br>\$M | 2018<br>\$M |
|------------------------------------|-------------|-------------|
| Amounts owed to group undertakings | 12,662      | 4,394       |

Creditors due after more than one year comprised of:

|                                                   | 2019<br>\$M | 2018<br>\$M |
|---------------------------------------------------|-------------|-------------|
| <b>Between one and two years</b>                  |             |             |
| Multi-currency credit facility maturing in 2021   | 8,543       | -           |
| <b>After five years</b>                           |             |             |
| US Dollar denominated loan notes maturing in 2034 | 4,119       | 4,394       |
|                                                   | 12,662      | 4,394       |

The Company has available credit facilities due after more than one year of \$14,000 million and \$10,000 million from two affiliated companies. The undrawn element at 31 December 2019 was \$11,195 million and \$4,262 million respectively.

The drawn element is charged at a floating rate aligned with the benchmark associated with the denomination of currency borrowed and is payable in 2021 with due dates automatically extended semi-annually unless the lender provides written notice of its election not to extend the due date. The terms for both agreements were extended during the year.

The Company had no credit facilities with affiliated companies due after more than one year in the prior year.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**23. CALLED UP SHARE CAPITAL**

|                                                                    | 2019<br>\$M         | 2018<br>\$M         |
|--------------------------------------------------------------------|---------------------|---------------------|
| <b>Allotted, called up and fully paid</b>                          |                     |                     |
| 7,933,027,945 (2018: 7,933,027,945) ordinary shares of \$1.00 each | <u><b>7,933</b></u> | <u><b>7,933</b></u> |

**24. RESERVES**

**Profit and loss account**

The difference between equity-settled share scheme awards costs, as calculated in accordance with IFRS 2 - Share Based Payments, and the amounts recharged for such awards by BAC during the year was a \$12 million credit (2018: \$2 million credit) and is included within profit and loss reserves.

**Capital contribution reserve**

The capital contribution reserve relates to a combination of cash and non-cash contributions received from the Company's parent and other BAC companies.

**Debit valuation adjustment reserve**

The debit valuation ("DVA") reserve relates to credit risk associated fair value changes of liabilities designated in FVPL. These fair value changes are presented in OCI as a debit valuation adjustments reserve.

|                               | Capital<br>contribution<br>reserve | DVA<br>reserve  | Movement in<br>fair value of<br>debt<br>securities at<br>FVOCI | Total               |
|-------------------------------|------------------------------------|-----------------|----------------------------------------------------------------|---------------------|
| <b>Other Reserves</b>         | <b>\$M</b>                         | <b>\$M</b>      | <b>\$M</b>                                                     | <b>\$M</b>          |
| <b>As at 1 January 2019</b>   | 9,193                              | -               | (1)                                                            | <b>9,192</b>        |
| Current year movement         | -                                  | -               | (5)                                                            | (5)                 |
| <b>As at 31 December 2019</b> | <u><b>9,193</b></u>                | <u><b>-</b></u> | <u><b>(6)</b></u>                                              | <u><b>9,187</b></u> |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**25. ANALYSIS OF FINANCIAL ASSETS AND LIABILITIES BY MEASUREMENT BASIS**

The following table analyses the carrying amount of the Company's financial assets and liabilities by category and by statement of financial position heading:

|                                                          | <b>Mandatorily<br/>at FVPL<br/>\$M</b> | <b>Designated<br/>at FVPL<br/>\$M</b> | <b>FVOCI debt<br/>instruments<br/>\$M</b> | <b>Amortised<br/>cost<br/>\$M</b> | <b>Total<br/>\$M</b> |
|----------------------------------------------------------|----------------------------------------|---------------------------------------|-------------------------------------------|-----------------------------------|----------------------|
| <b>31 December 2019</b>                                  |                                        |                                       |                                           |                                   |                      |
| Long inventory positions                                 | <b>204,831</b>                         | -                                     | -                                         | -                                 | <b>204,831</b>       |
| Debt securities at FVOCI                                 | -                                      | -                                     | <b>3,612</b>                              | -                                 | <b>3,612</b>         |
| Debtors                                                  | -                                      | -                                     | -                                         | <b>59,953</b>                     | <b>59,953</b>        |
| Resale agreements and securities borrowed transactions   | <b>63,901</b>                          | -                                     | -                                         | <b>43,038</b>                     | <b>106,939</b>       |
| Cash at bank and in hand                                 | -                                      | -                                     | -                                         | <b>5,500</b>                      | <b>5,500</b>         |
| Investments                                              | <b>101</b>                             | -                                     | -                                         | <b>137</b>                        | <b>238</b>           |
| <b>Financial Assets</b>                                  | <b>268,833</b>                         | -                                     | <b>3,612</b>                              | <b>108,628</b>                    | <b>381,073</b>       |
| Bank loans and overdrafts                                | -                                      | -                                     | -                                         | 1,000                             | <b>1,000</b>         |
| Short inventory positions                                | 176,295                                | -                                     | -                                         | -                                 | <b>176,295</b>       |
| Creditors: amounts falling due within one year           | -                                      | 12,455                                | -                                         | 55,398                            | <b>67,853</b>        |
| Repurchase agreements and securities loaned transactions | -                                      | 57,185                                | -                                         | 30,214                            | <b>87,399</b>        |
| Creditors: amounts falling due after more than one year  | -                                      | -                                     | -                                         | 12,662                            | <b>12,662</b>        |
| <b>Financial Liabilities</b>                             | <b>176,295</b>                         | <b>69,640</b>                         | -                                         | <b>99,274</b>                     | <b>345,209</b>       |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**25. ANALYSIS OF FINANCIAL ASSETS AND LIABILITIES BY MEASUREMENT BASIS (continued)**

|                                                             | <b>Mandatorily<br/>at FVPL<br/>\$M</b> | <b>Designated<br/>at FVPL<br/>\$M</b> | <b>FVOCI debt<br/>instruments<br/>\$M</b> | <b>Amortised<br/>cost<br/>\$M</b> | <b>Total<br/>\$M</b> |
|-------------------------------------------------------------|----------------------------------------|---------------------------------------|-------------------------------------------|-----------------------------------|----------------------|
| <b>31 December 2018</b>                                     |                                        |                                       |                                           |                                   |                      |
| Long inventory positions                                    | 194,563                                | -                                     | -                                         | -                                 | <b>194,563</b>       |
| Debt securities at FVOCI                                    | -                                      | -                                     | 2,790                                     | -                                 | <b>2,790</b>         |
| Debtors                                                     | -                                      | -                                     | -                                         | 56,528                            | <b>56,528</b>        |
| Resale agreements and<br>securities borrowed transactions   | 54,249                                 | -                                     | -                                         | 49,050                            | <b>103,299</b>       |
| Cash at bank and in hand                                    | -                                      | -                                     | -                                         | 13,231                            | <b>13,231</b>        |
| Investments                                                 | 93                                     | -                                     | -                                         | 51                                | <b>144</b>           |
| <b>Financial Assets</b>                                     | <b>248,905</b>                         | <b>-</b>                              | <b>2,790</b>                              | <b>118,860</b>                    | <b>370,555</b>       |
| Bank loans and overdrafts                                   | -                                      | -                                     | -                                         | 631                               | <b>631</b>           |
| Short inventory positions                                   | 176,521                                | -                                     | -                                         | -                                 | <b>176,521</b>       |
| Creditors: amounts falling due<br>within one year           | -                                      | 8,745                                 | -                                         | 58,778                            | <b>67,523</b>        |
| Repurchase agreements and<br>securities loaned transactions | -                                      | 46,448                                | -                                         | 38,522                            | <b>84,970</b>        |
| Creditors: amounts falling due<br>after more than one year  | -                                      | -                                     | -                                         | 4,394                             | <b>4,394</b>         |
| <b>Financial Liabilities</b>                                | <b>176,521</b>                         | <b>55,193</b>                         | <b>-</b>                                  | <b>102,325</b>                    | <b>334,039</b>       |

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

**26. COMMITMENTS AND CONTINGENT LIABILITIES**

The Company is a member of various securities and derivative exchanges and clearing houses. As a member, the Company may be required to pay a pro-rata share of the losses incurred by some of these organisations as a result of another member default and under other loss scenarios. The Company's potential obligations may be limited to its membership interests in such exchanges and clearing houses, to the amount (or multiple) of the Company's contribution to the guarantee fund or, in limited instances, to the full pro-rata share of the residual losses after applying the guarantee fund. The Company's maximum potential exposure under these membership agreements is difficult to estimate; however, the potential for the Company to be required to make these payments is remote.

In connection with its prime brokerage and clearing businesses, the Company performs securities clearance and settlement services with other brokerage firms and clearing houses on behalf of its clients. Under these arrangements, the Company stands ready to meet the obligations of its clients with respect to securities transactions. The Company's obligations in this respect are secured by the assets in the clients' accounts and the accounts of their customers as well as by any proceeds received from the transactions cleared and settled by the firm on behalf of clients or their customers. The Company's maximum potential exposure under these arrangements is difficult to estimate; however, the potential for the Company to incur material losses pursuant to these arrangements is remote.

BAC, to include MLI and its affiliates, is subject to a number of investigations, inquiries, and proceedings impacting the global banking industry, including matters raised by Government authorities in the US and various international jurisdictions regarding FX and other reference rates as well as government, sovereign, supranational and agency bonds in connection with conduct and systems and controls. The Corporation is cooperating with these inquiries and investigations and responding to the proceedings as disclosed on its Form 10-K filed with the Securities and Exchange Commission. Many of these investigations, inquiries, and proceedings are still in progress at the time of approval of these financial statements and as a result, the outcomes of these matters cannot be predicted. At this time, the directors do not consider it necessary to make any provisions within the financial statements of MLI.

The Company provides financial guarantees to affiliated companies for International Swaps and Derivatives Association ("ISDA") and non-ISDA transactions. The Company also holds irrevocable commitments.

The below table represents the Company's maximum exposure under those guarantees and commitments.

|                                            | 2019         | 2018       |
|--------------------------------------------|--------------|------------|
|                                            | \$M          | \$M        |
| Financial guarantees                       | 180          | 156        |
| Undrawn portion of irrevocable commitments | 1,590        | 1          |
|                                            | <u>1,770</u> | <u>157</u> |

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

**27. COLLATERAL RECEIVED AND PLEDGED**

The Company receives collateral in transactions that include resale agreements and securities borrowed arrangements, as well as in connection with its derivative contracts. At 31 December 2019 the fair value of financial assets accepted as collateral that the Company is permitted to use, sell or repledge in the absence of default was \$347,152 million (2018: \$279,084 million). The fair value of financial assets accepted as collateral that the Company has used, sold or repledged was \$282,265 million (2018: \$211,266 million). The collateral received is composed of cash and various securities positions such as government and agency securities, corporate debt securities and equities which are generally of high quality and considered highly liquid. In the event of a default, the Company has the legal right to liquidate collateral posted as securities in order to minimise losses. The Company's policy is to monitor the market value of the principal amount loaned under resale agreements and obtain collateral from or return collateral pledged to counterparties when appropriate. Securities financing agreements do not create material credit risk due to these collateral provisions; therefore, an allowance for loan losses is not necessary. The Company is obliged to return cash or equivalent securities as appropriate. Transactions are conducted under standard documentation used by financial market participants, including the terms for the return of cash or equivalent securities as appropriate.

In connection with certain over-the-counter ("OTC") derivative contracts and other trading agreements, the Company can be required to provide additional collateral or to terminate transactions with certain counterparties in the event of a downgrade of the senior debt ratings of the Company. The amount of additional collateral required depends on the contract and is usually a fixed incremental amount and/or the market value of the exposure.

The Company also pledges its own financial assets as collateral in transactions that include repurchase agreements and securities lending arrangements, as well as in connection with its derivative contracts. The collateral pledged is composed of cash and various securities positions such as government and agency securities, corporate debt securities and equities. Where cash collateral has been placed with a counterparty, this is presented as customer receivables within debtors. Non-cash collateral owned by the Company and pledged to counterparties is included within long inventory positions. To determine whether the market value of the underlying collateral remains sufficient, collateral is generally valued daily, and the Company may be required to deposit additional collateral or may receive or return collateral pledged when appropriate. Repurchase agreements and securities loaned transactions are generally either overnight or short-term. The Company manages liquidity risks related to these agreements by sourcing funding from a diverse group of counterparties, providing a range of securities collateral and pursuing longer durations, when appropriate.

The carrying amounts of the Company's financial assets that have been pledged as collateral for liabilities are summarised as follows:

|                          | 2019<br>\$M   | 2018<br>\$M   |
|--------------------------|---------------|---------------|
| Long inventory positions | 32,660        | 41,584        |
| Customer receivables     | 34,159        | 28,206        |
|                          | <u>66,819</u> | <u>69,790</u> |

The corresponding liabilities for which the Company has provided this security are included within short inventory positions, repurchase agreements and securities loaned transactions and creditors, see notes 19, 20 and 21. More generally, the majority of the Company's derivative contracts are entered in accordance with ISDA master agreements or their equivalent, which create a right of set-off in certain circumstances, see note 28 for further detail on these arrangements.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**28. OFFSETTING**

Financial assets and liabilities are offset and the net amount reported in the statement of financial position ("SOF") where the Company currently has a legally enforceable right to offset the recognised amounts, and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously. The Company has also entered into arrangements that do not meet the criteria for offsetting but still allow for the related amounts to be set-off in certain circumstances, such as bankruptcy or the termination of a contract.

The following table presents the recognised financial instruments that are offset, or subject to enforceable master netting arrangements and other similar agreements but not offset, as at 31 December 2019 and 31 December 2018. The column 'net amount' shows the impact on the Company's SOFP if all set-off rights were exercised.

**As at 31 December 2019**

|                                                        | <b>Gross<br/>amounts<br/>recognised<br/>\$M</b> | <b>Gross<br/>amounts<br/>offset in the<br/>SOF<br/>\$M</b> | <b>Net<br/>amounts<br/>presented<br/>in the SOF<br/>\$M</b> | <b>Financial<br/>instruments<br/>\$M</b> | <b>Cash<br/>collateral<br/>\$M</b> | <b>Net amount<br/>\$M</b> |
|--------------------------------------------------------|-------------------------------------------------|------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------|------------------------------------|---------------------------|
| <b>Assets</b>                                          |                                                 |                                                            |                                                             |                                          |                                    |                           |
| Derivative assets                                      | 160,761                                         | (7,087)                                                    | 153,674                                                     | (124,930)                                | (21,574)                           | 7,170                     |
| Resale agreements and securities borrowed transactions | <u>179,727</u>                                  | <u>(72,788)</u>                                            | <u>106,939</u>                                              | <u>(105,859)</u>                         | <u>(275)</u>                       | <u>805</u>                |
| <b>Liabilities</b>                                     |                                                 |                                                            |                                                             |                                          |                                    |                           |
| Derivative liabilities                                 | 160,990                                         | (7,087)                                                    | 153,903                                                     | (122,092)                                | (22,385)                           | 9,426                     |
| Repurchase agreements and securities loaned            | <u>160,187</u>                                  | <u>(72,788)</u>                                            | <u>87,399</u>                                               | <u>(84,660)</u>                          | <u>(275)</u>                       | <u>2,464</u>              |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**28. OFFSETTING (continued)**

**As at 31 December 2018**

|                                                                    | Gross<br>amounts<br>recognised<br>\$M | Gross<br>amounts<br>offset in the<br>SOPF<br>\$M | Net amounts<br>presented in<br>the SOPF<br>\$M | Financial<br>instruments *<br>\$M | Cash<br>collateral<br>\$M | Net amount<br>\$M |
|--------------------------------------------------------------------|---------------------------------------|--------------------------------------------------|------------------------------------------------|-----------------------------------|---------------------------|-------------------|
| <b>Assets</b>                                                      |                                       |                                                  |                                                |                                   |                           |                   |
| Derivative<br>assets                                               | 150,330                               | (5,871)                                          | 144,459                                        | (115,502)                         | (19,644)                  | 9,313             |
| Resale<br>agreements and<br>securities<br>borrowed<br>transactions | 150,128                               | (46,829)                                         | 103,299                                        | (101,530)                         | (630)                     | 1,139             |
|                                                                    | <u>150,128</u>                        | <u>(46,829)</u>                                  | <u>103,299</u>                                 | <u>(101,530)</u>                  | <u>(630)</u>              | <u>1,139</u>      |
| <b>Liabilities</b>                                                 |                                       |                                                  |                                                |                                   |                           |                   |
| Derivative<br>liabilities                                          | 148,346                               | (5,871)                                          | 142,475                                        | (111,265)                         | (22,310)                  | 8,900             |
| Repurchase<br>agreements and<br>securities loaned                  | 131,799                               | (46,829)                                         | 84,970                                         | (81,336)                          | (630)                     | 3,004             |
|                                                                    | <u>131,799</u>                        | <u>(46,829)</u>                                  | <u>84,970</u>                                  | <u>(81,336)</u>                   | <u>(630)</u>              | <u>3,004</u>      |

\* The amounts in the 'Financial instruments' column relating to 'Repurchase agreements and securities loaned' has been restated due to a prior year error in accordance with IAS 8 - Accounting Policies, Changes in Estimates and Errors. The financial instruments that are offset against repurchase agreements and securities loaned decreased by \$2,454 million. This now reflects a specific subset of counterparties and trades, following a review of the underlying terms.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 28. OFFSETTING (continued)

##### Financial instruments

The Company can undertake a number of financial instrument transactions with a single counterparty and may enter into a master netting agreement with that counterparty. Such an agreement provides for a single net settlement of all financial instruments covered by the agreement in the event of default on, or termination of, any one contract. These agreements are commonly used to provide protection against loss in the event of bankruptcy or other circumstances that result in a counterparty being unable to meet its obligations. A master netting arrangement commonly creates a right of set-off that becomes enforceable and affects the realisation or settlement of individual financial assets and financial liabilities only following a specified event of default or in other circumstances not expected to arise in the normal course of business.

The Company enters into ISDA master agreements or their equivalent ("master netting agreements") with the Company's major derivative counterparties.

Where there is not an intention to settle on a net basis in the normal course of business, the balances have not been offset in the SOFP and have been presented separately in the table on the previous page.

Financial instruments also includes securities collateral received and pledged which has not been offset in the SOFP.

##### Cash collateral

Cash collateral relates to collateral received and pledged against both derivatives and repurchase agreements which has not been offset in the SOFP.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 29. RISK MANAGEMENT

##### Legal entity governance

BAC has established a risk governance framework (the "Risk Framework") which serves as the foundation for consistent and effective management of risks facing BAC and its subsidiaries (including the Company). The Risk Framework applies to all BAC employees. It provides an understanding of the Company's approach to risk management and each employee's responsibilities for managing risk. All employees must take ownership for managing risk well and are accountable for identifying, escalating and debating risks facing the Company. The following are the five components of the Company's risk management approach:

- Culture of Managing Risk Well;
- Risk Appetite and Risk Limits;
- Risk Management Processes;
- Risk Data Management, Aggregation and Reporting; and
- Risk Governance

The seven key types of risk faced by BAC businesses as defined in the Risk Framework are market, credit, operational, liquidity, reputational, strategic and compliance risks.

Set out below is a summary of the Company's approach to each of the risk types.

##### Market risk

Market risk is the risk that changes in market conditions may adversely impact the values of assets and liabilities or otherwise negatively impact earnings.

Market risk is composed of price risk and interest rate risk:

Price risk: is the risk to current or projected financial condition and resilience arising from changes in the value of either trading portfolios or other obligations that are entered into as part of distributing risk. These portfolios typically are subject to daily price movements and are accounted for primarily on a mark-to-market basis. This risk occurs most significantly from market-making, dealing and capital markets activity in interest rate, foreign exchange, equity, commodities and credit markets. In addition, the values of assets and liabilities could change due to market liquidity, correlations across markets and expectations of market volatility.

Interest rate risk: is the risk to current or projected financial condition and resilience arising from movements in interest rates. Interest rate risk results from differences between the timing of rate changes and the timing of cash flows (re-pricing risk), from changing rate relationships among different yield curves affecting bank activities (basis risk), from changing rate relationships across the spectrum of maturities (yield curve risk), and from interest-related options embedded in bank products (options risk). Interest rate risk arises in MLI's non-trading book from differences in re-pricing, rate and maturity characteristics between its assets and liabilities. Interest rate risk is measured as the potential change in net interest income or economic value of equity caused by movements in market interest rates.

##### Market risk measurement

At the asset and liability level, market risk is assessed by evaluating the impact of individual risk factors on individual exposures. At the aggregate level, price risk is assessed primarily through risk models, including Value at Risk ("VaR") models. MLI's aggregate potential economic exposure, as well as earnings and capital sensitivity, to interest rate risk in the non-trading book is also assessed.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**29. RISK MANAGEMENT (continued)**

MLI has been granted permission by the PRA to use an Internal Model Approach ("IMA") for the following models in calculating regulatory capital for market risk: Value at Risk, Stressed VaR, Incremental Risk Charge and Comprehensive Risk Measure. The capital requirement for trading book positions that do not meet the conditions for inclusion within the approved internal models approach is calculated using standardised rules.

**Value at Risk**

VaR is a statistical measure of potential portfolio market value loss resulting from changes in market variables, during a given holding period, measured at a specified confidence level. A single model is used consistently across the trading portfolios, and it uses a historical simulation approach based on a three-year window of historical data. The primary VaR statistic is equivalent to a 99 percent confidence level. This means that for a VaR with a one day holding period, there should not be losses in excess of VaR, on average, 99 out of 100 trading days.

|                      | <b>Year end<br/>2019<br/>\$000's</b> | <b>High<br/>2019<br/>\$000's</b> | <b>Daily<br/>average<br/>2019<br/>\$000's</b> | <b>Low<br/>2019<br/>\$000's</b> |
|----------------------|--------------------------------------|----------------------------------|-----------------------------------------------|---------------------------------|
| <b>99% Daily VaR</b> |                                      |                                  |                                               |                                 |
| Total                | 19,281                               | 39,154                           | 17,082                                        | 8,852                           |
| Interest rate risk   | 10,124                               | 28,282                           | 14,390                                        | 8,244                           |
| Currency risk        | 4,616                                | 10,979                           | 4,592                                         | 1,531                           |
| Equity price risk    | 12,124                               | 31,057                           | 10,812                                        | 5,649                           |
| Credit spread risk   | 6,083                                | 13,770                           | 7,374                                         | 5,248                           |
| Commodity price risk | 3,525                                | 6,418                            | 2,464                                         | 971                             |

|                      | <b>Year end<br/>2018<br/>\$000's</b> | <b>High<br/>2018<br/>\$000's</b> | <b>Daily<br/>average<br/>2018<br/>\$000's</b> | <b>Low<br/>2018<br/>\$000's</b> |
|----------------------|--------------------------------------|----------------------------------|-----------------------------------------------|---------------------------------|
| <b>99% Daily VaR</b> |                                      |                                  |                                               |                                 |
| Total                | 23,321                               | 52,759                           | 21,955                                        | 12,790                          |
| Interest rate risk   | 16,602                               | 30,291                           | 16,399                                        | 7,973                           |
| Currency risk        | 5,705                                | 13,959                           | 8,149                                         | 2,380                           |
| Equity price risk    | 10,776                               | 41,296                           | 14,678                                        | 7,411                           |
| Credit spread risk   | 10,047                               | 25,552                           | 13,441                                        | 5,956                           |
| Commodity price risk | 1,931                                | 7,851                            | 3,127                                         | 1,185                           |

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 29. RISK MANAGEMENT (continued)

In addition to VaR measures, the market risk department utilises a range of other risk measures including sensitivity analysis and stress testing to monitor exposures, and manages them using a robust set of limits.

##### Credit risk

Credit risk is the risk of loss arising from the inability or failure of a borrower or counterparty to meet its obligations. Credit risk is created when the Company commits to, or enters into, an agreement with a borrower or counterparty. The Company defines credit exposure to a borrower or counterparty as the loss potential arising from loans, leases, derivatives and other extensions of credit.

Credit risk management includes the following processes:

- Credit origination
- Portfolio management
- Loss mitigation activities

These processes create a comprehensive and consolidated view of the Company's credit risks, thus providing executive management with the information required to guide or redirect front line units ("FLU's") and certain legal entity strategic plans, if necessary.

As BAC's main investment firm outside of the US, MLI's credit strategy and origination is focused on its trading, securities and derivatives activities which account for the majority of its credit exposure.

##### Derivatives trading

The Company enters into ISDA master agreements or their equivalent ("master netting agreements") with its derivative counterparties. Master netting agreements provide protection in bankruptcy in certain circumstances and, in some cases, enable receivables and payables with the same counterparty to be offset for risk management purposes. Agreements are negotiated bilaterally and can require complex terms. The enforceability of master netting agreements under bankruptcy laws in certain countries is not free from doubt, and receivables and payables with counterparties in these countries are accordingly recorded on a gross basis for risk assessment purposes.

In addition, to reduce the risk of loss, the Company usually requires collateral that is permitted by documentation such as repurchase agreements or Credit Support Annex to an ISDA. From an economic standpoint, the Company evaluates risk exposures net of related collateral that meets specified standards. The Company also attempts to mitigate its default risk on derivatives whenever possible by entering into transactions with provisions that enable it to terminate or reset the terms of the derivative contracts under certain defined conditions.

##### Securities activities

In the normal course of business, the Company executes, settles, and finances various customer securities transactions. Execution of these transactions includes the purchase and sale of securities by the Company. These activities may expose the Company to counterparty default risk arising from the failure of customers or counterparties to satisfy their obligations. In these situations, the Company may be required to purchase or sell financial instruments at unfavourable market prices to satisfy obligations to other customers or counterparties. This potential loss arising from this replacement value is calculated as counterparty credit exposure. In addition, the Company seeks to control the risks associated with its customer margin activities by requiring customers to maintain collateral in compliance with regulatory and internal guidelines.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**29. RISK MANAGEMENT (continued)**

Default

The Company considers a financial asset to be in default when:

- Material exposures are more than 90 days past due and/or;
- The borrower is assessed as unlikely to pay its credit obligations in full without realisation of collateral, regardless of the existence of any past due amount or of the number of days past due.

In assessing whether a borrower is in default, the Company considers qualitative indicators such as breaches of covenants, as well as quantitative indicators such as overdue status and non-payment on other obligations of the same issuer. Data from external sources is also used in the consideration of whether a borrower is in default.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**29. RISK MANAGEMENT (continued)**

The following table reflects by asset class of financial instrument the amount that best represents the Company's maximum exposure to credit risk and a quantification of the extent to which collateral and other credit enhancements mitigate credit risk as viewed by management.

|                                                        | Maximum<br>exposure to<br>credit risk<br>2019<br>\$M | Mitigated<br>credit risk<br>2019<br>\$M | Maximum<br>exposure to<br>credit risk<br>2018<br>\$M | Mitigated<br>credit risk<br>2018<br>\$M |
|--------------------------------------------------------|------------------------------------------------------|-----------------------------------------|------------------------------------------------------|-----------------------------------------|
| Derivatives                                            | 153,674                                              | 146,014                                 | 144,459                                              | 137,402                                 |
| Convertible debentures                                 | 1,065                                                | -                                       | 1,152                                                | -                                       |
| Corporate debt and preferred stock                     | 2,760                                                | 729                                     | 3,258                                                | 1,158                                   |
| Mortgage-backed and asset-backed securities            | 782                                                  | -                                       | 1,191                                                | -                                       |
| Non-US governments and agencies                        | 6,664                                                | 3,489                                   | 10,227                                               | 9,693                                   |
| US governments and agencies                            | 641                                                  | 641                                     | 827                                                  | 827                                     |
| Commodities                                            | 167                                                  | -                                       | 3                                                    | -                                       |
| Debt securities at FVOCI                               | 3,612                                                | 1,736                                   | 2,790                                                | 2,790                                   |
| Debtors                                                | 59,953                                               | 53,312                                  | 56,528                                               | 48,912                                  |
| Cash at bank                                           | 5,500                                                | -                                       | 13,231                                               | -                                       |
| Resale agreements and securities borrowed transactions | 106,939                                              | 104,120                                 | 103,299                                              | 99,549                                  |
| Financial guarantees                                   | 180                                                  | -                                       | 156                                                  | -                                       |
| Undrawn portion of irrevocable commitments             | 1,590                                                | -                                       | 1                                                    | -                                       |
|                                                        | <b>343,527</b>                                       | <b>310,041</b>                          | <b>337,122</b>                                       | <b>300,331</b>                          |

For all asset classes, where credit risk mitigation exceeds the maximum exposure to credit risk, the credit risk mitigation balance is limited to 100% of the maximum exposure to credit risk.

As detailed in note 15, long inventory positions include corporate debt, preferred stock, convertible debentures, government and agency securities, derivative assets, commodities, and mortgage-backed and asset-backed securities. For credit risk management purposes, inventory exposure is monitored across lines of business, and at a net issuer level. The credit risk of long inventory positions is mitigated through the netting of long and short positions for each issuer. The credit risk mitigation amount reflects the market value of any netting available, including short positions, and the market value of any single-name credit default swap ("CDS") protection purchased on a specific issuer.

As noted above, derivative trading activity is generally documented under a legally enforceable ISDA or similar master netting agreement, which binds both parties to apply close-out netting across all transactions covered by the agreement if either party defaults or if another pre-agreed termination event occurs. Therefore, risk is managed on a net basis, taking into consideration the effects of legally enforceable master netting agreements and collateral. However, if there is no intention to settle these balances on a net basis under normal circumstances, they do not qualify for net presentation for accounting purposes.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**29. RISK MANAGEMENT (continued)**

Debtors include amounts due from brokers, dealers and clearing houses, intercompany loans, third party loans and other trade debtors.

The Company's off balance sheet exposure to credit risk is principally comprised of undrawn loan commitments, securities pledged as collateral for derivative trading activities, guarantees, letters of credit and similar arrangements. Depending on the terms of the arrangement, the Company may also have recourse to additional credit risk mitigation in the event that a guarantee is called upon or a loan commitment is drawn and subsequently defaults. However, the valuation of such credit mitigating measures is less certain and their financial effect has not been quantified in the analysis of mitigated credit risk.

The below tables reflect the Company's assessment of its credit exposure, based on credit rating agency ratings or the internal equivalent thereof. Where there is no rating, the balances are classified as not rated. Although the table reflects the Company's gross exposure, the Company manages its credit exposures on a net basis.

|                                             | AAA to AA-<br>\$M | A+ to BBB-<br>\$M | BB+ and<br>lower<br>\$M | Not rated<br>\$M | Total<br>\$M   |
|---------------------------------------------|-------------------|-------------------|-------------------------|------------------|----------------|
| <b>As at 31 December 2019</b>               |                   |                   |                         |                  |                |
| Derivatives                                 | 9,420             | 134,684           | 8,491                   | 1,079            | 153,674        |
| Convertible debentures                      | 4                 | 691               | -                       | 370              | 1,065          |
| Corporate debt and preferred stock          | 182               | 603               | 319                     | 1,656            | 2,760          |
| Mortgage-backed and asset-backed securities | 3                 | 135               | -                       | 644              | 782            |
| Non-US governments and agencies             | 2,877             | 1,667             | 1,386                   | 734              | 6,664          |
| US government and agencies                  | 583               | 9                 | -                       | 49               | 641            |
| Commodities                                 | -                 | 167               | -                       | -                | 167            |
| Debt securities at FVOCI                    | 2,114             | 1,084             | -                       | 414              | 3,612          |
| Financial guarantees                        | -                 | 180               | -                       | -                | 180            |
| Undrawn portion of irrevocable commitments  | -                 | -                 | -                       | 1,590            | 1,590          |
|                                             | <u>15,183</u>     | <u>139,220</u>    | <u>10,196</u>           | <u>6,536</u>     | <u>171,135</u> |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**29. RISK MANAGEMENT (continued)**

|                                             | AAA to AA-<br>\$M | A+ to BBB-<br>\$M | BB+ and<br>lower<br>\$M | Not rated<br>\$M | Total<br>\$M   |
|---------------------------------------------|-------------------|-------------------|-------------------------|------------------|----------------|
| <b>As at 31 December 2018</b>               |                   |                   |                         |                  |                |
| Derivatives                                 | 3,789             | 131,967           | 6,184                   | 2,519            | 144,459        |
| Convertible debentures                      | -                 | 67                | 63                      | 1,022            | 1,152          |
| Corporate debt and preferred stock          | 188               | 989               | 152                     | 1,929            | 3,258          |
| Mortgage-backed and asset-backed securities | 2                 | 8                 | 9                       | 1,172            | 1,191          |
| Non-US governments and agencies             | 1,988             | 5,824             | 1,928                   | 487              | 10,227         |
| US government and agencies                  | 827               | -                 | -                       | -                | 827            |
| Commodities                                 | -                 | 3                 | -                       | -                | 3              |
| Debt securities at FVOCI                    | 455               | 1,415             | 416                     | 504              | 2,790          |
| Financial guarantees                        | -                 | 156               | -                       | -                | 156            |
| Irrevocable commitments                     | -                 | -                 | -                       | 1                | 1              |
|                                             | <u>7,249</u>      | <u>140,429</u>    | <u>8,752</u>            | <u>7,634</u>     | <u>164,064</u> |

The Company's counterparties are primarily highly rated financial institutions, and a significant proportion of credit exposures in the scope of the impairment requirements of IFRS 9 relate to securities financing transactions which are largely collateralised. The remaining financial assets in the scope of IFRS 9 are typically short-dated. As a result the probability of default, loss given default, or both are such that the resulting ECL is not significant to the Company. Actual amounts written off during the year are also not significant to the Company. In light of this, no further breakdown of the Company's debtors by credit risk rating is considered necessary.

For trade and other debtors, the Company uses past due information as a key part of its assessment as to whether credit risk has increased significantly since initial recognition. For affiliated company trade and other debtors, the Company's anticipated ECL was determined not to be material and no loss was recognised as these receivables are classified as stage 1 and based on historic assessment of write offs there is minimal risk of default.

The following table details third party credit exposures that are past due:

|                         | 0-30<br>days<br>\$M | 31-60<br>days<br>\$M | 61-90<br>days<br>\$M | 91-120<br>days<br>\$M | 120<br>days+<br>\$M | Total<br>\$M |
|-------------------------|---------------------|----------------------|----------------------|-----------------------|---------------------|--------------|
| <b>31 December 2019</b> |                     |                      |                      |                       |                     |              |
| Debtors                 | <u>3</u>            | <u>-</u>             | <u>-</u>             | <u>-</u>              | <u>-</u>            | <u>3</u>     |

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

29. RISK MANAGEMENT (continued)

|                             | 0-30<br>days<br>\$M | 31-60<br>days<br>\$M | 61-90<br>days<br>\$M | 91-120<br>days<br>\$M | 120<br>days+<br>\$M | Total<br>\$M |
|-----------------------------|---------------------|----------------------|----------------------|-----------------------|---------------------|--------------|
| <b>31 December<br/>2018</b> |                     |                      |                      |                       |                     |              |
| Debtors                     | 6                   | 1                    | -                    | -                     | 6                   | 13           |

Amounts that are past due relate to trades with third parties that have failed settlement, and the amounts presented in the balance sheet relate to trade debtors whereby the Company will deliver securities or cash to the obligor upon receipt of the amounts due. Amounts past due greater than 90 days are assessed as Stage 3 (credit-impaired) for IFRS 9 purposes, with other amounts past due considered to be Stage 1. However as there is still an expectation that settlement will take place for all balances, and that the Company has not or will not deliver on its part of the transaction prior to full settlement taking place, the ECL on these exposures is not considered to be significant.

Given the short-dated nature and collateralisation of the Company's significant debtors, it is not considered that the Company has a significant concentration of credit risk that would be impacted by a change in economic conditions for a particular group or portfolio of financial instruments. No further analysis of concentrations of credit risk is therefore provided.

Write offs

Loans and debt securities are written off, either partially, or in full, when there is no realistic prospect of recovery. This is generally the case when the Company determines that the borrower does not have assets or sources of income that could generate sufficient cash flows to repay the amounts subject to the write off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company's procedures for recovery of amounts due.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 29. RISK MANAGEMENT (continued)

##### Compliance and Operational risk

Compliance risk is the risk of legal or regulatory sanctions, material financial loss or damage to the reputation of the Company arising from the failure of the Company to comply with the requirements of applicable laws, rules and regulations and internal policies and procedures. The Company is committed to the highest level of compliance and has no appetite for violations of legislative or regulatory requirements. The Company seeks to anticipate and assess compliance risks to core businesses and respond to these risks effectively should they materialise. While the Company strives to prevent compliance violations in everything it does, the Company cannot fully eliminate compliance risk, but manages it by establishing permissible thresholds to reduce exposure to financial loss, reputational harm or regulatory sanctions.

Operational risk is the risk of loss resulting from inadequate or failed processes, people and systems or from external events. The Company has designed an operational risk management program, in compliance with Basel II Advanced Measurement Approach requirements, that incorporates and documents the process for identifying, measuring, monitoring, controlling and reporting operational risk information to executive management and the appropriate boards of directors, or appropriate board-level committees. The Company manages operational risk by establishing permissible thresholds to reduce exposure to financial loss, reputational harm or regulatory sanctions.

##### Compliance and Operational Risk Management

FLUs and control functions, including enterprise areas of coverage such as Global Information Security and Outsourcing (both third party and internal risks), are first and foremost responsible for managing all aspects of their businesses, including their compliance and operational risk. FLUs and control functions are required to understand their business processes and related risks and controls, including the related regulatory requirements, and monitor and report on the effectiveness of the control environment. In order to actively monitor and assess the performance of their processes and controls, they must conduct comprehensive quality assurance activities and identify issues and risks to remediate control gaps and weaknesses. FLUs and control functions must also adhere to compliance and operational risk appetite limits to meet strategic, capital and financial planning objectives. Finally, FLUs and control functions are responsible for the proactive identification, management and escalation of compliance and operational risks across the Company.

##### Liquidity risk

Liquidity risk is the inability to meet expected or unexpected cash flow and collateral needs while continuing to support the businesses and customers, under a range of economic conditions.

The MLI Liquidity Risk Policy ("LRP") defines the approach to managing MLI's liquidity, aligned to group processes and tailored to meet MLI's business mix, strategy, activity profile, risk appetite and regulatory requirements and is approved by the Board. The MLI MRC reviews and recommends Risk Appetite limits to the MLI BRC, which in turn reviews and recommends to the Board for approval.

The MLI LRP describes the liquidity risk roles and responsibilities including requirements for liquidity risk limits, stress testing, analytics and reporting, and recovery and resolution planning.

Each of the FLUs are accountable for managing liquidity risk within the MLI Liquidity Risk Appetite ("LRA") by establishing appropriate processes to identify, measure, monitor and control the risks associated with their activities. Global Risk Management ("GRM") provides independent oversight and supervision of FLU activities, an independent view of the liquidity risk of FLU activities and assesses the effectiveness of MLI's liquidity risk management processes.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**29. RISK MANAGEMENT (continued)**

The MLI LRA is defined by the following:

- Internal Liquidity Stress Test ("ILST") = Liquidity sources divided by the net peak outflows over a 30 day combined stress period
- EU Liquidity Coverage Ratio ("LCR") = High Quality Liquid Assets divided by 30 day net stress outflows (Binding Constraint)

GRM works with Treasury and the Businesses to monitor actual and forecast liquidity and funding requirements with a focus on limit utilisation and trends, and any change in business / market behaviour may require a change in the treatment of risk and limit recalibration.

The tables below represent the undiscounted cash flows of the Company's financial liabilities as at 31 December 2019 and 31 December 2018, with the exception of those held for trading or designated at FVPL. The fair values of financial liabilities held for trading and financial liabilities designated at FVPL have been disclosed as this is consistent with the values used in the liquidity risk management of these instruments.

|                                                             | On demand<br>or within 1<br>year<br>\$M | Due<br>between 1<br>and 5 years<br>\$M | Due after 5<br>years<br>\$M | Total<br>\$M   |
|-------------------------------------------------------------|-----------------------------------------|----------------------------------------|-----------------------------|----------------|
| <b>At 31 December 2019</b>                                  |                                         |                                        |                             |                |
| Derivatives                                                 | 153,903                                 | -                                      | -                           | 153,903        |
| Equities and convertible debentures                         | 13,779                                  | -                                      | -                           | 13,779         |
| Corporate debt and preferred stock                          | 1,297                                   | -                                      | -                           | 1,297          |
| Non-US Governments and agencies                             | 6,783                                   | -                                      | -                           | 6,783          |
| US Governments and agencies                                 | 533                                     | -                                      | -                           | 533            |
| Customer payables                                           | 43,092                                  | -                                      | -                           | 43,092         |
| Brokers, dealers and clearing houses                        | 4,703                                   | -                                      | -                           | 4,703          |
| Repurchase agreements and securities<br>loaned transactions | 87,399                                  | -                                      | -                           | 87,399         |
| Amounts owed to affiliated companies                        | 15,201                                  | 9,194                                  | 5,290                       | 29,685         |
| Other creditors and accruals                                | 5,095                                   | -                                      | -                           | 5,095          |
| Bank loans and overdrafts                                   | 1,000                                   | -                                      | -                           | 1,000          |
| Financial guarantees                                        | 180                                     | -                                      | -                           | 180            |
| Irrevocable commitments                                     | 1,590                                   | -                                      | -                           | 1,590          |
|                                                             | <u>334,555</u>                          | <u>9,194</u>                           | <u>5,290</u>                | <u>349,039</u> |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**29. RISK MANAGEMENT (continued)**

|                                                             | On demand<br>or within 1<br>year<br>\$M | Due between<br>1 and 5<br>years<br>\$M | Due after 5<br>years<br>\$M | Total<br>\$M   |
|-------------------------------------------------------------|-----------------------------------------|----------------------------------------|-----------------------------|----------------|
| <b>At 31 December 2018</b>                                  |                                         |                                        |                             |                |
| Derivatives                                                 | 142,475                                 | -                                      | -                           | 142,475        |
| Equities and convertible debentures                         | 18,879                                  | -                                      | -                           | 18,879         |
| Corporate debt and preferred stock                          | 2,341                                   | -                                      | -                           | 2,341          |
| Non-US Government and agencies                              | 12,693                                  | -                                      | -                           | 12,693         |
| US Government and agencies                                  | 133                                     | -                                      | -                           | 133            |
| Customer payables                                           | 38,989                                  | -                                      | -                           | 38,989         |
| Brokers, dealers and clearing houses                        | 7,662                                   | -                                      | -                           | 7,662          |
| Repurchase agreements and securities<br>loaned transactions | 84,970                                  | -                                      | -                           | 84,970         |
| Amounts owed to affiliated companies *                      | 16,169                                  | 812                                    | 6,866                       | 23,847         |
| Other creditors and accruals                                | 4,969                                   | -                                      | -                           | 4,969          |
| Bank loans and overdrafts                                   | 631                                     | -                                      | -                           | 631            |
| Financial guarantees                                        | 156                                     | -                                      | -                           | 156            |
| Irrevocable commitments                                     | 1                                       | -                                      | -                           | 1              |
|                                                             | <u>330,068</u>                          | <u>812</u>                             | <u>6,866</u>                | <u>337,746</u> |

\* Amounts owed to affiliated companies has been restated due to an error in accordance with IAS 8 – Accounting Policies, Changes in Estimates and Errors. The impact on the prior year disclosures is as follows: Amounts owed to affiliated companies on demand or within 1 year increased by \$22 million; due between 1 and 5 years increased by \$56 million; and due after 5 years increased by \$233 million.

The Company has recorded all derivative financial instrument liabilities in the “on demand” category to reflect the common market practice of terminating such liabilities at fair value upon a client’s request, although the Company is generally not contractually obliged to do so. The Company has provided the present value rather than contractual undiscounted cash flows for these instruments. The Company considers it unlikely that, in any given period, all of the liabilities will unwind in the short term. The Company manages liquidity for these instruments by actively unwinding asset positions to ensure appropriately balanced cash flows. Guarantees and commitments and financial liabilities designated at fair value are undiscounted and are shown on the basis of the earliest date they can be called. All other figures are undiscounted and show contractual maturities.

**Reputational risk**

Reputational risk is the potential risk that negative perceptions of BAC’s conduct or business practices will adversely affect its profitability or operations.

BAC manages reputational risk through established policies and controls in the business and risk management processes to mitigate reputational risks in a timely manner and through proactive monitoring and identification of potential reputational risk events.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 29. RISK MANAGEMENT (continued)

Ultimately, to ensure that reputational risk is mitigated through regular business activity, awareness of reputational risk is integrated into the overall governance process, as well as incorporated into the roles and responsibilities for employees.

Given the nature of reputational risk, BAC does not set quantitative limits for the level of acceptable risk. Through proactive risk management, BAC seeks to minimise both the frequency and impact of reputational events.

At the BAC level, reputational risk is reviewed by the Enterprise Risk Committee and the Enterprise Management Risk Committee, which provide primary oversight of reputational risk. Additionally, top reputational risks are reviewed by the GRM Leadership team and the BAC board of directors ("BAC Board").

For the EMEA region there is a specialist committee, the EMEA Reputational Risk Committee, whose charter includes consideration of reputational risk issues and to provide guidance and approvals for activities that represent specific reputational risks which have been referred for discussion by other current control frameworks or lines of business.

Reputational risk items relating to MLI are considered as part of the EMEA Reputational Risk Committee. In addition, the EMEA Reputational Risk Committee provides updates to the MLI BRC on a quarterly basis.

Items requiring increased attention may be escalated from the EMEA Reputational Risk Committee to the Global Reputational Risk Committee as appropriate. The MLI BRC is informed of such matters at each quarterly meeting through an MLI specific report.

#### **Strategic risk**

Strategic risk is the risk that results from incorrect assumptions about external and/or internal factors, inappropriate business plans (e.g. too aggressive, wrong focus, ambiguous), ineffective business strategy execution, or failure to respond in a timely manner to changes in the regulatory, macroeconomic and competitive environments in the geographic locations in which MLI operates (such as competitor actions, changing customer preferences, product obsolescence, and technology developments).

Strategic risk is managed through the ongoing assessment of effective delivery of strategy. Strategic Risk is monitored continuously by the executive management team through a number of existing processes ranging from monitoring of financial and operating performance, through to the management of recovery and resolution plans and also with the regular assessment of earnings and risk profile throughout the year. The executive management team provides the Board with reports on progress in meeting the strategic plan, as well as whether timelines and objectives are being met and if additional or alternative actions need to be implemented.

MLI strategy execution and risk management are aligned to the overall BAC strategic plans through a formal planning and approval process. The MLI strategic plans are set within the context of overall risk appetite and the strategic planning process includes an evaluation of the internal and external environment and the group's strengths, weaknesses, opportunities and threats.

The BAC Board is responsible for overseeing the strategic planning process and management's implementation of the resulting strategic plan. BAC's strategic plan is reviewed and approved annually by the BAC Board in consideration of the capital plan, financial operating plan, liquidity requirements and risk appetite. Significant strategic actions, such as capital actions, material acquisitions or divestitures, and recovery and resolution plans are reviewed and approved by the BAC Board as required.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 29. RISK MANAGEMENT (continued)

Strategic planning at BAC level is representative of more detailed planning undertaken at the business unit, regional and MLI level. MLI's strategic plan is reviewed and approved annually by the Board in consideration of the capital plan, financial operating plan, liquidity requirements and risk appetite. Strategic decisions relating to MLI are presented and discussed at the MLI BRC and the Board.

Routines exist to discuss the strategic risk implications of new, expanded, or modified businesses, products or services and other strategic initiatives, and to provide formal review and approval where appropriate. Independent risk management, Corporate Audit and other control functions provide input, challenge and oversight to FLU and regional level strategic plans and initiatives. Corporate Audit reviews the strategic plan and provides feedback to regional management, the Board and the BAC Board as necessary regarding the impact to the control environment.

Focused regional performance updates are provided to executive leadership and the BAC Board on a periodic basis. Updates take into account analyses of performance relative to the strategic plan, risk appetite, performance relative to peers, the strength of capital and liquidity positions and stress tests (which address potential macroeconomic events, changing regulatory requirements and various market growth rate assumptions).

#### Capital management

The Company's objective when managing capital is to ensure there is a sufficient level and composition of capital to support the Company's business activities and associated risk during both a normal economic environment and under stress conditions.

A strong capital position is essential to the Company's business strategy and competitive position. This is supported through its capital management framework, which is designed to ensure that the Company is adequately capitalised at all times in relation to:

- Minimum risk-based regulatory capital requirements (Pillar 1 capital under CRD IV), Pillar 2/individual capital guidance set by the PRA and relevant CRD IV, PRA buffers, and the application of an internal capital buffer above those prescribed in regulation.
- The risks faced by the Company, through regular review of the current and future business activities
- Upcoming and future regulations impacting the Company.

The framework used to manage capital within the Company is supported by regular point-in-time capital calculations and reporting, supplemented by forward-looking projections and stress testing. Each step of the process is supported by established controls. This includes weekly, monthly and quarterly reporting to ensure there is sufficient oversight to enable effective management of its capital adequacy position within the Company's risk appetite limits. Escalation of issues are driven by specific triggers.

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

29. RISK MANAGEMENT (continued)

The composition of the Company's regulatory capital as at 31 December 2019 is as follows:

|                                                          | 2019<br>\$M   | 2018<br>\$M   |
|----------------------------------------------------------|---------------|---------------|
| Common Equity Tier 1 (equity share capital and reserves) | <u>35,015</u> | <u>34,980</u> |

As at 31 December 2019 the Company was adequately capitalised and met all external capital requirements. Capital resources are inclusive of audited current year profits after the deduction of any dividends recommended by the directors in respect of the current year.

The Company makes country by country reporting disclosures as required under the capital requirements directive. These disclosures can be obtained via <http://investor.bankofamerica.com>.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 30. STRUCTURED ENTITIES AND TRANSFERS OF FINANCIAL ASSETS

##### Structured entities

A structured entity is an entity that has been designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate to administrative tasks only and the relevant activities are directed by means of other contractual arrangements.

The most common type of structured entity is an SPE. The party that has power to direct the most significant activities of the entity and is exposed to the risks of the entity (together constituting control of the entity) is required to consolidate the assets and liabilities of the structured entity. The structured entities in which the Company has control are consolidated into the financial statements of the ultimate parent undertaking of the Company, BAC.

##### Interests in unconsolidated structured entities

The Company's interests in unconsolidated structured entities is considered as the contractual and non-contractual involvement that exposes the Company to variability of returns from the performance of the structured entity. Interests in other entities can be evidenced by, but not limited to, the holding of equity or debt instruments as well as other forms of involvement such as the provision of funding, liquidity support, credit enhancement and guarantees.

The Company has involvement with various structured entities, originated within the BAC Group or by third parties. These typically include equity funds and credit vehicles.

Credit vehicles are typically created on behalf of customers who wish to obtain market or credit exposure to a specific company, index, commodity or financial instrument. The Company may transfer assets to and on occasion finance securities issued by these vehicles. The Company typically enters into credit, equity, interest rate, commodity or foreign currency derivatives to synthetically create or alter the investment profile of the issued securities.

As the Company does not prepare consolidated financial statements, all interests in structured entities are considered as unconsolidated in this disclosure. SPEs for which the Company also has control are listed in note 14. The Company typically has either an interest in or control over sponsored SPEs, and instances where it has neither are rare.

Where the Company's interest in a SPE involves the transfer of an asset, these have been disclosed in the transfer of financial assets section below.

The total size of SPEs disclosed in the transfer of financial assets section below is calculated as the principal outstanding of the SPEs.

Interest rate swaps and foreign exchange derivatives that are not complex and which expose the Company to insignificant credit risk by being senior in the payment waterfall of a securitisation and derivatives that are determined to introduce risk or variability to a structured entity are not considered to be an interest in an entity and have been excluded from the disclosures below where this is the only involvement with the SPE.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**30. STRUCTURED ENTITIES AND TRANSFERS OF FINANCIAL ASSETS (continued)**

**Short term traded interests in unconsolidated structured entities**

The Company invests in asset-backed securities issued by third party SPEs, with which it has no other form of involvement, as part of its trading activities. An example of this would be mortgage-backed securities, other asset-backed securities and similar interests. Such interests are typically held individually or as part of a larger portfolio for no more than 90 days. In such cases, the Company's maximum exposure to loss is restricted to the carrying value of the asset. These SPEs are not controlled by the Company and are not included in the tables below.

**Interests in unconsolidated SPEs where the Company is not the transferor**

Interests in unconsolidated SPEs where the Company is not the transferor of an asset are as follows:

|                               | Carrying<br>amount of<br>financial<br>assets<br>\$M | Carrying<br>amount of<br>financial<br>liabilities<br>\$M | Maximum<br>exposure to<br>loss<br>\$M |
|-------------------------------|-----------------------------------------------------|----------------------------------------------------------|---------------------------------------|
| <b>31 December 2019</b>       |                                                     |                                                          |                                       |
| Trading inventory             | 223                                                 | (81)                                                     | 223                                   |
| Other debtors and prepayments | 37                                                  | -                                                        | 37                                    |
|                               | <u>260</u>                                          | <u>(81)</u>                                              | <u>260</u>                            |

|                               | Carrying<br>amount of<br>financial<br>assets<br>\$M | Carrying<br>amount of<br>financial<br>liabilities<br>\$M | Maximum<br>exposure to<br>loss<br>\$M |
|-------------------------------|-----------------------------------------------------|----------------------------------------------------------|---------------------------------------|
| <b>31 December 2018</b>       |                                                     |                                                          |                                       |
| Trading inventory             | 196                                                 | (67)                                                     | 131                                   |
| Other debtors and prepayments | 26                                                  | -                                                        | 26                                    |
|                               | <u>222</u>                                          | <u>(67)</u>                                              | <u>157</u>                            |

The total amount of liabilities issued by the SPEs for the transactions in the above table is \$10,361 million (2018: \$11,244 million).

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 30. STRUCTURED ENTITIES AND TRANSFERS OF FINANCIAL ASSETS (continued)

##### **Sponsored entities**

The Company considers itself the sponsor of a structured entity where it is primarily involved in the design and establishment of the structured entity; and further where the Company transfers assets to the structured entity; markets products associated with the structured entity in its own name; provides operational support to ensure the SPEs continue operation and/or provides guarantees regarding the structured entity's performance.

During the year the Company has not provided any non-contractual financial or other support to unconsolidated structured entities.

##### **Transfers of financial assets**

The Company enters into transactions in the normal course of business in which it transfers financial assets to third parties and to SPEs. These transactions may result in the financial assets either continuing to be recognised or being derecognised. Refer to note 1.21 for the accounting policy governing derecognition of financial assets.

The maximum exposure to loss, disclosed in the below tables, typically includes the carrying value of any retained interest and derivative balances held on the statement of financial position as well as the value of any undrawn liquidity facilities provided. Where there is a potential obligation for further payouts (such as a potential requirement to repurchase the transferred assets) this has been incorporated such that for certain trades the maximum exposure to loss has been set equal to the value of the charged assets.

##### **a) Transferred financial assets that continue to be recognised**

Where substantially all the risks and rewards of a transferred financial asset are retained the transaction is, in substance, a secured borrowing. The financial asset continues to be recognised in full and a corresponding liability is recognised in borrowings to the extent of any cash consideration received. Transactions of this nature include repurchase agreements, securities loaned/lending transactions (both cash and securities collateral) and derivative transactions including total return swaps and call options; and primarily involves trading inventory positions including non-US government and agency securities, corporate debt and equities.

As a result of these transactions, the Company is unable to pledge, sell or use the assets for the duration of the transaction. The Company remains exposed to substantially all of the relevant market risks on these transferred assets.

Assets are transferred under repurchase and securities lending agreements with other banks and financial institutions. In substance, these transactions constitute secured borrowings and therefore the assets are not derecognised from the statement of financial position. The recipient is generally able to use, sell or pledge the transferred assets for the duration of the transaction. The Company remains exposed to interest and credit risk on these instruments which they are contractually required to repurchase at a later date. However due to the nature of these arrangements, especially the transfer of collateral and ongoing margining, the Company has minimal exposure to the performance of the counterparty. The counterparty's recourse is generally not limited to the transferred assets.

The Company has entered into transactions under which it transfers equity securities to a counterparty, and contemporaneously enters into a total return swap over the equity securities with the same counterparty. These assets are not derecognised from inventory where it is determined that the Company has retained the risks and rewards of ownership. The carrying value and fair value of assets for these transactions as at 31 December 2019 was \$163 million (2018: \$45 million), with a corresponding liability recorded within creditors

---

MERRILL LYNCH INTERNATIONAL

---

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

---

**30. STRUCTURED ENTITIES AND TRANSFERS OF FINANCIAL ASSETS (continued)**

The table below reflects balances associated with other types of transactions for which transferred financial assets continue to be recognised in full. There were no such balances to report for 31 December 2019.

|                         | Carrying<br>amount of<br>transferred<br>financial<br>assets<br>\$M | Carrying<br>amount of<br>associated<br>financial<br>liabilities<br>\$M | Maximum<br>exposure to<br>loss<br>\$M |
|-------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------|
| <b>31 December 2018</b> |                                                                    |                                                                        |                                       |
| Trading inventory       | 4                                                                  | (4)                                                                    | 10                                    |

All of the amounts in the table above relate to transfers to SPEs. The total amount of the liabilities issued by the SPEs for the transactions in the above table is \$nil (2018: \$4 million).

The carrying amounts do not necessarily reflect the risks faced by the Company, as factors such as economic hedges and effect of collateral held by the Company are not included.

For the above transfers recourse is limited to the transferred assets in the derivative transactions. The fair value of the transferred assets and associated liabilities for these positions is \$nil (2018: \$4 million) and \$nil (2018: \$4 million) respectively.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**30. STRUCTURED ENTITIES AND TRANSFERS OF FINANCIAL ASSETS (continued)**

**b) Continuing involvement in financial assets that have been derecognised in full**

The Company has also entered into transactions where it has continuing involvement in transferred assets that have been derecognised in full. Continuing involvement typically involves derivative transactions, retained interest in notes and the provision of liquidity facilities.

The table below reflects the Company's continuing involvement in transactions where it has transferred financial assets that were derecognised in full.

|                         | Carrying<br>amount of<br>continuing<br>involvement<br>assets<br>\$M | Carrying<br>amount of<br>continuing<br>involvement<br>liabilities<br>\$M | Fair value of<br>continuing<br>involvement<br>assets<br>\$M | Fair value of<br>continuing<br>involvement<br>liabilities<br>\$M | Maximum<br>exposure to<br>loss<br>\$M |
|-------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------|
| <b>31 December 2019</b> |                                                                     |                                                                          |                                                             |                                                                  |                                       |
| Trading inventory       | 91                                                                  | (30)                                                                     | 90                                                          | (30)                                                             | 129                                   |

|                         | Carrying<br>amount of<br>continuing<br>involvement<br>assets<br>\$M | Carrying<br>amount of<br>continuing<br>involvement<br>liabilities<br>\$M | Fair value of<br>continuing<br>involvement<br>assets<br>\$M | Fair value of<br>continuing<br>involvement<br>liabilities<br>\$M | Maximum<br>exposure to<br>loss<br>\$M |
|-------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------|
| <b>31 December 2018</b> |                                                                     |                                                                          |                                                             |                                                                  |                                       |
| Trading inventory       | 83                                                                  | (36)                                                                     | 83                                                          | (36)                                                             | 121                                   |

All of the amounts in the table above relate to interests in SPEs.

The total amount of liabilities issued by the SPEs for the transactions in the above table is \$11,198 million (2018: \$12,731 million).

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**30. STRUCTURED ENTITIES AND TRANSFERS OF FINANCIAL ASSETS (continued)**

The table below reflects information about profit and loss associated with the above transactions:

|                         | Gain or loss<br>recognised<br>at date of<br>transfer<br>\$M | Income/<br>(expense)<br>recognised<br>in the year<br>\$M | Cumulative<br>income/<br>(expense)<br>\$M |
|-------------------------|-------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------|
| <b>31 December 2019</b> |                                                             |                                                          |                                           |
| Trading inventory       | -                                                           | 1                                                        | (39)                                      |
|                         | <u>          </u>                                           | <u>          </u>                                        | <u>          </u>                         |
|                         |                                                             |                                                          |                                           |
|                         | Gain or loss<br>recognised<br>at date of<br>transfer<br>\$M | Income/<br>(expense)<br>recognised<br>in the year<br>\$M | Cumulative<br>income/<br>(expense)<br>\$M |
| <b>31 December 2018</b> |                                                             |                                                          |                                           |
| Trading inventory       | 9                                                           | (15)                                                     | (55)                                      |
|                         | <u>          </u>                                           | <u>          </u>                                        | <u>          </u>                         |

Certain transferred assets that have been derecognised may be required to be repurchased subject to contingencies. The contractual undiscounted cash flows that may be required are set out in the table below:

|                               | 1-5 years<br>\$M             | More than 5<br>years<br>\$M |
|-------------------------------|------------------------------|-----------------------------|
| <b>31 December 2019</b>       |                              |                             |
| Trading inventory             | 38                           | -                           |
| Other debtors and prepayments | -                            | 16                          |
|                               | <u>          </u>            | <u>          </u>           |
|                               | <u>          </u>            | <u>          </u>           |
|                               |                              |                             |
|                               | Less than<br>one year<br>\$M | 1-5 years<br>\$M            |
| <b>31 December 2018</b>       |                              |                             |
| Trading inventory             | -                            | 38                          |
| Other debtors and prepayments | 22                           | -                           |
|                               | <u>          </u>            | <u>          </u>           |
|                               | <u>          </u>            | <u>          </u>           |

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 31. FAIR VALUE DISCLOSURES

In accordance with IFRS 13 – Fair Value Measurement, financial instruments carried at fair value have been categorised into a three-level fair value hierarchy based on the priority of the inputs to the valuation technique. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3).

Financial instruments are considered Level 1 when their valuation is based on quoted prices in active markets for identical assets or liabilities. Level 2 financial instruments are valued using quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or models using inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Financial instruments are considered Level 3 when their values are determined using pricing models, discounted cash flow methodologies or similar techniques and at least one significant model assumption or input is unobservable.

#### **Resale and repurchase and securities borrowed and loaned agreements**

The fair value for certain resale and repurchase agreements and securities borrowed and loaned agreements is estimated using a discounted cash flow model which incorporates inputs such as interest rate yield curves. Resale and repurchase agreements and securities borrowed and loaned agreements for which are measured at fair value, are generally classified as Level 2 in the fair value hierarchy

#### **Long inventory positions and short inventory positions**

The fair values of long and short inventory positions are primarily based on actively traded markets where prices are based on either direct market quotes or observed transactions. Liquidity is a significant factor in the determination of the fair values of long and short inventory positions. In less liquid markets, market price quotes may not be readily available. Some of these instruments are valued using a net asset value approach, which considers the value of the underlying assets. In these instances, fair value is determined based on limited available market information and other factors, principally from reviewing the issuer's financial statements and changes in credit ratings made by one or more rating agencies.

#### **Derivative assets and liabilities**

The fair values of derivative assets and liabilities traded in the OTC market are determined using quantitative models that require the use of multiple market inputs including interest rates, prices, and indices to generate continuous yield or pricing curves and volatility factors, which are used to value the position. The majority of market inputs are actively quoted and can be validated through external sources, including brokers, market transactions and third party pricing services. When third party pricing services are used, the methods and assumptions are reviewed by the Company. Estimation risk is greater for derivative asset and liability positions that are either option-based or have longer maturity dates where observable market inputs are less readily available, or are unobservable, in which case, quantitative-based extrapolations of rate, price or index scenarios are used in determining fair values. The fair value of derivative assets and liabilities include adjustments for market liquidity, counterparty credit quality and other deal specific factors, where appropriate.

In addition, the Company incorporates within its fair value measurements of OTC derivatives a valuation adjustment to reflect the credit risk associated with the net position. Positions are netted by counterparty, and the fair value for net long exposures is adjusted for counterparty credit risk whilst the fair value for net short exposures is adjusted for the Company's own credit risk. The Company also incorporates a Funding Valuation Adjustment ("FVA") within its fair value measurements to include funding costs on uncollateralised derivatives and derivatives where the Company is not permitted to use the collateral it receives. An estimate of severity of loss is also used in the determination of fair value, primarily based on market data.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 31. FAIR VALUE DISCLOSURES (continued)

##### Other Investments

The fair value of other investments are determined by using quantitative models that require the use of valuation techniques. As these securities are not actively traded or where quoted prices are available, the Company utilises comparable trading multiples in arriving at the valuation for these positions. Management determines comparable public companies and calculates a trading multiple for each comparable company identified using other observable inputs. The trading multiple is then discounted for considerations such as illiquidity and differences between the comparable companies based on company specific facts and circumstances. Where possible, management corroborates fair value with observations of market transactions of the same underlying instruments between knowledgeable and willing parties in arm's length transactions.

##### Debt Securities at FVOCI

The fair value of debt securities at FVOCI are based on both actively traded markets where prices are based on direct market quotes or observed transactions, and markets that are not considered to be active but are valued based on quoted market prices, dealer quotations or alternative pricing sources supported by observable inputs.

Investments whose values are based on quoted market prices in active markets, and are therefore classified within Level 1, include US government treasury bills and certain non-US sovereign obligations. The Company does not adjust the quoted price for these instruments.

Financial instruments that trade in markets that are not considered to be active but are valued based on quoted market prices are classified within Level 2. These include certain non-US sovereign obligations. As Level 2 investments include positions that are not traded in active markets and/or are subject to transfer restrictions, valuations may be adjusted to reflect illiquidity and/or non-transferability, which are generally based on available market information.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**31. FAIR VALUE DISCLOSURES (continued)**

The tables below presents the carrying value of financial instruments held at fair value across the three levels of the fair value hierarchy at 31 December 2019 and 31 December 2018.

|                                                                           | Level 1<br>\$M | Level 2<br>\$M | Level 3<br>\$M | Total<br>\$M   |
|---------------------------------------------------------------------------|----------------|----------------|----------------|----------------|
| <b>31 December 2019 -<br/>Recurring Fair Value Measurement<br/>Assets</b> |                |                |                |                |
| Resale agreements and securities borrowed transactions                    | -              | 63,901         | -              | 63,901         |
| Derivative assets                                                         | 4,828          | 148,102        | 744            | 153,674        |
| Equities and convertible debentures                                       | 27,942         | 12,109         | 92             | 40,143         |
| Corporate debt and preferred stock                                        | -              | 2,483          | 277            | 2,760          |
| Mortgage-backed and asset-backed securities                               | -              | 398            | 384            | 782            |
| Non-US governments and agencies                                           | 1,233          | 5,430          | 1              | 6,664          |
| US government and agencies                                                | 556            | 85             | -              | 641            |
| Commodities                                                               | -              | 167            | -              | 167            |
| Other investments                                                         | -              | -              | 101            | 101            |
| Debt securities at FVOCI                                                  | 308            | 3,304          | -              | 3,612          |
| <b>Total assets</b>                                                       | <b>34,867</b>  | <b>235,979</b> | <b>1,599</b>   | <b>272,445</b> |

|                                                                                | Level 1<br>\$M | Level 2<br>\$M | Level 3<br>\$M | Total<br>\$M   |
|--------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|
| <b>31 December 2019 -<br/>Recurring Fair Value Measurement<br/>Liabilities</b> |                |                |                |                |
| Repurchase agreements and securities loaned transactions                       | -              | 57,185         | -              | 57,185         |
| Derivative liabilities                                                         | 4,662          | 148,393        | 848            | 153,903        |
| Equities and convertible debentures                                            | 10,962         | 2,817          | -              | 13,779         |
| Corporate debt and preferred stock                                             | -              | 1,296          | 1              | 1,297          |
| Non-US governments and agencies                                                | 2,920          | 3,863          | -              | 6,783          |
| US governments and agencies                                                    | 430            | 103            | -              | 533            |
| Other creditors                                                                | -              | 11,792         | 663            | 12,455         |
| <b>Total liabilities</b>                                                       | <b>18,974</b>  | <b>225,449</b> | <b>1,512</b>   | <b>245,935</b> |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**31. FAIR VALUE DISCLOSURES (continued)**

|                                                                           | Level 1<br>\$M | Level 2<br>\$M | Level 3<br>\$M | Total<br>\$M   |
|---------------------------------------------------------------------------|----------------|----------------|----------------|----------------|
| <b>31 December 2018 -<br/>Recurring Fair Value Measurement<br/>Assets</b> |                |                |                |                |
| Resale agreements and securities borrowed transactions                    | -              | 54,249         | -              | 54,249         |
| Derivative assets                                                         | 4,233          | 138,609        | 1,617          | 144,459        |
| Equities and convertible debentures                                       | 25,243         | 9,249          | 106            | 34,598         |
| Corporate debt and preferred stock                                        | -              | 3,057          | 201            | 3,258          |
| Mortgage-backed and asset-backed securities                               | -              | 915            | 276            | 1,191          |
| Non-US governments and agencies                                           | 5,423          | 4,801          | 3              | 10,227         |
| US government and agencies                                                | 827            | -              | -              | 827            |
| Commodities                                                               | -              | 3              | -              | 3              |
| Other investments                                                         | -              | -              | 93             | 93             |
| Debt securities at FVOCI                                                  | 469            | 2,321          | -              | 2,790          |
| <b>Total assets</b>                                                       | <b>36,195</b>  | <b>213,204</b> | <b>2,296</b>   | <b>251,695</b> |

|                                                                                | Level 1<br>\$M | Level 2<br>\$M | Level 3<br>\$M | Total<br>\$M   |
|--------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|
| <b>31 December 2018 -<br/>Recurring Fair Value Measurement<br/>Liabilities</b> |                |                |                |                |
| Repurchase agreements and securities loaned transactions                       | -              | 46,448         | -              | 46,448         |
| Derivative liabilities                                                         | 5,005          | 136,259        | 1,211          | 142,475        |
| Equities and convertible debentures                                            | 15,535         | 3,344          | -              | 18,879         |
| Corporate debt and preferred stock                                             | 21             | 2,319          | 1              | 2,341          |
| Non-US governments and agencies                                                | 7,412          | 5,281          | -              | 12,693         |
| US governments and agencies                                                    | 133            | -              | -              | 133            |
| Other creditors                                                                | -              | 8,125          | 620            | 8,745          |
| <b>Total liabilities</b>                                                       | <b>28,106</b>  | <b>201,776</b> | <b>1,832</b>   | <b>231,714</b> |

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 31. FAIR VALUE DISCLOSURES (continued)

##### Fair Values of Level 3 Assets and Liabilities

The Level 3 financial instruments include corporate loans, bonds, derivatives and unlisted equity investments.

By definition unobservable inputs relate to mark-to-model financial instruments having unobservable model inputs that have an overall significant impact on the financial instrument fair value. This is true whether the financial instrument is considered a cash security, securitised product or structured derivative. Classification on Level 3 is essentially a result of failure to be classified on either Levels 1 or 2. It is important to note some key points regarding the use of unobservable inputs for the purposes of estimating fair value:

- Unobservable inputs can only be used in the absence of reliable observable market data.
- If unobservable inputs are used, they must reflect the assumptions market participants would use when pricing the asset or liability, including assumptions about risk. If the Company's own data is used to develop unobservable inputs, this should be adjusted if reasonably available information suggests other market participants would use different data.
- Assumptions about risk include the risk or uncertainty inherent in a particular valuation model used to estimate fair value, as well as the inputs used by the valuation model. A fair value estimate produced from a valuation model must be adjusted for these risks if a market participant would do so in their pricing of an asset or liability.

The tables below present a reconciliation of the opening and closing balances for all Level 3 assets measured at fair value at 31 December 2019 and 31 December 2018. Level 3 assets as of 31 December 2019 totalled \$1,599 million (2018: \$2,296 million) and represented approximately 1 percent (2018: 1 percent) of both total assets and assets measured at fair value. Level 3 liabilities as of 31 December 2019 totalled \$1,512 million (2018: \$1,832 million) and represented approximately 1 percent (2018: 1 percent) of both total liabilities and liabilities measured at fair value.

Day one profit / (loss) deferred by the entity was \$45 million (2018: \$35 million). For further information see note 15.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**31. FAIR VALUE DISCLOSURES (continued)**

The following tables provide a summary of changes in Level 3 financial assets and liabilities.

|                                                           | Derivative<br>assets<br>\$M | Equities<br>and<br>convertible<br>debentures<br>\$M | Corporate<br>debt and<br>preferred<br>stock<br>\$M | Mortgage-<br>backed and<br>asset-<br>backed<br>securities<br>\$M | Other<br>investments<br>\$M | Total<br>\$M |
|-----------------------------------------------------------|-----------------------------|-----------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------|-----------------------------|--------------|
| <b>Financial Assets</b>                                   |                             |                                                     |                                                    |                                                                  |                             |              |
| At 1 January 2019                                         | 1,617                       | 109                                                 | 201                                                | 276                                                              | 93                          | 2,296        |
| Total gains/(losses)<br>recognised<br>throughout the year | (795)                       | (19)                                                | 15                                                 | 33                                                               | 8                           | (758)        |
| Purchases                                                 | 172                         | 29                                                  | 174                                                | 178                                                              | -                           | 553          |
| Sales                                                     | (162)                       | (17)                                                | (42)                                               | (238)                                                            | -                           | (459)        |
| Issuances                                                 | -                           | -                                                   | 18                                                 | -                                                                | -                           | 18           |
| Settlements                                               | (56)                        | (5)                                                 | (32)                                               | (58)                                                             | -                           | (151)        |
| Transfers out                                             | (292)                       | (6)                                                 | (65)                                               | (35)                                                             | -                           | (398)        |
| Transfers in                                              | 260                         | 2                                                   | 8                                                  | 228                                                              | -                           | 498          |
| <b>At 31 December<br/>2019</b>                            | <b>744</b>                  | <b>93</b>                                           | <b>277</b>                                         | <b>384</b>                                                       | <b>101</b>                  | <b>1,599</b> |
| <br>Unrealised<br>gains/(losses)                          | <br>(744)                   | <br>(19)                                            | <br>8                                              | <br>21                                                           | <br>8                       | <br>(726)    |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**31. FAIR VALUE DISCLOSURES (continued)**

The following tables provide a summary of changes in Level 3 financial assets and liabilities.

|                                                        | Derivative<br>liabilities<br>\$M | Corporate<br>debt and<br>preferred<br>stock<br>\$M | Other<br>creditors<br>\$M | Total<br>\$M   |
|--------------------------------------------------------|----------------------------------|----------------------------------------------------|---------------------------|----------------|
| <b>Financial Liabilities</b>                           |                                  |                                                    |                           |                |
| At 1 January 2019                                      | (1,211)                          | (1)                                                | (620)                     | (1,832)        |
| Total gains/(losses) recognised<br>throughout the year | 234                              | -                                                  | (104)                     | 130            |
| Purchases                                              | (11)                             | -                                                  | -                         | (11)           |
| Sales                                                  | (306)                            | -                                                  | -                         | (306)          |
| Settlements                                            | 98                               | -                                                  | 61                        | 159            |
| Transfers out                                          | 551                              | -                                                  | 1                         | 552            |
| Transfers in                                           | (203)                            | -                                                  | (1)                       | (204)          |
| <b>At 31 December 2019</b>                             | <b>(848)</b>                     | <b>(1)</b>                                         | <b>(663)</b>              | <b>(1,512)</b> |
| Unrealised gains/(losses)                              | 221                              | -                                                  | (104)                     | 117            |

Unrealised gains/(losses) relate to profit or loss from positions still held at year end and is included within net trading revenues.

The transfers into Level 3 from Level 2 during the year were due to lack of observable market pricing data subsequent to purchase. The transfers out of Level 3 to Level 2 during the year were due to increased availability of observable pricing data on underlying positions.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**31. FAIR VALUE DISCLOSURES (continued)**

The following tables provide a summary of changes in Level 3 financial assets and liabilities.

|                                                     | Derivative<br>assets<br>\$M | Equities<br>and<br>convertible<br>debentures<br>\$M | Corporate<br>debt and<br>preferred<br>stock<br>\$M | Mortgage-<br>backed and<br>asset-<br>backed<br>securities<br>\$M | Other<br>investments<br>\$M | Total<br>\$M |
|-----------------------------------------------------|-----------------------------|-----------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------|-----------------------------|--------------|
| <b>Financial Assets</b>                             |                             |                                                     |                                                    |                                                                  |                             |              |
| At 1 January 2018                                   | 1,855                       | 75                                                  | 217                                                | 333                                                              | 153                         | 2,633        |
| Total gains/(losses) recognised throughout the year | 528                         | (13)                                                | (4)                                                | 9                                                                | (21)                        | 499          |
| Purchases                                           | 221                         | 43                                                  | 48                                                 | 97                                                               | -                           | 409          |
| Sales                                               | (1)                         | -                                                   | (35)                                               | (233)                                                            | (39)                        | (308)        |
| Settlements                                         | (303)                       | (4)                                                 | (34)                                               | (86)                                                             | -                           | (427)        |
| Transfers out                                       | (905)                       | (41)                                                | (50)                                               | (102)                                                            | -                           | (1,098)      |
| Transfers in                                        | 222                         | 49                                                  | 59                                                 | 258                                                              | -                           | 588          |
| <b>At 31 December 2018</b>                          | <b>1,617</b>                | <b>109</b>                                          | <b>201</b>                                         | <b>276</b>                                                       | <b>93</b>                   | <b>2,296</b> |
| Unrealised gains/(losses)                           | (2)                         | 9                                                   | 142                                                | 13                                                               | (21)                        | 141          |

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**31. FAIR VALUE DISCLOSURES (continued)**

The following tables provide a summary of changes in Level 3 financial assets and liabilities.

|                                                        | Derivative<br>liabilities<br>\$M | Corporate<br>debt and<br>preferred<br>stock<br>\$M | Other<br>creditors<br>\$M | Total<br>\$M   |
|--------------------------------------------------------|----------------------------------|----------------------------------------------------|---------------------------|----------------|
| <b>Financial Liabilities</b>                           |                                  |                                                    |                           |                |
| At 1 January 2018                                      | (1,433)                          | (1)                                                | (928)                     | (2,362)        |
| Total gains/(losses) recognised<br>throughout the year | 17                               | -                                                  | 93                        | 110            |
| Purchases                                              | (8)                              | -                                                  | -                         | (8)            |
| Sales                                                  | (455)                            | -                                                  | (30)                      | (485)          |
| Settlements                                            | 729                              | -                                                  | 174                       | 903            |
| Transfers out                                          | 244                              | -                                                  | 265                       | 509            |
| Transfers in                                           | (305)                            | -                                                  | (194)                     | (499)          |
| <b>At 31 December 2018</b>                             | <b>(1,211)</b>                   | <b>(1)</b>                                         | <b>(620)</b>              | <b>(1,832)</b> |
| Unrealised gains/(losses)                              | 263                              | -                                                  | 20                        | 283            |

The following tables provide information on the valuation techniques, significant unobservable inputs and their ranges for each major category of assets and liabilities measured at fair value on a recurring basis with a significant Level 3 balance.

The level of aggregation and breadth of products cause the range of inputs to be wide and not evenly distributed across the inventory. Further, the range of unobservable inputs may differ across firms in the financial services industry because of diversity in the types of products included in each firm's inventory. The ranges calculated are at a BAC group level. MLI is within or at those ranges.

The Company uses multiple market approaches in valuing certain of its Level 3 financial instruments. For example, market comparables and discounted cash flows are used together. For a given product, such as corporate debt securities, market comparables may be used to estimate some of the unobservable inputs and then these inputs are incorporated into a discounted cash flow model. Therefore, the balances disclosed encompass both of these techniques.

MERRILL LYNCH INTERNATIONAL

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

31. FAIR VALUE DISCLOSURES (continued)

31 December 2019

| Product                                     | Valuation Technique                                                           | Significant Unobservable Inputs                                                        | Unit                            | Input Low                    | Input High                        | Input Weighted Average            | Fair Value Assets | Fair Value Liabilities |
|---------------------------------------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------|------------------------------|-----------------------------------|-----------------------------------|-------------------|------------------------|
|                                             |                                                                               |                                                                                        |                                 |                              |                                   |                                   | \$M               |                        |
| Equities and Convertible Debentures         | Discounted cashflow, market comparables                                       | Yield                                                                                  | %                               | 1                            | 20                                | 6                                 | 93                | -                      |
| Corporate Debt and Preferred Stock          |                                                                               | Prepayment speed                                                                       | %                               | 10                           | 20                                | 13                                | 277               | (1)                    |
| Mortgage-backed and Asset-backed securities |                                                                               | Default rates<br>Loss seventies<br>Price                                               | %<br>%<br>\$                    | 3<br>35<br>-                 | 4<br>40<br>142                    | 4<br>38<br>68                     | 384               | -                      |
| Other creditors                             | Discounted cashflow, market comparables, industry standard derivative pricing | Equity correlation<br>Long-dated equity volatilities<br>Yield<br>Price                 | %<br>%<br>%<br>\$               | 9<br>4<br>2<br>-             | 100<br>101<br>6<br>116            | 63<br>32<br>5<br>74               | -                 | (663)                  |
| Credit derivatives                          | Discounted cashflow, stochastic recovery correlation model                    | Yield<br>Upfront points<br>Prepayment speed<br>Default rates<br>Loss severity<br>Price | %<br>Points<br>%<br>%<br>%<br>% | -<br>-<br>15<br>1<br>35<br>- | 5<br>100<br>100<br>4<br>35<br>104 | n/a<br>63<br>22<br>2<br>n/a<br>73 | 248               | (154)                  |
| Equity Derivatives                          | Industry standard derivative pricing                                          | Equity correlation<br>Long-dated volatilities                                          | %<br>%                          | 9<br>4                       | 100<br>101                        | 63<br>32                          | 197               | (346)                  |
| Commodity Derivatives                       |                                                                               | Correlation<br>Volatilities                                                            | %                               | 30<br>14                     | 69<br>54                          | 68<br>27                          | 15                | (16)                   |
| Interest Rate Derivatives                   |                                                                               | Correlation (IR/IR)                                                                    | %                               | 15                           | 94                                | 52                                | 284               | (333)                  |
|                                             |                                                                               | Correlation (FX/IR)<br>Long-dated inflation rates<br>Long-dated inflation volatilities | %<br>%<br>%                     | -<br>(23)<br>-               | 46<br>56<br>1                     | 2<br>16<br>1                      |                   |                        |

MERRILL LYNCH INTERNATIONAL

NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019

31. FAIR VALUE DISCLOSURES (continued)

31 December 2018

| Product                                     | Valuation Technique                                                           | Significant Unobservable Inputs   | Unit         | Input Low | Input High | Input Weighted Average | Fair Value Assets | Fair Value Liabilities |
|---------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------|--------------|-----------|------------|------------------------|-------------------|------------------------|
|                                             |                                                                               |                                   |              |           |            |                        | \$M               |                        |
| Equities and Convertible Debentures         | Discounted cashflow, market comparables                                       |                                   |              |           |            |                        |                   |                        |
|                                             |                                                                               | Yield                             | %            | 1         | 18         | 13                     | 109               | -                      |
| Corporate Debt and Preferred Stock          |                                                                               |                                   |              |           |            |                        |                   |                        |
|                                             |                                                                               | Prepayment speed                  | %            | 10        | 20         | 15                     | 201               | (1)                    |
| Mortgage-backed and Asset-backed securities |                                                                               |                                   |              |           |            |                        |                   |                        |
|                                             |                                                                               | Default rates                     | %            | 3         | 4          | 4                      | 276               | -                      |
|                                             |                                                                               | Loss severities                   | %            | 35        | 40         | 38                     |                   |                        |
|                                             |                                                                               | Price                             | \$           | -         | 141        | 68                     |                   |                        |
| Other creditors                             | Discounted cashflow, market comparables, industry standard derivative pricing | Equity correlation                | %            | 11        | 100        | 67                     | -                 | (620)                  |
|                                             |                                                                               | Long-dated equity volatilities    | %            | 4         | 84         | 32                     |                   |                        |
|                                             |                                                                               | Yield                             | %            | 7         | 18         | 16                     |                   |                        |
|                                             |                                                                               | Price                             | \$           | -         | 100        | 72                     |                   |                        |
| Credit derivatives                          | Discounted cashflow, stochastic recovery correlation model                    | Yield                             | %            | -         | 5          | 4                      | 93                | (76)                   |
|                                             |                                                                               | Credit spreads                    | Basis points | -         | -          | -                      |                   |                        |
|                                             |                                                                               | Upfront points                    | Points       | -         | 100        | 70                     |                   |                        |
|                                             |                                                                               | Credit correlation                | %            | 70        | 70         | n/a                    |                   |                        |
|                                             |                                                                               | Prepayment speed                  | %            | 15        | 20         | 15                     |                   |                        |
|                                             |                                                                               | Default rates                     | %            | 1         | 4          | 2                      |                   |                        |
|                                             |                                                                               | Loss severity                     | %            | 35        | 35         | n/a                    |                   |                        |
|                                             |                                                                               | Price                             | %            | -         | 138        | 93                     |                   |                        |
| Equity Derivatives                          | Industry standard derivative pricing                                          | Equity correlation                | %            | 11        | 100        | 67                     | 447               | (274)                  |
|                                             |                                                                               | Long-dated volatilities           | %            | 4         | 84         | 32                     |                   |                        |
| Commodity Derivatives                       |                                                                               | Correlation                       | %            | 38        | 87         | 71                     | 338               | (338)                  |
|                                             |                                                                               | Volatilities                      | %            | 15        | 132        | 38                     |                   |                        |
| Interest Rate Derivatives                   |                                                                               | Correlation (IR/IR)               | %            | 15        | 70         | 61                     | 739               | (523)                  |
|                                             |                                                                               | Correlation (FX/IR)               | %            | -         | 46         | 1                      |                   |                        |
|                                             |                                                                               | Long-dated inflation rates        | %            | (20)      | 38         | 2                      |                   |                        |
|                                             |                                                                               | Long-dated inflation volatilities | %            | -         | 1          | 1                      |                   |                        |

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 31. FAIR VALUE DISCLOSURES (continued)

##### Securities

A significant increase in market yields, default rates, loss severities or duration would result in a significantly lower fair value for long positions. Short positions would be impacted in a directionally opposite way. The impact of changes in prepayment speeds would have differing impacts depending on the seniority of the instrument and, in the case of Collateralised Loan Obligations ("CLOs"), whether prepayments can be reinvested. A significant increase in price would result in a significantly higher fair value for long positions, and short positions would be impacted in a directionally opposite way.

##### Derivatives assets and liabilities

For credit derivatives, a significant increase in market yield, upfront points (i.e., a single upfront payment made by a protection buyer at inception), credit spreads, default rates or loss severities would result in a significantly lower fair value for protection sellers and higher fair value for protection buyers. The impact of changes in prepayment speeds would have differing impacts depending on the seniority of the instrument and, in the case of CLOs, whether prepayments can be reinvested.

Structured credit derivatives are impacted by credit correlation. Default correlation is a parameter that describes the degree of dependence among credit default rates within a credit portfolio that underlies a credit derivative instrument. The sensitivity of this input on the fair value varies depending on the level of subordination of the tranche. For senior tranches that are net purchases of protection, a significant increase in default correlation would result in a significantly higher fair value. Net short protection positions would be impacted in a directionally opposite way.

For equity derivatives, commodity derivatives, interest rate derivatives and structured liabilities, a significant change in long-dated rates, volatilities and correlation inputs (e.g., the degree of correlation between an equity security and an index, between two different commodities, between two different interest rates, or between interest rates and foreign exchange rates) would result in a significant impact to the fair value; however, the magnitude and direction of the impact depends on whether the Company is long or short the exposure. For structured liabilities, a significant increase in yield or decrease in price would result in a significantly lower fair value. A significant decrease in duration may result in a significantly higher fair value.

##### Sensitivity analysis of unobservable inputs

Where the value of financial instruments is dependent on unobservable inputs, the precise level for these parameters at the reporting date might be drawn from a spectrum of reasonably possible alternatives. Appropriate levels for these inputs are chosen so that they are consistent with prevailing market evidence and in line with the Company's valuation control policies. Were the Company to have valued the financial instruments concerned using input values drawn from the extremes of the ranges of reasonable possible alternatives then as at the year end, it could have increased fair value by as much as \$383 million (2018: \$386 million) or decreased fair value by as much as \$452 million (2018: \$437 million) with the potential effect impacting profit and loss rather than reserves.

This disclosure is intended to illustrate the potential impact of the relative uncertainty in the fair value of financial instruments for which valuation is dependent on unobservable inputs and is not predictive or indicative of future movements in fair value. Furthermore, it is unlikely in practice that all unobservable parameters would be simultaneously at the extremes of their ranges of reasonable possible alternatives.

---

**MERRILL LYNCH INTERNATIONAL**

---

**NOTES TO THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2019**

---

**31. FAIR VALUE DISCLOSURES (continued)**

**Financial assets and liabilities carried at amortised cost**

The below summarises the fair value of the Company's financial assets and liabilities which are carried at amortised cost.

Reverse repurchase agreements and repurchase agreements are classified as level 2 and the carrying amount is deemed a reasonable approximation of fair value, given the short-term nature of these instruments. See notes 16 and 20 for further details.

The fair value of other long term funding is determined by reference to quoted market prices where available or by reference to quoted market prices of similar instruments. Long term funding is classified as level 2 and has an approximate fair value of \$12,470 million (2018: \$4,416 million). The prior year fair value has been restated due to an error in accordance with IAS 8 - Accounting Policies, Changes in Estimates and Errors. The correct discount rate has now been applied resulting in an increase in fair value of \$39 million.

All other debtors and creditors in the statement of financial position are classified as level 2. The carrying amounts are a reasonable approximation of their fair value, due to the short term nature of these instruments.

---

## MERRILL LYNCH INTERNATIONAL

---

### NOTES TO THE FINANCIAL STATEMENTS FOR THE YEAR ENDED 31 DECEMBER 2019

---

#### 32. SHARE BASED PAYMENTS

BAC administers a number of equity compensation plans, with awards being granted predominantly from the Bank of America Corporation Key Employee Equity Plan ("KEEP"). Under the KEEP, BAC grants stock-based awards, including restricted stock and restricted stock units ("RSUs").

For most awards, expense is generally recognised proportionately over the vesting period net of estimated forfeitures, unless the employee meets certain retirement eligibility criteria. For awards to employees that meet retirement eligibility criteria, BAC accrues the expense in the year prior to grant. For employees that become retirement eligible during the vesting period, BAC recognises expense from the grant date to the date on which the employee becomes retirement eligible, net of estimated forfeitures.

Certain awards contain claw back provisions which permit BAC to cancel all or a portion of the award under specified circumstances.

The total pre-tax compensation cost recognised in profit and loss for share-based compensation plans for the year to 31 December 2019 was \$291 million (2018: \$194 million).

##### **Restricted stock units**

A RSU is deemed equivalent in fair market value to one share of BAC common stock.

In 2019, the RSUs are authorised to settle predominantly in shares of common stock of BAC which generally vest in three equal annual installments beginning one year from the grant date.

Recipients of RSU awards may receive cash payments equivalent to dividends.

#### 33. RELATED PARTY TRANSACTIONS

As detailed in note 1.3, the Company has elected to take advantage of the exemption available under FRS 101 for the requirements in IAS 24 - Related Party Disclosures to disclose related party transactions entered into between two or more members of a group.

Management consider key management personnel to be represented by the Board. Details of the remuneration of the directors are included in note 8.

#### 34. ULTIMATE PARENT UNDERTAKING AND CONTROLLING PARTY

The Company's immediate parent is MLUKCH, a company incorporated in the UK. The Company's ultimate parent company and controlling party is BAC, a company organised and existing under the laws of the State of Delaware in the United States of America.

The parent company of the largest and smallest group into which the Company's financial statements are consolidated is BAC. Copies of BAC's financial statements can be obtained from either of the following website locations: <http://investor.bankofamerica.com> or [www.sec.gov/](http://www.sec.gov/).

BANK OF AMERICA 

What world do you live in?  
the power to do?

Annual Report 2019

# CONTENTS

- 01 A letter from Chairman and CEO  
**Brian Moynihan**: Responsible Growth drove our performance in 2019
- 07 A message from Lead Independent Director **Jack Bovender**
- 09 A message from **Brian Moynihan**: Responsible Growth and stakeholder capital are our future
- 14 Q&A with **Dean Athanasia**: Commercial and Small Business priorities
- 16 Q&A with **Katy Knox** and **Andy Sieg**: Transforming wealth management
- 18 Personalized marketing, digitally delivered
- 19 Building rewarding relationships
- 20 Making financial life just better for underserved communities
- 21 Market products that deliver the bank
- 22 Q&A with **Tom Montag**: Global Banking and Global Markets
- 23 Powerful ClientLife platform
- 24 Q&A with **Anne Finucane**: Addressing society's biggest challenges
- 27 A world of ESG innovation
- 28 Investing to improve the environment
- 29 Driving economic mobility: one community's story
- 30 Diversity at work and in our communities
- 32 Creating opportunities through employee development
- 34 Supporting teammates in moments that matter
- 35 Partnering to end AIDS
- 35 Courageous conversations
- 36 Total Rewards
- 37 Funding the power to dream
- 37 2019 Human Capital Management Report
- 38 2019 ESG highlights
- 40 Financial highlights

**A letter from Chairman and CEO Brian Moynihan:  
Responsible Growth drove our performance in 2019**

To our shareholders and clients,  
To my teammates,  
To leaders and partners in the communities we serve  
across the U.S. and around the world,

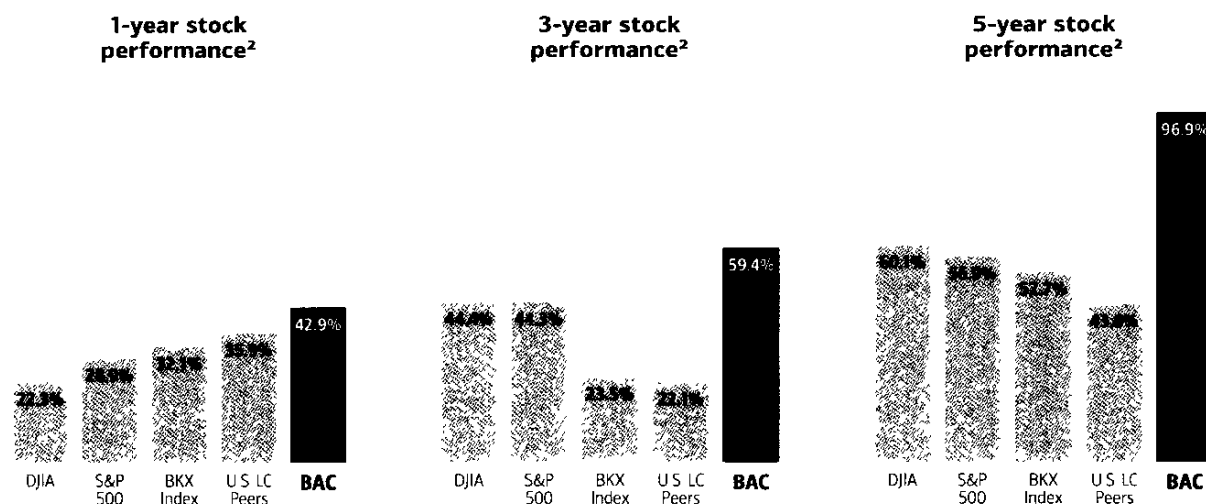
I am pleased to share the 2019 Bank of America Annual Report with you. In this report, my teammates and I share highlights of the progress our company made during the year, which capped off a decade of growth for our company and for the U.S. and global economy.

In 2019, your company followed its Responsible Growth operating principles and delivered \$27.4 billion in earnings, or \$2.75 per share. After adjusting for a third-quarter non-cash impairment charge, we earned \$29.1 billion.<sup>1</sup> That adjusted figure exceeded our record 2018 results. We returned more than \$34 billion in capital to you, our shareholders, including \$28 billion in share buybacks and \$6 billion in common dividends. We raised the annual dividend by 22%, from \$0.54 to \$0.66 cents per share. Through our capital deployment over the last few years, we reduced the number of outstanding shares to below 9 billion last year, 2.5 billion fewer than at the peak. We committed to you that we would wring out the share dilution caused by the increased capital levels required under the new capital rules and the shares we issued to rebuild our base of capital last decade. We remain committed to that reduction and will accomplish it while continuing to invest in our company.

We enter 2020 with strength and momentum after a decade of transformative change. Our capital, liquidity and capacity to serve clients are excellent, and we are delivering strong earnings. Our products are best in class, and we continue to improve them. Our team gets stronger every day, as we continue to invest heavily to make sure we are the best place to work.

Over the course of the decade that just ended, we earned \$127 billion and returned \$97 billion to you, our common shareholders, and \$111 billion to you and our preferred shareholders together. The rest is in our capital base to serve our customers. Our stock returns have also been strong and you can see our one-, three- and five-year charts below. We have balanced our risk and streamlined our company, and our returns are well in excess of our cost of capital.

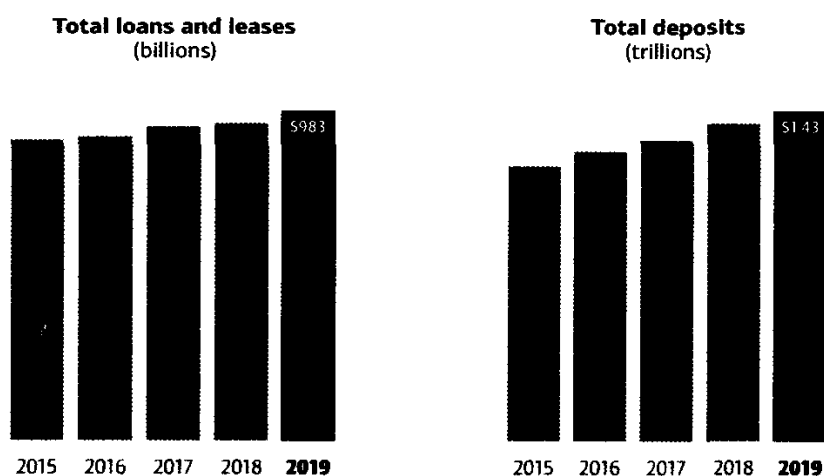
What a difference a decade makes.



<sup>1</sup> The \$29.1 billion net income represents a non-GAAP financial measure, as it excludes the third-quarter \$2.1 billion pre-tax, \$1.7 billion after-tax, non-cash impairment charge related to the notice of termination of our merchant services joint venture which increased noninterest expense and is included in the reported net income of \$27.4 billion

<sup>2</sup> U.S. large cap (LC) peers include JPM, C, WFC, GS, and MS

Client activity was strong across all business lines, allowing the benefits of our growth in loans and deposits to offset the impact of lower rates.



Those accomplishments are due to our team. It starts with our dedicated group of independent directors, led by **Jack Bovender**, our lead independent director. You can see the board's commitment to our strategy in Jack's letter on page 7 of this report. I thank Jack for his board leadership; his term runs through our 2021 annual meeting. Jack's leadership is stellar, and his eventual successor will have big shoes to fill.

Our team includes the 208,000 teammates who work tirelessly every day to serve our customers well and deliver the returns for you. They are led by a talented management team, many of whom share their insights about our company in this report. I thank the board and the management team for the work they do on behalf of our company.

At Bank of America, we focus on results and we focus on how we deliver them. One of the things we should all be proud of is how we have delivered for our traditional stakeholders, customers, teammates and shareholders, and how we delivered for the broader society at the same time. A concept we embrace—the "genius of the and"<sup>3</sup>—applies to how we are delivering

for customers, for teammates, for shareholders, AND for our communities and the society in which we operate.

In a separate note on page 9 of this report, I offer a more extended discussion that addresses questions being raised about whether the challenges we face are so profound that our capitalist system itself is incapable of addressing them.

While we must acknowledge and address some shortcomings within our capitalist system, I will discuss our belief at Bank of America that the remedies to these shortcomings are found within capitalism itself.

So how does Bank of America produce these results? We do it by delivering on Responsible Growth. Let's discuss how we did in 2019.

## Responsible Growth

Our 208,000 teammates delivered the 2019 results I mentioned earlier—\$29.1 billion in adjusted earnings and \$34 billion in capital returns to you—through their disciplined focus on Responsible Growth.

<sup>3</sup> This is a concept developed by Jim Collins in his book *Built to Last: Successful Habits of Visionary Companies*

Responsible Growth has four straightforward tenets:

We have to grow—no excuses.

We have to be client focused in our growth.

We have to grow within our risk appetite.

And our growth must be sustainable, which has three elements: 1) we have to drive operational excellence; 2) we have to be a great place to work; and 3) we have to share our success with our communities.

### **Grow and win in the market—no excuses**

The first pillar of Responsible Growth is to grow, no excuses. And we did that in 2019. Client activity was strong across all business lines, allowing the benefits of our growth in loans and deposits to offset the impact of lower rates. Average deposits grew \$65 billion, or 5%, year over year. We have grown deposits every quarter over the prior year by more than \$40 billion for nearly five years now. Average loans were up 3% last year, again led by Consumer Banking, where average loans grew 6%. **Dean Athanasia**, who leads Consumer Banking and Small Business, shares some insights in his Q&A on page 14 about how we continue to deliver for retail and preferred clients and small business with innovation and great service.

We saw commercial loan growth last year of 4% and a 10% increase in our lending to small businesses and loans to middle market clients. We are proud this year that we became the largest U.S. lender to small businesses, the lifeblood of the American economy. We also became the largest commercial and industrial lender in the U.S. Our growth efforts continue to bear fruit as we added hundreds of commercial and small business bankers across our footprint. And you can rest assured, we have done so by staying within our risk appetite, as I will discuss below. In a Q&A on page 22, Chief Operating Officer **Tom Montag** discusses the investments we are making to deepen our client relationships and the other opportunities ahead in our Global Banking and Global Markets businesses.

Each of our businesses contributed to our strong earnings last year. And most of them grew their market share while producing good bottom-line growth. Consumer Banking earned \$13 billion last year by deepening relationships with our clients while we continued to invest in infrastructure and client capabilities. Our wealth management teams saw net new household growth of more than 20% last year, earning record income of \$4.3 billion with average client deposits up \$15 billion.

Our Global Banking business earned \$8.1 billion, and our Global Markets business earned \$3.5 billion. Combining the results for these businesses, as other financial services companies report them, would result in \$11.6 billion for 2019.

### **We must grow and**

### **remain customer focused**

We deliver Responsible Growth by focusing on our clients and what they need to live their financial lives. All our growth is organic. We call it growth that will stick to our ribs, not run off. We are seeing the results of our client focus in many areas. Client satisfaction scores across our eight lines of business, for instance, are at an all-time high. Our brand continues to be very strong. We see continued gains in attracting new clients, and importantly our current clients continue to do more with us. That means we are doing a great job for them.

Our 65,000-strong team in our consumer businesses has grown Consumer Banking checking balances 44 consecutive quarters. At the end of 2019, Consumer Banking held more than \$700 billion in deposits. Our 66 million consumer and small business clients value our online and mobile capabilities along with the convenience of 4,300 financial centers and more than 16,800 ATMs. In addition to this high-touch capability, our clients value the high-tech capabilities we offer. We interact with our clients almost 28 million times every day, and 81% of these interactions come from our 38 million active digital banking clients. Our clients benefit from our investments in artificial intelligence (AI) to help personalize their individual financial habits, goals and priorities. Clients who use Zelle® for sending and receiving money through their mobile phone made 300 million transfers representing \$78 billion last year. Our AI-driven digital assistant, Erica®, was launched in 2018, and we topped 10 million users last year, while roughly 10 million clients are active users of Zelle. More than 55% of our total consumer client payments are made digitally. This is more than \$1.6 trillion moved digitally by Bank of America consumer clients each year.

Of our total deposit transactions, 27% were done through our mobile channels, and 79% through mobile and ATMs together. More than 50% of our clients have gone paperless. Digital channels generated 29% of overall sales, with 34% of mortgages and 56% of auto loans now originating in our mobile app or online banking site. Customers also arranged more than 2.3 million appointments through digital and mobile in 2019, up 19% from 2018. This enables our teammates in the financial centers to efficiently address the more complex needs of their clients in person and contributes to a better client experience.

There is much talk about what happens to traditional banks when digitization occurs. You can see that in the statistics above. We are enabling our clients, and the teammates who serve them, with the best, most comprehensive high-tech digital capabilities, while investing and advancing high-touch service through financial centers and other channels, for an unmatched

range of access that reflects the many ways clients choose to do business with us.

Client-centered growth drove our results in our wealth management businesses, too. Wealth management client balances exceeded \$3 trillion for the first time. The Bank of America Private Bank saw an increase of 64% in net new households, while Merrill saw a 25% gain. Merrill alone brought in more than 40,000 net new affluent households, and we added 60% more private bank relationships in 2019 over 2018. Our wealth management clients benefit from a high-touch and high-tech mix, too. Household mobile usage was up 39% in the private bank and 44% in Merrill, and we had the most top advisor rankings in the industry. For a deeper look at how we are transforming wealth management, look for a discussion on page 16 with **Katy Knox**, president of Bank of America Private Bank, and **Andy Sieg**, president of Merrill Lynch Wealth Management.

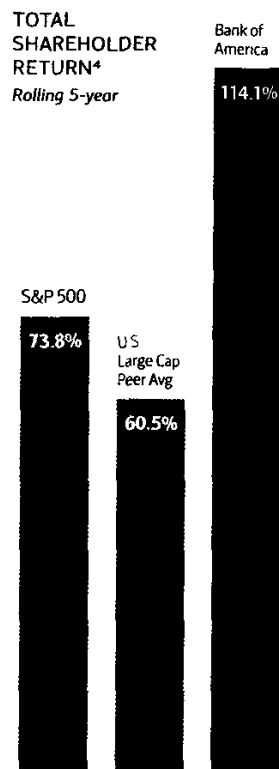
We're driving deeper client engagement with our Global Banking and Global Markets teams, too. Our teams continue to grow loans, adhering to our risk framework that is more stringent than industry averages. They are growing transaction services fees nicely, too. In investment banking, we have gained share of the global fee pools with a successful retooling of the business.

We are the largest U.S. commercial lending business and have one of the top market-making and investment banking platforms that can deliver for clients globally.

Global Banking deposits grew \$23 billion, a reflection of the hundreds of additional relationship bankers we have added in the U.S. and globally in the last several years. Our Global Markets business serves our clients well and last year made money on 98% of the trading days.

### **Grow while staying within our risk appetite**

Growing within our risk appetite is another tenet of Responsible Growth. Our loan losses are at historic lows. Asset and credit quality are strong across our consumer and commercial portfolios, and our capital and liquidity are much higher than a decade ago. Even as we returned \$34 billion to shareholders last year, our Tier 1 common equity ratio was 11.2%, well above our 9.5% minimum requirement. We continued to use our operational excellence work to drive operational risk out of the company. We are growing the right way.



### **Growing in a sustainable manner**

Earlier I stated the three tenets to growth that is sustainable. They are 1) drive operational excellence, 2) be the best place for teammates to work, and 3) share our success with our communities. The combination of delivering all the results I've discussed rests upon a bedrock of this pillar of Responsible Growth. This ensures that we are investing long term, while delivering near-term results. This tenet ensures that we deliver for all our constituencies. And this tenet ensures we have the best team.

### **Operational excellence**

Operational excellence generates savings and efficiencies that make it possible for us to continue to invest. By improving the way we serve clients, streamlining our internal processes and creating other efficiencies that stem from the thousands of ideas our teammates generated last year, we were able to invest in our capabilities even as we managed our expenses consistent with the \$53 billion target for 2019, which we set in 2016. This has been a continuous process of improvement.

<sup>4</sup> Total shareholder return includes stock price appreciation and dividends paid. U.S. large cap (LC) peers include JPM, C, WFC, GS, and MS.



We continue to use our operational excellence work to drive operational risk out of the company. We are growing the right way.

Since the beginning of 2010, we have invested \$30 billion in new technology initiatives, including the mobile and digital capabilities we highlight throughout this report.

In addition, in just the last year, we completed the upgrade of our network of more than 16,800 ATMs and added 900 new ones, while modernizing more than 500 of our financial centers and opening 90 new ones. We continue to add financial centers in new markets starting where we already have wealth management and business clients—all made possible by savings from our focus on operational excellence. For instance, we opened our first financial centers in Ohio in 2019, and plan to open more than 30 centers in Cincinnati, Columbus and the Cleveland area over the next two years. We added about 100 ATMs in the state in the last year and a half.

The investment in our financial centers and ATMs goes beyond modernizing existing centers and building new ones. It connects all of our client services and experiences and creates the opportunity to build on existing relationships, attract new ones and acquaint clients with Preferred Rewards, which rewards members for doing more with us across their entire banking relationship.

As our clients' needs and expectations evolve, the financial center client experience and design has to evolve with them. Every day, 800,000 clients visit our financial centers. The financial centers continue to evolve to better serve the range of needs of our clients. Last year, we developed 1,500 "One Team" financial centers with dedicated wealth management, Business Advantage and consumer lending specialists to make it easier for clients to connect across all our products and services.

Another example of the type of investment that operational excellence helps generate is our Aira service—a new technology to help blind and low-vision clients gain better access to our financial centers and ATMs. Aira delivers instant access to visual information at the touch of a button. This free service connects these special needs clients with visual information on demand.

At the same time, we are making investments in technology to optimize the digital experience for chief financial officers and treasurers of our corporate clients. Some 500,000 clients now use CashPro®, our digital application for our business client treasury and lending needs. Mobile CashPro logins grew more than 100% year over year. Adoption of other new tools relying on AI and machine learning for corporate clients is growing even faster.

Even as our team maintained expense discipline over the past decade, we continued to invest in our people, our technology, infrastructure, buildings and facilities,

and in helping make progress on many societal priorities. And — by the way — we made these investments while returning our excess of our earnings to you — \$34 billion — through dividends and buybacks. A company like ours can invest and manage its capital.

Here are a few highlights of investments we made for 2019 alone:

- We made \$1.7 billion in capital investments in new and modernized facilities in 2019. This past decade, we invested in new buildings in Charlotte, Dallas, Houston, Chicago, Paris, Hong Kong and many other markets. We modernized more than 1,300 financial centers the last three years, and the plan we announced in 2016 to upgrade and expand our entire financial center and ATM network by 2021 is on track.
- In 2019, we added 3,600 new teammates. We hired 32,000 employees, including 6,300 new employees from low- and moderate-income neighborhoods, and 4,000 college and MBA graduates. We passed a major milestone of our 100-year support for the military, and reached our five-year goal to hire 10,000 military veterans.
- For our employees, it was the third consecutive year in which we recognized approximately 95% (all but the top 5% paid) of our teammates for driving Responsible Growth with a special compensation award. (In total, more than \$1.5 billion in the last three years.) In the first quarter of 2020, we raised our minimum starting salary to \$20 per hour, up from \$17 per hour in 2019.

As you can see, operational excellence allows us to deliver industry-leading efficiency, while investing heavily. And that serves us well no matter what environment is ahead of us.

#### *A great place to work*

Being a great place to work is another driver of sustainable Responsible Growth. To provide the best service to our clients and to support the communities in which we operate, we must continue to attract and retain the best talent. Being a great place to work includes our ongoing commitment to developing and managing talent, employee engagement, equal pay for equal work and core values anchored in our commitment to diversity and inclusion.

In 2019, we published our first Human Capital Management Report. Throughout the report, we provide detailed information about the actions our company has taken for teammates and their families across the globe. I encourage you to review it carefully; there is additional detail and insight throughout this report as well.

To highlight one area of focus, since 2012, there has been no increase in medical premiums for teammates earning less than \$50,000. For all teammates, we vary the medical premium contribution by annual pay level, with larger company subsidies for those earning less. Also, our average contribution increases since 2012 have been below national health care trends. Another area of focus in the report is the progress we continue to make to ensure diverse representation at all levels of our company, including a board of directors and management team who are more than 45% diverse. Additionally, women comprise more than 45% of the management team and 40% of the top three levels of our company.

We saw significant internal and external awareness for being a great place to work. In 2019, the Diversity & Inclusion Index in our 2019 Employee Engagement Survey was the highest it has ever been. Bank of America also was the top financial institution in the 2019 LinkedIn Top Companies list, which recognizes the most sought-after places to work.

#### *Sharing success*

One way we share our success is through our local market and country teams and their support of local partners through community development lending and philanthropy. Over the last decade, we have provided around \$50 billion in community development lending, including for priorities in affordable housing and economic mobility, and \$2 billion in philanthropy. Last year alone, we delivered nearly \$5 billion in community development financing for affordable housing and other community priorities, and made more than \$250 million in philanthropic contributions. Our employees directed more than \$60 million through individual giving and matching gifts and logged nearly 2 million volunteer hours to strengthen local communities.

Sharing success also includes the work we do in our *Environmental Business Initiative*. In 2019, we met our 10-year, \$125 billion environmental business initiative — six years ahead of schedule. We established a new target of \$300 billion in clean energy finance by 2030. Consistent with the objectives of our Environmental Business Initiative, we have met our 2020 goal of becoming carbon neutral in our own activities. Look for a discussion on page 24 with Vice Chairman **Anne Finucane**, who leads our sustainable development work and co-chairs with **Tom Montag** our broader work in sustainable finance, on the leadership we bring to driving progress on the societal priorities through our core financing and other activities.

A message from  
Lead Independent Director  
Jack Bovender



Dear fellow shareholders,

As the lead independent director and on behalf of the independent directors of Bank of America Corporation, thank you for choosing to invest in Bank of America. The directors comprise individuals representing a diverse range of informed expertise. Sixteen of the 17 directors are independent; 65% have CEO-level experience; and 35% have senior executive experience at financial institutions.

Your board reviews and approves the company strategy as presented by the management team each fall. The directors oversee the execution of the strategy by engaging in a year-round strategic assessment and planning process. Throughout 2019, our dialogue at the board and with the company's management included regular review of the company's adherence to its tenets

In the United States, one of the important ways we engage and share success in the communities we serve is through our market president organization. Our network of 90 market presidents is responsible for leading an integrated team to deliver for clients, teammates and the community, serving as the chief executive for Bank of America in that market. You will see a more detailed discussion of how our market president organization does this through the experience of **Raul Anaya**, our Los Angeles market president, on page 21.

### External recognition

Because of our investments in our capabilities and in our people, in 2019 we received recognition in many areas, including for our products and services, for our commitment to our team and to diversity and inclusion, and for our contributions addressing important societal priorities.

of Responsible Growth, including risk management and environmental, social and governance practices. We remain abreast of developments in markets, the economy and geopolitical issues that may affect them. We discuss and assess trends in the financial services industry, all with an eye toward ensuring the long-term, sustainable value of the company.

I also meet regularly with shareholders and gather viewpoints that I share with the board. This direct engagement with shareholders provides feedback on executive compensation, capital allocation and other important matters. That feedback informs our board meeting agendas and helps enhance our governance discussions. You will find extensive discussion of all of these matters throughout this annual report and in our 2020 Proxy Statement. I encourage you to review this material carefully.

On behalf of the directors, I join Chairman and CEO Brian Moynihan and the management team in thanking you again for your investment in our company.

Sincerely,

A handwritten signature in dark ink that reads "Jack D. Bovender, Jr.".

We are proud that Global Finance recognized Bank of America as the Best Bank in the World in 2019. In early 2020, Fortune named your company to its list of the 100 Great Places to Work, and as the only global financial services firm on its list of the top 18 Best Big Companies to Work For.

Also last year, our research team was recognized as Top Global Research Firm by Institutional Investor, an honor we held for most of the last decade, including each year from 2011 to 2016.

Global Finance also named Bank of America the Best Consumer Digital Bank in America and Money magazine ranked us the Best Bank for College Students. Reflecting our focus on managing risk well, for ourselves and for our clients, we earned prestigious recognition from Risk magazine, which named us Derivatives House of the Year, Equity Derivatives House of the Year and OTC Client Clearer of the Year.

The external recognition includes several areas that reflect our commitment to being a great place to work, another tenet of Responsible Growth. Euromoney named us the World's Best Bank for Diversity & Inclusion, and Forbes included us in their JUST 100: Companies Doing Right by America ranking of how the country's largest publicly traded companies perform in important areas including fair wages, acting ethically and setting the standard in stakeholder treatment.

## Looking ahead to 2020

I hope you'll enjoy reading about your company in the following pages, where you can look at how we're helping make financial lives better through every connection.

Our performance and recognition took place against a backdrop of a growing U.S. and global economy, driven by solid consumer spending. While geopolitical and trade uncertainty remains, we saw some of it clear up as trade agreements with Canada, Mexico and China were concluded in 2019.

There are factors beyond our control that impact the markets and economies in which we operate. As this report is being completed, we are experiencing volatility because of uncertainties around the impacts of the coronavirus. We are taking the necessary measures to look after our employees and serve them as this situation develops.

Despite headwinds that may arise from time to time, over the last decade we have built a strong, stable platform, with significant liquidity and capital, and we will remain resilient as we maintain disciplined focus on what we can control, which is embedded in delivering Responsible Growth.

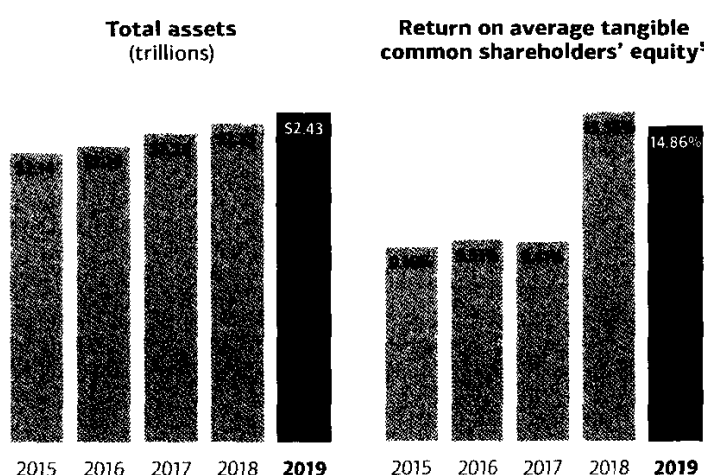
As we look ahead to 2020 and beyond, we will maintain our focus on delivering Responsible Growth through disciplined adherence to the tenets I've discussed: by serving our clients, managing risk well and ensuring those results are sustainable through operational excellence, being a great place to work for our teammates, and sharing our success. The three-year company strategy that our board of directors reviewed in the fall of 2019 is based on continued adherence to this approach. And as always, we will continue to learn what is most important to those we serve by asking:

**What would you like the power to do?**

Let me know at [brian.t.moynihan@bofa.com](mailto:brian.t.moynihan@bofa.com)



**Brian Moynihan**  
March 3, 2020



<sup>5</sup> Represents a non-GAAP financial measure. For more information on these measures and ratios, and a corresponding reconciliation to GAAP financial measures, see Supplemental Financial Data on page 48 and Non-GAAP Reconciliations on page 101 of the 2019 Financial Review section.

## A message from Brian Moynihan: Responsible Growth and stakeholder capitalism in action

---

### What would you like the power to do?

**Our core job is to ask this question of our teammates, our clients, our shareholders and the communities we serve. By listening to the answer, we learn what is most important to them. And then we try to help them do it.**

**Our clients want the best capabilities, services and ideas to help them live their financial lives.**

**Our employees want to be able to bring their authentic selves to work and to create a good life for themselves and their families with competitive compensation and benefits.**

**Our shareholders want the best returns on their investment in Bank of America.**

---

By driving Responsible Growth, we deliver for these stakeholders.

At the same time, we also serve broader society. We must tackle important societal priorities, such as affordable housing, economic mobility and a clean energy future. And we are. There is a lot of discussion today about the best ways to mobilize the resources needed to address these challenges. The discussion includes questions about how effective our capitalist economic system is at prioritizing these needs and whether we need to think differently about it. Simply stated: Can capitalism address the most challenging societal priorities, or might we need to think about another economic model?

In 2019, the Business Roundtable in the U.S. issued a Statement on the Purpose of a Corporation. Bank of America is a member of the Business Roundtable, and I signed the statement, because it reflects the way our company has operated for many, many years. The statement is straightforward, and I encourage everyone with an interest in Bank of America to read it.

The Business Roundtable issued its statement in the context of this ongoing discussion about capitalism. In that context, the statement has been interpreted in some quarters as a step away from the important responsibility we have to deliver the best financial returns to our shareholders so that companies can focus on other, “more important” societal priorities.

At Bank of America, we reject that false choice. The simple fact is that at Bank of America, we believe we must continue to deliver great returns AND help drive progress on societal priorities. There is ample evidence to suggest the wisdom of this approach. The BofA Global Research team—ranked number one in

the world by Institutional Investor for seven of the last nine years—has published a series of research reports demonstrating that companies that pay close attention to environmental, social and governance (ESG) priorities are much less likely to fail than companies that do not.

At Bank of America, we believe capitalism is best at creating opportunity for people to realize their hopes and dreams. We believe if we keep aiming capitalism’s power toward the challenges we face, we can make significant progress on society’s most pressing problems.

Bank of America’s role in that system is to help all of our stakeholders—our clients, shareholders, teammates and those in the communities where we operate—grab the opportunities they see for themselves by helping with their financial lives.

We also believe, though, that it is important to acknowledge questions being raised, such as:

- How do we ensure equal access to opportunity?
- Are companies sharing their success equitably with their employees?
- Are we doing all we can do to accelerate the transition to a low carbon, clean energy economy?
- What will happen to today’s employees as technology advancements change the nature of work?
- Can companies hold themselves accountable through strong self-governance?

These discussions are at the heart of the policy debates in legislative and executive bodies around the world. These are concerns for our clients, our communities and increasingly for our shareholders. Our teammates discuss them with their families and with each other.

How do we ensure the opportunities are available to all and that we harness the energy of capitalism to address society's concerns? These issues can be solved if the private sector is engaged and helping to drive forward. But it has to be done the right way.

## Which brings me back to our question.

*What if we asked the world: "What would you like the power to do?"*

The answer might be summed up in what the U.S. and nearly 200 other countries agreed to at a summit in 2015 when they set forth the Sustainable Development Goals (SDGs). The SDGs represent 17 categories of societal priorities that address equality of opportunity... access to clean water... renewable energy... affordable housing... and other priorities, with specific goals to be met. *World leaders agreed that these goals are the ones we need to address to build a sustainable future and create opportunity and prosperity for all.*

The SDGs are estimated to require about \$6 trillion annually of investment capital. This will take all sectors of society. Certainly philanthropy and governments have critical roles to play, but all annual charitable contributions in the world total just over \$800 billion. Total global non-profit foundation assets are about \$1.5 trillion. Even if annual charitable contributions and every endowment and foundation in the world were directed toward reaching the SDGs and no other priorities—not the arts, not additional medical causes, not any of the other worthy priorities that get support today—we still would fall far short of what is needed.

Governments alone also cannot address the challenges laid out in the SDGs. The U.S. operating budget is the largest in the world at about \$4.5 trillion. If all of it were dedicated to the SDGs only—meaning not funding national security, basic research, basic services for the U.S. taxpayers, and not paying the federal debt—we still would fall short of the annual need.

## So how can we fund these needs?

### ***The private sector and capitalism.***

This goes well beyond corporate philanthropy, as important as that is. Since I became CEO of Bank of America in 2010, we have delivered more than \$2 billion in philanthropy to support important priorities in the U.S. and around the world. Our teammates have, with our support, volunteered about 2 million hours of their time each year to non-profit organizations and causes. We are proud of that, but even if every company on the

Fortune 500 delivered that amount of philanthropy in a year, we would still fall well short of the need.

What the private sector is doing, and what is reflected in the Business Roundtable statement, is aligning our ordinary business activities to help solve these challenges.

For Bank of America, that means we have to bring our \$2.4 trillion balance sheet to bear to the task.

*We have to bring our \$53 billion expense base to the task.*

*We have to bring our \$268 billion equity base to the task.*

*We have to bring our trillions a year of capital raising for our clients to the task.*

Based on client desires, we have to usher the \$3 trillion in assets in our wealth management business to the task.

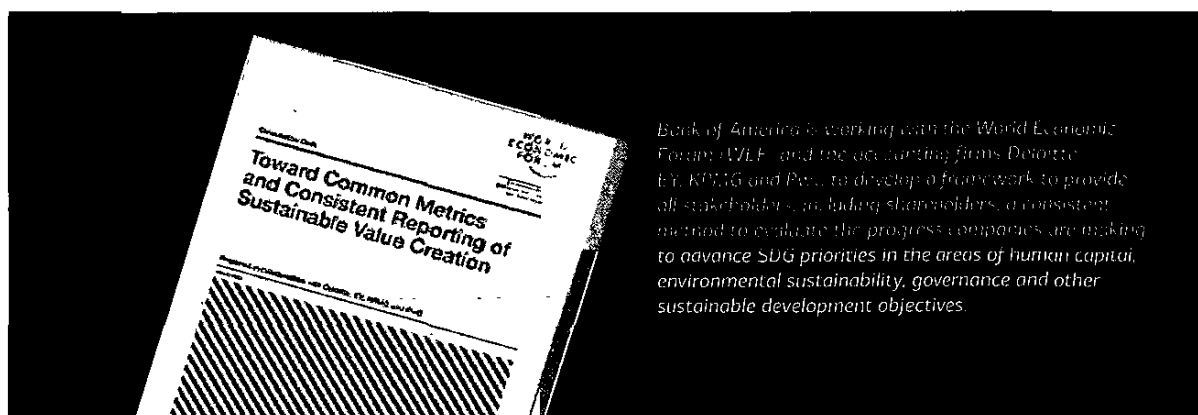
If all operating companies continue to align themselves to deliver on those SDGs on which they can have the most impact, and if we measured ourselves to be sure we're making progress, we would deliver the capital, the creativity and the expertise to address the world's most pressing challenges.

## How does Bank of America do that?

**First**, we do it with our own operations. We are carbon neutral as of this year. We are reducing paper, we focus on the environmental efficiency of our buildings and we continuously reduce waste.

**Second**, of course we drive our charity, our philanthropy and volunteering and our nearly \$5 billion in annual community development lending and investing to address the areas. You can find those in our annual report.

**Third**, we do it with our employment and human resources practices, which are well laid out in our 2019 Human Capital Management Report. We employ teammates, support families and their economic development by providing funding for education and many other useful purposes. We provide strong and progressive health and wellness benefits: All teammates get the same plans, and lower paid teammates pay a lot less for them. Other benefits include paid family leave of 16 weeks, industry-leading bereavement benefits and a minimum starting salary of \$20 an hour, about \$42,000 a year. We make available to our teammates the reskilling resources and opportunities as work



changes. We hired 10,000 veterans over the last five years. Our hiring in low- and moderate-income neighborhoods has produced more than 8,000 hires in the last two years.

**Fourth**, we do it with our client financing capabilities—our core activities. We provide examples of that in our annual report. For example, Bank of America is one of the largest underwriters of green bonds, and we have helped companies raise more than \$40 billion on behalf of more than 100 clients to provide critical funding on environmental projects.

Another example is in our consumer product design. We have one of the lowest priced checking account options in the industry, with a monthly maintenance fee of just under \$5 for access to our banking channels, including mobile, online services, ATMs and financial centers. And our Advantage SafeBalance Banking, introduced in 2014, was one of the first banking accounts to eliminate overdraft fees and non-sufficient fund fees. The account was the primary reason Money magazine named us the “Best Bank for College Students” in 2019. We surpassed 1 million Advantage SafeBalance Banking accounts in June 2019.

**Fifth**, we help our investor clients find opportunities to drive impact investing, ESG investing or blended finance across the SDGs.

*We dedicate all of our business operations to driving great returns for our shareholders AND to addressing these priorities. If each company focuses on delivering both through their individual routine business operations and practices, then we can channel the world's capital to make meaningful progress on the SDGs.*

One important way to ensure we are making progress is to have a basic framework for measuring it. We need to do this so we can demonstrate progress to all stakeholders. With a measurement framework, we can reward the companies that achieve both, as

investors can prioritize their investments and capital to companies making progress over those that are not. Remember, the BofA Global Research team has demonstrated that operating companies that don't pay attention to these priorities are more risky and less predictable.

There is no shortage of ways to measure this progress. This actually has been a barrier to progress, because there is no standard method of gaining alignment between the operators of companies that are doing so much to address these priorities and the investors seeking to direct capital toward them. There is a large and growing number of external forums and bodies trying to advance this work. By some estimates, there will be as many as 600 conferences in the U.S. alone this year to discuss ESG, sustainability, and sustainable business and finance models.

There is a dizzying number of measurement systems and metrics, too. Public companies face requests from many stakeholders—investors, public officials, regulators and developers of their own proprietary measurement systems—that we adopt their preferred metric or routine to address a particular priority. The volume of approaches and the varied metrics and methodologies make it difficult for those of us who operate companies to determine how best to provide consistent reporting. And many of us would rather put our energy into actually making progress on the SDGs than debating the measurement of progress.

Company management teams and the asset owners and asset managers who invest in these companies need a straightforward framework by which to compare non-financial information in these areas across companies in a given industry, and across industries, to determine which companies are making progress on the issues most critical toward ensuring a sustainable global economy.

The International Business Council, which I am privileged to chair, of the World Economic Forum (WEF) has recently addressed this need. The WEF asked the accounting firms Deloitte, EY, KPMG and PwC to develop a framework to provide all stakeholders, including shareholders, a consistent method to evaluate the progress companies are making to advance SDG priorities in the areas of human capital, environmental sustainability, governance and other sustainable development objectives.

Our objective is to develop a scorecard based on a consistent measurement framework for companies to disclose the progress they are making on specific SDGs. Our scorecard is one step toward creating some convergence among the many existing ESG metrics and measurement systems that are available. The experts working on this have identified a narrow and impactful range of metrics from some of the most widely acknowledged measurement systems available. The intent is for stakeholders to have a common set of metrics to measure the material impact that companies are having on the SDGs across and within industries,

so that investors and other stakeholders can compare and evaluate progress. This is to simply show how capitalism is aligned generally and how each company is aligned specifically to delivering the progress. The metrics also will help investors evaluate the long-term value and sustainability of companies seeking to make progress on the SDGs.

Just imagine how much intellectual and financial creativity we can harness if we **1)** accept that capitalism is the best way to create access to opportunity for the most people; **2)** acknowledge the shortcomings in our capitalist system just the same; and **3)** address those shortcomings by harnessing the world's capital toward the SDGs agreed to by nearly 200 countries. That's a powerful force for progress.

At Bank of America, we believe it is not only possible but it is the desired outcome for us to serve our clients, deliver for our shareholders AND deliver for the societies and communities we serve. That's Responsible Growth and stakeholder capitalism in action.



#### Bank of America Board of Directors

*Front row (from left):* Michael White, David Yost, Maria Zuber, Jack Bovender,  
Brian Moynihan, Susan Bies, Linda Hudson, Lionel Nowell  
*Back row (from left):* Thomas Woods, Frank Bramble, Denise Ramos, Pierre de Weck,  
Monica Lozano, Thomas May, Sharon Allen, Clayton Rose, Arnold Donald

What would you like  
the power to do?



At Bank of America, we ask this question every day of those we serve. By listening to the answers we learn what matters most to people. It's how we deliver Responsible Growth.

**Bank of America  
Executive Management Team**

*Front row (from left): Christine Katziff, Anne Finucane, Brian Moynihan,  
Catherine Bessant, Thong Nguyen, Sheri Bronstein*

*Back row (from left): Andrew Sieg, Paul Donofrio, Dean Athanasia,  
Andrea Smith, David Leitch, Kathleen Knox, Geoffrey Greener, Thomas Montag*



## Consumer & Small Business priorities

Q&A with Dean Athanasia,  
President of Consumer & Small Business

**Q: How are you driving Responsible Growth in Consumer & Small Business?**

**Dean:** We take an integrated high-tech and high-touch approach, offering our clients the convenience of our award-winning digital platform even as we're investing in our network of 4,300 financial centers and approximately 16,800 ATMs. We staff our centers with professionals who can help clients with all their financial needs, from transacting and borrowing for a home, auto or business to saving and investing with Merrill. And we do it all with a passion for client care that extends throughout our organization. At the same time, we're focused on strengthening our communities, because Responsible Growth needs to be both shared and sustainable. And we're investing in our employees' development, because the more capable they become, the more we can do for our clients and communities.

**Q: What is your strategy for exceeding expectations for Consumer & Small Business clients?**

**Dean:** Bank of America and Merrill offer clients our full range of banking and investment services wherever and whenever they want, on our mobile app or talking with our expert professionals over the phone, through online chat, in a video conference or face-to-face in one of our new and upgraded financial centers. And then we provide extensive rewards and benefits across their entire relationship with us through programs like Preferred Rewards— the more they do with us, the more their benefits grow. These are among the many reasons we have been able to grow average Consumer Banking deposits by more than \$155 billion over the past five years, nearly 70% of that in Checking.

66M

Consumer and Small  
Business clients

38M

Digital banking  
clients

4,300

Retail financial centers  
and 16,800 ATMs  
(with about 1/3 located  
in LMI communities)

25,200

Client professionals offering  
advice for investments,  
lending and small business  
in our financial centers

Behind the scenes, we're taking advantage of the latest advances in artificial intelligence (AI), machine learning and business intelligence to enable us to deliver personalized, client-specific insights, recommendations and resources during moments that matter. Our virtual AI-driven financial assistant, Erica®, uses all this intelligence to deliver a personalized experience for each and every client.

**Q: What are you doing to support the communities where you do business, especially low- and moderate-income communities?**

**Dean:** We are helping to empower economic mobility for our clients and small businesses through a community-centered approach that offers resources tailored to meet their needs. Our strategy is designed to connect clients with products and services, employment opportunities and capital to increase financial resilience and help our local communities thrive.

That means being focused on the needs of diverse communities. We serve 9.5 million Hispanic-Latino individuals and more than 1 million Hispanic business owners. In 2019, our market share as the primary bank for U.S. Hispanic-Latino consumers grew to 21%, maintaining our industry-leading position. And by the end of 2019, we had more than 2 million users of our Spanish-language mobile app, a 23.5% increase over the prior year.

It also means being focused on underserved communities. Today, roughly one-third of our financial centers and ATMs are located in low- and moderate-income (LMI) neighborhoods, and 33% of our financial center employees work in these locations. In the rural markets where we work and serve, we have 235 financial centers, 820 ATMs and over 1,500 financial center employees. Across our network, nearly two-thirds of our financial centers are staffed by teammates who speak more than one language. Of the total number of multilingual associates, 81% work in our centers located in LMI areas.

**Q: How can employees develop and advance their careers at Bank of America?**

**Dean:** We're helping our teammates in Consumer & Small Business, Merrill and the Private Bank build great careers at Bank of America through The Academy, our award-winning coaching and development organization. Academy programs provide robust coursework taught by subject matter experts, dedicated training time for frontline employees — each teammate receives a minimum of 80 hours of training when taking on a new role and up to 1,000 hours in the first five years, depending on the career path — in addition to peer mentoring and coaching. We also offer hands-on, high-tech immersion training programs using virtual reality and client engagement simulators, which is a first for our industry.

More than 45,000 teammates participated in Academy programs in 2019, with nearly 11,000 advancing in their careers as a result.

We encourage employees to consider their opportunities inside our company. Managers are expected to have that conversation with their teams, so they understand the opportunities they have to learn more about a different position in the market where they live, across all of our lines of business. We want employees to think about their career opportunities within our company, and we are empowering them and their managers to help them gain the training and the resources to do that. As a result, we're seeing the highest employee engagement scores and lowest turnover we have ever experienced, even in an environment with low unemployment.

Our investment in our teammates is helping us better serve our clients and the communities in which we live and work, providing more professional expertise and improving client care in every interaction.

# Transforming wealth management

Q&A with Katy Knox, President of Bank of America Private Bank and Andy Sieg, President of Merrill Lynch Wealth Management

**Q: How is the wealth management landscape changing?**

**Andy:** The demographics are shifting. More people are saving, investing and passing wealth on to the next generation, and the financial power of women is growing. At the same time, financial planning factors are evolving in a way that people want more information and greater choice in how they receive financial advice. These range from brokerage to online robo-advisors, to high-tech and high-touch full-service advisory relationships. And, clients want an integrated set of banking and lending services to help them meet their financial goals. The result is transformational; it's a golden age for advice, with the advisor helping clients make smarter decisions.

**Q: How are your businesses aligned to capitalize on these opportunities?**

**Katy:** Our goal is to enable individuals, families, business owners and institutions to preserve and share their wealth, build legacies and plan for growth and success. We bring together business lines across Bank of America—Consumer Banking, Business Banking, Global Commercial Banking, Global Corporate & Investment Banking and Global Markets—to harness all of our resources designed to meet our clients' needs. It's a tremendous advantage to be able to holistically address both business and personal needs. From growing a business for the next generation, to unlocking capital in an art collection, to giving with passion and purpose, we help clients with their connected priorities.

**Andy:** Last year was a record year for Merrill in client balances, revenue and net income. We're in an era where Merrill advisors can serve as indispensable partners over their clients' entire financial lives. We can provide clients the finest advice and service—investment management and access to banking, credit and lending—all through their advisor or the other channels we offer clients to interact with us. In today's world, even the most astute families feel challenged by high-stakes financial decisions. That's why you see more and more people looking for comprehensive advice from a single relationship. That's what we offer our clients in a way no one else can.

**Q: How is the company helping clients looking to transition wealth to the next generation?**

**Katy:** We've helped individuals and families pass down their values across generations for more than 200 years. To meet a family's financial

goals, our Private Bank specialists draw upon their experience and expertise in wealth structuring, investment management and credit and banking to create a thoughtful, comprehensive wealth plan. For business owners, we offer strategies to plan for a business transfer while keeping clients' personal and family needs top of mind. For families with significant wealth, complex assets and ownership structures, the Bank of America Private Bank Family Office provides the highest level of expertise and service.

**Q: How are your digital capabilities enhancing the wealth management client experience?**

**Andy:** Clients, especially those with complex wealth needs, want a personal connection plus the convenience that technology offers. In the age of smartphones and mobile apps, Merrill clients can easily see their investment and cash accounts across the company, keep track of their financial goals and engage their advisor teams when and how they choose. Also, Merrill's digital tools save our clients precious time by enabling them to quickly scan and sign documents and securely chat with their advisors through text.

**Katy:** The Private Bank offers that same digital experience, with features such as seamless money transfers, document scanning, educational podcasts and integration of charitable gift fund accounts. As we look toward an increasingly digital future, we've made it easier for clients to have online access to their accounts across wealth and banking. Secure messaging between our advisors and clients facilitates a new type of relationship, including real-time engagement when that is what clients want.



assessing hedge effectiveness are recorded in the same income statement line item as the hedged item.

Net investment hedges are used to manage the foreign exchange rate sensitivity arising from a net investment in a foreign operation. Changes in the spot prices of derivatives that are designated as *net investment hedges of foreign operations* are recorded as a component of accumulated OCI. The remaining components of these derivatives are excluded in assessing hedge effectiveness and are recorded in market making and similar activities.

### **Securities**

Debt securities are reported on the Consolidated Balance Sheet at their trade date. Their classification is dependent on the purpose for which the securities were acquired. Debt securities purchased for use in the Corporation's trading activities are reported in trading account assets at fair value with unrealized gains and losses included in market making and similar activities. Substantially all other debt securities purchased are used in the Corporation's ALM activities and are reported on the Consolidated Balance Sheet as either debt securities carried at fair value or as held-to-maturity (HTM) debt securities. Debt securities carried at fair value are either available-for-sale (AFS) securities with unrealized gains and losses net-of-tax included in accumulated OCI or carried at fair value with unrealized gains and losses reported in other income. HTM debt securities, which are certain debt securities that management has the intent and ability to hold to maturity, are reported at amortized cost.

The Corporation regularly evaluates each AFS and HTM debt security where the value has declined below amortized cost to assess whether the decline in fair value is other than temporary. In determining whether an impairment is other than temporary, the Corporation considers the severity and duration of the decline in fair value, the length of time expected for recovery, the financial condition of the issuer, and other qualitative factors, as well as whether the Corporation either plans to sell the security or it is more likely than not that it will be required to sell the security before recovery of the amortized cost. For AFS debt securities the Corporation intends to hold, an analysis is performed to determine how much of the decline in fair value is related to the issuer's credit and how much is related to market factors (e.g., interest rates). If any of the decline in fair value is due to credit, an other-than-temporary impairment (OTTI) loss is recognized in the Consolidated Statement of Income for that amount. If any of the decline in fair value is related to market factors, that amount is recognized in accumulated OCI. In certain instances, the credit loss may exceed the total decline in fair value, in which case, the difference is due to market factors and is recognized as an unrealized gain in accumulated OCI. If the Corporation intends to sell or believes it is more likely than not that it will be required to sell the debt security, it is written down to fair value as an OTTI loss.

Interest on debt securities, including amortization of premiums and accretion of discounts, is included in interest income. Premiums and discounts are amortized or accreted to interest income at a constant effective yield over the contractual lives of the securities. Realized gains and losses from the sales of debt securities are determined using the specific identification method.

Equity securities with readily determinable fair values that are not held for trading purposes are carried at fair value with unrealized gains and losses included in other income. Equity securities that do not have readily determinable fair values are recorded at cost less impairment, if any, plus or minus qualifying observable price changes. These securities are reported in other assets.

### **Loans and Leases**

Loans, with the exception of loans accounted for under the fair value option, are measured at historical cost and reported at their outstanding principal balances net of any unearned income, charge-offs, unamortized deferred fees and costs on originated loans, and for purchased loans, net of any unamortized premiums or discounts. Loan origination fees and certain direct origination costs are deferred and recognized as adjustments to interest income over the lives of the related loans. Unearned income, discounts and premiums are amortized to interest income using a level yield methodology. The Corporation elects to account for certain consumer and commercial loans under the fair value option with interest reported in interest income and changes in fair value reported in market making and similar activities or other income.

Under applicable accounting guidance, for reporting purposes, the loan and lease portfolio is categorized by portfolio segment and, within each portfolio segment, by class of financing receivables. A portfolio segment is defined as the level at which an entity develops and documents a systematic methodology to determine the allowance for credit losses, and a class of financing receivables is defined as the level of disaggregation of portfolio segments based on the initial measurement attribute, risk characteristics and methods for assessing risk. The Corporation's three portfolio segments are Consumer Real Estate, Credit Card and Other Consumer, and Commercial. The classes within the Consumer Real Estate portfolio segment are residential mortgage and home equity. The classes within the Credit Card and Other Consumer portfolio segment are credit card, direct/indirect consumer and other consumer. The classes within the Commercial portfolio segment are U.S. commercial, non-U.S. commercial, commercial real estate, commercial lease financing and U.S. small business commercial.

### **Leases**

The Corporation provides equipment financing to its customers through a variety of lessor arrangements. Direct financing leases and sales-type leases are carried at the aggregate of lease payments receivable plus the estimated residual value of the leased property less unearned income, which is accreted to interest income over the lease terms using methods that approximate the interest method. Operating lease income is recognized on a straight-line basis. The Corporation's lease arrangements generally do not contain non-lease components.

### **Allowance for Credit Losses**

The allowance for credit losses, which includes the allowance for loan and lease losses and the reserve for unfunded lending commitments, represents management's estimate of probable incurred credit losses in the Corporation's loan and lease portfolio excluding loans and unfunded lending commitments accounted for under the fair value option. The allowance for credit losses includes both quantitative and qualitative components. The qualitative component has a higher degree of management subjectivity, and includes factors such as concentrations, economic conditions and other considerations. The allowance for loan and lease losses represents the estimated probable credit losses on funded consumer and commercial loans and leases while the reserve for unfunded lending commitments, including standby letters of credit (SBLCs) and binding unfunded loan commitments, represents estimated probable credit losses on these unfunded credit instruments based on utilization assumptions. Lending-related credit exposures deemed to be uncollectible, excluding loans carried at fair value, are charged off against these accounts.

billion were sold or repledged. The primary source of this collateral is securities borrowed or purchased under agreements to resell.

The Corporation also pledges company-owned securities and loans as collateral in transactions that include repurchase agreements, securities loaned, public and trust deposits, U.S. Treasury tax and loan notes, and short-term borrowings. This collateral, which in some cases can be sold or repledged by the counterparties to the transactions, is parenthetically disclosed on the Consolidated Balance Sheet.

In certain cases, the Corporation has transferred assets to consolidated VIEs where those restricted assets serve as collateral for the interests issued by the VIEs. These assets are included on the Consolidated Balance Sheet in Assets of Consolidated VIEs.

In addition, the Corporation obtains collateral in connection with its derivative contracts. Required collateral levels vary depending on the credit risk rating and the type of counterparty. Generally, the Corporation accepts collateral in the form of cash, U.S. Treasury securities and other marketable securities. Based on provisions contained in master netting agreements, the Corporation nets cash collateral received against derivative assets. The Corporation also pledges collateral on its own derivative positions which can be applied against derivative liabilities.

#### **Trading Instruments**

Financial instruments utilized in trading activities are carried at fair value. Fair value is generally based on quoted market prices for the same or similar assets and liabilities. If these market prices are not available, fair values are estimated based on dealer quotes, pricing models, discounted cash flow methodologies, or similar techniques where the determination of fair value may require significant management judgment or estimation. Realized gains and losses are recorded on a trade-date basis. Realized and unrealized gains and losses are recognized in market making and similar activities.

#### **Derivatives and Hedging Activities**

Derivatives are entered into on behalf of customers, for trading or to support risk management activities. Derivatives used in risk management activities include derivatives that are both designated in qualifying accounting hedge relationships and derivatives used to hedge market risks in relationships that are not designated in qualifying accounting hedge relationships (referred to as other risk management activities). The Corporation manages interest rate and foreign currency exchange rate sensitivity predominantly through the use of derivatives. Derivatives utilized by the Corporation include swaps, futures and forward settlement contracts, and option contracts.

All derivatives are recorded on the Consolidated Balance Sheet at fair value, taking into consideration the effects of legally enforceable master netting agreements that allow the Corporation to settle positive and negative positions and offset cash collateral held with the same counterparty on a net basis. For exchange-traded contracts, fair value is based on quoted market prices in active or inactive markets or is derived from observable market-based pricing parameters, similar to those applied to over-the-counter (OTC) derivatives. For non-exchange traded contracts, fair value is based on dealer quotes, pricing models, discounted cash flow methodologies or similar techniques for which the determination of fair value may require significant management judgment or estimation.

Valuations of derivative assets and liabilities reflect the value of the instrument including counterparty credit risk. These values also take into account the Corporation's own credit standing.

#### **Trading Derivatives and Other Risk Management Activities**

Derivatives held for trading purposes are included in derivative assets or derivative liabilities on the Consolidated Balance Sheet with changes in fair value included in market making and similar activities.

Derivatives used for other risk management activities are included in derivative assets or derivative liabilities. Derivatives used in other risk management activities have not been designated in qualifying accounting hedge relationships because they did not qualify or the risk that is being mitigated pertains to an item that is reported at fair value through earnings so that the effect of measuring the derivative instrument and the asset or liability to which the risk exposure pertains will offset in the Consolidated Statement of Income to the extent effective. The changes in the fair value of derivatives that serve to mitigate certain risks associated with mortgage servicing rights (MSRs), interest rate lock commitments (IRLCs) and first-lien mortgage loans held-for-sale (LHFS) that are originated by the Corporation are recorded in other income. Changes in the fair value of derivatives that serve to mitigate interest rate risk and foreign currency risk are included in market making and similar activities. Credit derivatives are also used by the Corporation to mitigate the risk associated with various credit exposures. The changes in the fair value of these derivatives are included in market making and similar activities and other income.

#### **Derivatives Used For Hedge Accounting Purposes (Accounting Hedges)**

For accounting hedges, the Corporation formally documents at inception all relationships between hedging instruments and hedged items, as well as the risk management objectives and strategies for undertaking various accounting hedges. Additionally, the Corporation primarily uses regression analysis at the inception of a hedge and for each reporting period thereafter to assess whether the derivative used in an accounting hedge transaction is expected to be and has been highly effective in offsetting changes in the fair value or cash flows of a hedged item or forecasted transaction. The Corporation discontinues hedge accounting when it is determined that a derivative is not expected to be or has ceased to be highly effective as a hedge, and then reflects changes in fair value of the derivative in earnings after termination of the hedge relationship.

Fair value hedges are used to protect against changes in the fair value of the Corporation's assets and liabilities that are attributable to interest rate or foreign exchange volatility. Changes in the fair value of derivatives designated as fair value hedges are recorded in earnings, together and in the same income statement line item with changes in the fair value of the related hedged item. If a derivative instrument in a fair value hedge is terminated or the hedge designation removed, the previous adjustments to the carrying value of the hedged asset or liability are subsequently accounted for in the same manner as other components of the carrying value of that asset or liability. For interest-earning assets and interest-bearing liabilities, such adjustments are amortized to earnings over the remaining life of the respective asset or liability.

Cash flow hedges are used primarily to minimize the variability in cash flows of assets and liabilities or forecasted transactions caused by interest rate or foreign exchange rate fluctuations. The Corporation also uses cash flow hedges to hedge the price risk associated with deferred compensation. Changes in the fair value of derivatives used in cash flow hedges are recorded in accumulated other comprehensive income (OCI) and are reclassified into the line item in the income statement in which the hedged item is recorded in the same period the hedged item affects earnings. Components of a derivative that are excluded in

## Bank of America Corporation and Subsidiaries Notes to Consolidated Financial Statements

### NOTE 1 Summary of Significant Accounting Principles

Bank of America Corporation, a bank holding company and a financial holding company, provides a diverse range of financial services and products throughout the U.S. and in certain international markets. The term “the Corporation” as used herein may refer to Bank of America Corporation, individually, Bank of America Corporation and its subsidiaries, or certain of Bank of America Corporation’s subsidiaries or affiliates.

#### Principles of Consolidation and Basis of Presentation

The Consolidated Financial Statements include the accounts of the Corporation and its majority-owned subsidiaries and those variable interest entities (VIEs) where the Corporation is the primary beneficiary. Intercompany accounts and transactions have been eliminated. Results of operations of acquired companies are included from the dates of acquisition, and for VIEs, from the dates that the Corporation became the primary beneficiary. Assets held in an agency or fiduciary capacity are not included in the Consolidated Financial Statements. The Corporation accounts for investments in companies for which it owns a voting interest and for which it has the ability to exercise significant influence over operating and financing decisions using the equity method of accounting. These investments are included in other assets. Equity method investments are subject to impairment testing, and the Corporation’s proportionate share of income or loss is included in other income.

The preparation of the Consolidated Financial Statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect reported amounts and disclosures. Actual results could materially differ from those estimates and assumptions. Certain prior-period amounts have been reclassified to conform to current-period presentation.

In the Consolidated Statement of Income, amounts related to certain asset and liability management (ALM) activities have been reclassified from other income to market making and similar activities, which was previously referred to as trading account income. All prior periods presented reflect this change, which has no impact on the Corporation’s total noninterest income or net income, and has no impact on business segment results. The amounts included in market making and similar activities related to this change in presentation are increases of \$930 million, \$1.1 billion and \$332 million for 2019, 2018 and 2017, respectively.

#### New Accounting Standards

##### Lease Accounting

On January 1, 2019, the Corporation adopted the new accounting standards that require lessees to recognize operating leases on the balance sheet as right-of-use assets and lease liabilities based on the value of the discounted future lease payments. Lessor accounting is largely unchanged. Expanded disclosures about the nature and terms of lease agreements are required prospectively and are included in *Note 9 – Leases*. The Corporation elected to retain prior determinations of whether an existing contract contains a lease and how the lease should be classified. The Corporation elected to recognize leases existing on January 1, 2019 through a cumulative-effect adjustment which increased retained earnings by \$165 million, with no adjustment to prior periods presented. Upon adoption, the Corporation also recognized right-of-use assets and lease liabilities of \$9.7 billion.

Adoption of the standards did not have a significant effect on the Corporation’s regulatory capital measures.

##### Accounting for Financial Instruments – Credit Losses

On January 1, 2020, the Corporation adopted the new accounting standard that requires the measurement of the allowance for credit losses to be based on management’s best estimate of lifetime expected credit losses inherent in the Corporation’s relevant financial assets. The Corporation’s lifetime expected credit losses are determined using macroeconomic forecast assumptions and management judgments applicable to and through the expected life of the loan portfolios, and are net of expected recoveries on loans that were previously charged off. The standard also expands credit quality disclosures beginning in the first quarter of 2020. While the standard changes the measurement of the allowance for credit losses, it does not change the Corporation’s credit risk of its lending portfolios or the ultimate losses in those portfolios. Upon adoption of the standard on January 1, 2020, the Corporation recorded a \$3.3 billion, or 32 percent, increase to the allowance for credit losses. After adjusting for deferred taxes and other adoption effects, a \$2.4 billion decrease was recorded in retained earnings through a cumulative-effect adjustment.

#### Significant Accounting Principles

##### Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, cash items in the process of collection, cash segregated under federal and other brokerage regulations, and amounts due from correspondent banks, the Federal Reserve Bank and certain non-U.S. central banks. Certain cash balances are restricted as to withdrawal or usage by legally binding contractual agreements or regulatory requirements.

##### Securities Financing Agreements

Securities borrowed or purchased under agreements to resell and securities loaned or sold under agreements to repurchase (securities financing agreements) are treated as collateralized financing transactions except in instances where the transaction is required to be accounted for as individual sale and purchase transactions. Generally, these agreements are recorded at acquisition or sale price plus accrued interest, except for certain securities financing agreements that the Corporation accounts for under the fair value option. Changes in the fair value of securities financing agreements that are accounted for under the fair value option are recorded in market making and similar activities in the Consolidated Statement of Income.

The Corporation’s policy is to monitor the market value of the principal amount loaned under resale agreements and obtain collateral from or return collateral pledged to counterparties when appropriate. Securities financing agreements do not create material credit risk due to these collateral provisions; therefore, an allowance for loan losses is not necessary.

In transactions where the Corporation acts as the lender in a securities lending agreement and receives securities that can be pledged or sold as collateral, it recognizes an asset on the Consolidated Balance Sheet at fair value, representing the securities received, and a liability, representing the obligation to return those securities.

##### Collateral

The Corporation accepts securities and loans as collateral that it is permitted by contract or practice to sell or repledge. At December 31, 2019 and 2018, the fair value of this collateral was \$693.0 billion and \$599.0 billion, of which \$593.8 billion and \$508.6

## Bank of America Corporation and Subsidiaries

### Consolidated Statement of Cash Flows

(Dollars in millions)

|                                                                                                                                         | 2019              | 2018              | 2017              |
|-----------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|
| <b>Operating activities</b>                                                                                                             |                   |                   |                   |
| Net income                                                                                                                              | \$ 27,430         | \$ 28,147         | \$ 18,232         |
| Adjustments to reconcile net income to net cash provided by operating activities:                                                       |                   |                   |                   |
| Provision for credit losses                                                                                                             | 3,590             | 3,282             | 3,396             |
| Gains on sales of debt securities                                                                                                       | (217)             | (154)             | (255)             |
| Depreciation and amortization                                                                                                           | 1,729             | 2,063             | 2,103             |
| Net amortization of premium/discount on debt securities                                                                                 | 2,066             | 1,824             | 2,251             |
| Deferred income taxes                                                                                                                   | 2,435             | 3,041             | 8,175             |
| Stock-based compensation                                                                                                                | 1,974             | 1,729             | 1,649             |
| Impairment of equity method investment                                                                                                  | 2,072             | —                 | —                 |
| Loans held-for-sale:                                                                                                                    |                   |                   |                   |
| Originations and purchases                                                                                                              | (28,874)          | (28,071)          | (43,506)          |
| Proceeds from sales and paydowns of loans originally classified as held for sale and instruments from related securitization activities | 30,191            | 28,972            | 40,548            |
| Net change in:                                                                                                                          |                   |                   |                   |
| Trading and derivative assets/liabilities                                                                                               | 7,920             | (23,673)          | (14,663)          |
| Other assets                                                                                                                            | (11,113)          | 11,920            | (20,090)          |
| Accrued expenses and other liabilities                                                                                                  | 16,363            | 13,010            | 4,673             |
| <b>Other operating activities, net</b>                                                                                                  | <b>6,211</b>      | <b>(2,570)</b>    | <b>7,351</b>      |
| <b>Net cash provided by operating activities</b>                                                                                        | <b>61,777</b>     | <b>39,520</b>     | <b>9,864</b>      |
| <b>Investing activities</b>                                                                                                             |                   |                   |                   |
| Net change in:                                                                                                                          |                   |                   |                   |
| Time deposits placed and other short-term investments                                                                                   | 387               | 3,659             | (1,292)           |
| Federal funds sold and securities borrowed or purchased under agreements to resell                                                      | (13,466)          | (48,384)          | (14,523)          |
| Debt securities carried at fair value:                                                                                                  |                   |                   |                   |
| Proceeds from sales                                                                                                                     | 52,006            | 5,117             | 73,353            |
| Proceeds from paydowns and maturities                                                                                                   | 79,114            | 78,513            | 93,874            |
| Purchases                                                                                                                               | (152,782)         | (76,640)          | (166,975)         |
| Held-to-maturity debt securities:                                                                                                       |                   |                   |                   |
| Proceeds from paydowns and maturities                                                                                                   | 34,770            | 18,789            | 16,653            |
| Purchases                                                                                                                               | (37,115)          | (35,980)          | (25,088)          |
| Loans and leases:                                                                                                                       |                   |                   |                   |
| Proceeds from sales of loans originally classified as held for investment and instruments from related securitization activities        | 12,201            | 21,365            | 11,996            |
| Purchases                                                                                                                               | (5,963)           | (4,629)           | (6,846)           |
| Other changes in loans and leases, net                                                                                                  | (46,808)          | (31,292)          | (41,104)          |
| <b>Other investing activities, net</b>                                                                                                  | <b>(2,974)</b>    | <b>(1,986)</b>    | <b>8,411</b>      |
| <b>Net cash used in investing activities</b>                                                                                            | <b>(80,630)</b>   | <b>(71,468)</b>   | <b>(51,541)</b>   |
| <b>Financing activities</b>                                                                                                             |                   |                   |                   |
| Net change in:                                                                                                                          |                   |                   |                   |
| Deposits                                                                                                                                | 53,327            | 71,931            | 48,611            |
| Federal funds purchased and securities loaned or sold under agreements to repurchase                                                    | (21,879)          | 10,070            | 7,024             |
| Short-term borrowings                                                                                                                   | 4,004             | (12,478)          | 8,538             |
| Long-term debt:                                                                                                                         |                   |                   |                   |
| Proceeds from issuance                                                                                                                  | 52,420            | 64,278            | 53,486            |
| Retirement                                                                                                                              | (50,794)          | (53,046)          | (49,480)          |
| Preferred stock:                                                                                                                        |                   |                   |                   |
| Proceeds from issuance                                                                                                                  | 3,843             | 4,515             | —                 |
| Redemption                                                                                                                              | (2,568)           | (4,512)           | —                 |
| Common stock repurchased                                                                                                                | (28,144)          | (20,094)          | (12,814)          |
| Cash dividends paid                                                                                                                     | (5,934)           | (6,895)           | (5,700)           |
| <b>Other financing activities, net</b>                                                                                                  | <b>(698)</b>      | <b>(651)</b>      | <b>(397)</b>      |
| <b>Net cash provided by financing activities</b>                                                                                        | <b>3,377</b>      | <b>53,118</b>     | <b>49,268</b>     |
| <b>Effect of exchange rate changes on cash and cash equivalents</b>                                                                     | <b>(368)</b>      | <b>(1,200)</b>    | <b>2,105</b>      |
| <b>Net increase (decrease) in cash and cash equivalents</b>                                                                             | <b>(15,844)</b>   | <b>19,970</b>     | <b>9,696</b>      |
| <b>Cash and cash equivalents at January 1</b>                                                                                           | <b>177,404</b>    | <b>157,434</b>    | <b>147,738</b>    |
| <b>Cash and cash equivalents at December 31</b>                                                                                         | <b>\$ 161,560</b> | <b>\$ 177,404</b> | <b>\$ 157,434</b> |
| <b>Supplemental cash flow disclosures</b>                                                                                               |                   |                   |                   |
| Interest paid                                                                                                                           | \$ 22,196         | \$ 19,087         | \$ 12,852         |
| Income taxes paid, net                                                                                                                  | 4,359             | 2,470             | 3,235             |

See accompanying Notes to Consolidated Financial Statements.

# Bank of America Corporation and Subsidiaries

## Consolidated Statement of Changes in Shareholders' Equity

| (In millions)                                                                                                            | Preferred<br>Stock | Common Stock and<br>Additional Paid-in Capital |            | Retained<br>Earnings | Accumulated<br>Other<br>Comprehensive<br>Income (Loss) | Total<br>Shareholders'<br>Equity |
|--------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------|------------|----------------------|--------------------------------------------------------|----------------------------------|
|                                                                                                                          |                    | Shares                                         | Amount     |                      |                                                        |                                  |
| Balance, December 31, 2016                                                                                               | \$ 25,220          | 10,052.6                                       | \$ 147,038 | \$ 101,225           | \$ (7,288)                                             | \$ 266,195                       |
| Net income                                                                                                               |                    |                                                |            | 18,232               |                                                        | 18,232                           |
| Net change in debt securities                                                                                            |                    |                                                |            |                      | 61                                                     | 61                               |
| Net change in debit valuation adjustments                                                                                |                    |                                                |            |                      | (293)                                                  | (293)                            |
| Net change in derivatives                                                                                                |                    |                                                |            |                      | 64                                                     | 64                               |
| Employee benefit plan adjustments                                                                                        |                    |                                                |            |                      | 288                                                    | 288                              |
| Net change in foreign currency translation adjustments                                                                   |                    |                                                |            |                      | 86                                                     | 86                               |
| Dividends declared:                                                                                                      |                    |                                                |            |                      |                                                        |                                  |
| Common                                                                                                                   |                    |                                                |            | (4,027)              |                                                        | (4,027)                          |
| Preferred                                                                                                                |                    |                                                |            | (1,578)              |                                                        | (1,578)                          |
| Common stock issued in connection with exercise of warrants and exchange of preferred stock                              | (2,897)            | 700.0                                          | 2,933      | (36)                 |                                                        | —                                |
| Common stock issued under employee plans, net, and other                                                                 |                    | 43.3                                           | 932        |                      |                                                        | 932                              |
| Common stock repurchased                                                                                                 |                    | (508.6)                                        | (12,814)   |                      |                                                        | (12,814)                         |
| Balance, December 31, 2017                                                                                               | \$ 22,323          | 10,287.3                                       | \$ 138,089 | \$ 113,816           | \$ (7,082)                                             | \$ 267,146                       |
| Cumulative adjustment for adoption of hedge accounting standard                                                          |                    |                                                |            | (32)                 | 57                                                     | 25                               |
| Adoption of accounting standard related to certain tax effects stranded in accumulated other comprehensive income (loss) |                    |                                                |            | 1,270                | (1,270)                                                | —                                |
| Net income                                                                                                               |                    |                                                |            | 28,147               |                                                        | 28,147                           |
| Net change in debt securities                                                                                            |                    |                                                |            |                      | (3,953)                                                | (3,953)                          |
| Net change in debit valuation adjustments                                                                                |                    |                                                |            |                      | 749                                                    | 749                              |
| Net change in derivatives                                                                                                |                    |                                                |            |                      | (53)                                                   | (53)                             |
| Employee benefit plan adjustments                                                                                        |                    |                                                |            |                      | (405)                                                  | (405)                            |
| Net change in foreign currency translation adjustments                                                                   |                    |                                                |            |                      | (254)                                                  | (254)                            |
| Dividends declared:                                                                                                      |                    |                                                |            |                      |                                                        |                                  |
| Common                                                                                                                   |                    |                                                |            | (5,424)              |                                                        | (5,424)                          |
| Preferred                                                                                                                |                    |                                                |            | (1,451)              |                                                        | (1,451)                          |
| Issuance of preferred stock                                                                                              | 4,515              |                                                |            |                      |                                                        | 4,515                            |
| Redemption of preferred stock                                                                                            | (4,512)            |                                                |            |                      |                                                        | (4,512)                          |
| Common stock issued under employee plans, net, and other                                                                 |                    | 58.2                                           | 901        | (12)                 |                                                        | 889                              |
| Common stock repurchased                                                                                                 |                    | (676.2)                                        | (20,094)   |                      |                                                        | (20,094)                         |
| Balance, December 31, 2018                                                                                               | \$ 22,326          | 9,669.3                                        | \$ 118,896 | \$ 136,314           | \$ (12,211)                                            | \$ 265,325                       |
| Cumulative adjustment for adoption of lease accounting standard                                                          |                    |                                                |            | 165                  |                                                        | 165                              |
| Net income                                                                                                               |                    |                                                |            | 27,430               |                                                        | 27,430                           |
| Net change in debt securities                                                                                            |                    |                                                |            |                      | 5,875                                                  | 5,875                            |
| Net change in debit valuation adjustments                                                                                |                    |                                                |            |                      | (963)                                                  | (963)                            |
| Net change in derivatives                                                                                                |                    |                                                |            |                      | 616                                                    | 616                              |
| Employee benefit plan adjustments                                                                                        |                    |                                                |            |                      | 136                                                    | 136                              |
| Net change in foreign currency translation adjustments                                                                   |                    |                                                |            |                      | (86)                                                   | (86)                             |
| Dividends declared:                                                                                                      |                    |                                                |            |                      |                                                        |                                  |
| Common                                                                                                                   |                    |                                                |            | (6,146)              |                                                        | (6,146)                          |
| Preferred                                                                                                                |                    |                                                |            | (1,432)              |                                                        | (1,432)                          |
| Issuance of preferred stock                                                                                              | 3,643              |                                                |            |                      |                                                        | 3,643                            |
| Redemption of preferred stock                                                                                            | (2,568)            |                                                |            |                      |                                                        | (2,568)                          |
| Common stock issued under employee plans, net, and other                                                                 |                    | 123.3                                          | 971        | (12)                 |                                                        | 959                              |
| Common stock repurchased                                                                                                 |                    | (956.5)                                        | (28,144)   |                      |                                                        | (28,144)                         |
| Balance, December 31, 2019                                                                                               | \$ 23,401          | 8,836.1                                        | \$ 91,723  | \$ 156,319           | \$ (6,633)                                             | \$ 264,810                       |

See accompanying Notes to Consolidated Financial Statements.

# Bank of America Corporation and Subsidiaries

## Consolidated Balance Sheet

| (Dollars in millions)                                                                                                                                                 | December 31         |                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|
|                                                                                                                                                                       | 2019                | 2018                |
| <b>Assets</b>                                                                                                                                                         |                     |                     |
| Cash and due from banks                                                                                                                                               | \$ 30,152           | \$ 29,063           |
| Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks                                                                            | 131,408             | 148,341             |
| Cash and cash equivalents                                                                                                                                             | 161,560             | 177,404             |
| Time deposits placed and other short-term investments                                                                                                                 | 7,107               | 7,494               |
| Federal funds sold and securities borrowed or purchased under agreements to resell<br>(includes \$50,364 and \$56,399 measured at fair value)                         | 274,597             | 261,131             |
| Trading account assets (includes \$90,946 and \$119,363 pledged as collateral)                                                                                        | 229,826             | 214,348             |
| Derivative assets                                                                                                                                                     | 40,485              | 43,725              |
| Debt securities:                                                                                                                                                      |                     |                     |
| Earned at fair value                                                                                                                                                  | 256,467             | 238,101             |
| Held-to-maturity, at cost (fair value – \$219,821 and \$200,435)                                                                                                      | 215,730             | 203,652             |
| Total debt securities                                                                                                                                                 | 472,197             | 441,753             |
| Loans and leases (includes \$8,335 and \$4,349 measured at fair value)                                                                                                | 983,426             | 946,895             |
| Allowance for loan and lease losses                                                                                                                                   | (9,416)             | (9,601)             |
| Loans and leases, net of allowance                                                                                                                                    | 974,010             | 937,294             |
| Premises and equipment, net                                                                                                                                           | 10,561              | 9,906               |
| Goodwill                                                                                                                                                              | 68,951              | 68,951              |
| Loans held-for-sale (includes \$3,709 and \$2,942 measured at fair value)                                                                                             | 9,158               | 10,367              |
| Customer and other receivables                                                                                                                                        | 55,937              | 65,814              |
| Other assets (includes \$15,518 and \$19,739 measured at fair value)                                                                                                  | 129,690             | 116,320             |
| <b>Total assets</b>                                                                                                                                                   | <b>\$ 2,434,079</b> | <b>\$ 2,354,507</b> |
| <b>Liabilities</b>                                                                                                                                                    |                     |                     |
| Deposits in U.S. offices:                                                                                                                                             |                     |                     |
| Noninterest-bearing                                                                                                                                                   | \$ 403,305          | \$ 412,587          |
| Interest-bearing (includes \$508 and \$492 measured at fair value)                                                                                                    | 940,731             | 891,636             |
| Deposits in non-U.S. offices:                                                                                                                                         |                     |                     |
| Noninterest-bearing                                                                                                                                                   | 13,719              | 14,060              |
| Interest-bearing                                                                                                                                                      | 77,048              | 63,193              |
| Total deposits                                                                                                                                                        | 1,434,803           | 1,381,476           |
| Federal funds purchased and securities loaned or sold under agreements to repurchase<br>(includes \$16,008 and \$28,875 measured at fair value)                       | 165,109             | 186,988             |
| Trading account liabilities                                                                                                                                           | 83,270              | 68,220              |
| Derivative liabilities                                                                                                                                                | 38,229              | 37,891              |
| Short-term borrowings (includes \$3,941 and \$1,648 measured at fair value)                                                                                           | 24,204              | 20,189              |
| Accrued expenses and other liabilities (includes \$15,434 and \$20,075 measured at fair value<br>and \$813 and \$797 of reserve for unfunded lending commitments)     | 182,798             | 165,026             |
| Long-term debt (includes \$34,975 and \$27,689 measured at fair value)                                                                                                | 240,856             | 229,392             |
| <b>Total liabilities</b>                                                                                                                                              | <b>2,169,269</b>    | <b>2,089,182</b>    |
| Commitments and contingencies (Note 7 – Securitizations and Other Variable Interest Entities<br>and Note 13 – Commitments and Contingencies)                          |                     |                     |
| <b>Shareholders' equity</b>                                                                                                                                           |                     |                     |
| Preferred stock, \$0.01 par value; authorized – 100,000,000 shares; issued and outstanding – 3,887,440 and 3,843,140 shares                                           | 23,401              | 22,326              |
| Common stock and additional paid-in capital, \$0.01 par value; authorized – 12,800,000,000 shares,<br>issued and outstanding – 8,836,148,954 and 9,669,286,370 shares | 91,723              | 118,896             |
| Retained earnings                                                                                                                                                     | 156,319             | 136,314             |
| Accumulated other comprehensive income (loss)                                                                                                                         | (6,633)             | (12,211)            |
| <b>Total shareholders' equity</b>                                                                                                                                     | <b>264,810</b>      | <b>265,325</b>      |
| <b>Total liabilities and shareholders' equity</b>                                                                                                                     | <b>\$ 2,434,079</b> | <b>\$ 2,354,507</b> |
| <b>Assets of consolidated variable interest entities included in total assets above (isolated to settle the liabilities of the variable interest entities)</b>        |                     |                     |
| Trading account assets                                                                                                                                                | \$ 5,811            | \$ 5,798            |
| Loans and leases                                                                                                                                                      | 38,837              | 43,850              |
| Allowance for loan and lease losses                                                                                                                                   | (807)               | (912)               |
| Loans and leases, net of allowance                                                                                                                                    | 38,030              | 42,938              |
| All other assets                                                                                                                                                      | 540                 | 337                 |
| <b>Total assets of consolidated variable interest entities</b>                                                                                                        | <b>\$ 44,381</b>    | <b>\$ 49,073</b>    |
| <b>Liabilities of consolidated variable interest entities included in total liabilities above</b>                                                                     |                     |                     |
| Short-term borrowings                                                                                                                                                 | \$ 2,175            | \$ 742              |
| Long-term debt (includes \$8,717 and \$10,943 of non-recourse debt)                                                                                                   | 8,718               | 10,944              |
| All other liabilities (includes \$19 and \$27 of non-recourse liabilities)                                                                                            | 22                  | 30                  |
| <b>Total liabilities of consolidated variable interest entities</b>                                                                                                   | <b>\$ 10,915</b>    | <b>\$ 11,716</b>    |

See accompanying Notes to Consolidated Financial Statements.

## Bank of America Corporation and Subsidiaries

### Consolidated Statement of Income

(In millions, except per share information)

|                                                      | 2019      | 2018      | 2017      |
|------------------------------------------------------|-----------|-----------|-----------|
| <b>Net interest income</b>                           |           |           |           |
| Interest income                                      | \$ 71,236 | \$ 66,769 | \$ 57,579 |
| Interest expense                                     | 22,345    | 18,607    | 12,340    |
| Net interest income                                  | 48,891    | 48,162    | 45,239    |
| <b>Noninterest income</b>                            |           |           |           |
| Fees and commissions                                 | 33,015    | 33,078    | 33,341    |
| Market making and similar activities                 | 9,034     | 9,008     | 7,102     |
| Other income                                         | 304       | 772       | 1,444     |
| Total noninterest income                             | 42,353    | 42,858    | 41,887    |
| Total revenue, net of interest expense               | 91,244    | 91,020    | 87,126    |
| Provision for credit losses                          | 3,590     | 3,282     | 3,396     |
| <b>Noninterest expense</b>                           |           |           |           |
| Compensation and benefits                            | 31,977    | 31,880    | 31,931    |
| Occupancy and equipment                              | 6,588     | 6,380     | 6,264     |
| Information processing and communications            | 4,646     | 4,555     | 4,530     |
| Product delivery and transaction related             | 2,762     | 2,857     | 3,041     |
| Marketing                                            | 1,934     | 1,674     | 1,746     |
| Professional fees                                    | 1,597     | 1,699     | 1,888     |
| Other general operating                              | 5,396     | 4,109     | 5,117     |
| Total noninterest expense                            | 54,900    | 53,154    | 54,517    |
| Income before income taxes                           | 32,754    | 34,584    | 29,213    |
| Income tax expense                                   | 5,324     | 6,437     | 10,981    |
| Net income                                           | \$ 27,430 | \$ 28,147 | \$ 18,232 |
| Preferred stock dividends                            | 1,432     | 1,451     | 1,614     |
| Net income applicable to common shareholders         | \$ 25,998 | \$ 26,696 | \$ 16,618 |
| <b>Per common share information</b>                  |           |           |           |
| Earnings                                             | \$ 2.77   | \$ 2.64   | \$ 1.63   |
| Diluted earnings                                     | 2.75      | 2.61      | 1.56      |
| Average common shares issued and outstanding         | 9,390.5   | 10,096.5  | 10,195.6  |
| Average diluted common shares issued and outstanding | 9,442.9   | 10,236.9  | 10,778.4  |

### Consolidated Statement of Comprehensive Income

(Dollars in millions)

|                                                        | 2019      | 2018      | 2017      |
|--------------------------------------------------------|-----------|-----------|-----------|
| <b>Net income</b>                                      | \$ 27,430 | \$ 28,147 | \$ 18,232 |
| <b>Other comprehensive income (loss), net-of-tax:</b>  |           |           |           |
| Net change in debt securities                          | 5,875     | (3,953)   | 61        |
| Net change in debt valuation adjustments               | (963)     | 749       | (293)     |
| Net change in derivatives                              | 616       | (53)      | 64        |
| Employee benefit plan adjustments                      | 136       | (405)     | 288       |
| Net change in foreign currency translation adjustments | (86)      | (254)     | 86        |
| Other comprehensive income (loss)                      | 5,578     | (3,916)   | 206       |
| Comprehensive income                                   | \$ 33,008 | \$ 24,231 | \$ 18,438 |

See accompanying Notes to Consolidated Financial Statements.

certain commercial loans is calculated using loss rates delineated by risk rating and product type. In addition, the qualitative component has a higher degree of management subjectivity, and includes factors such as concentrations, economic conditions and other considerations.

The principal considerations for our determination that performing procedures relating to the allowance for loan and lease losses is a critical audit matter are (i) there was significant judgment and estimation by management in determining the allowance for loan and lease losses, which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and in evaluating audit evidence obtained relating to the allowance for loan and lease losses, including the qualitative component, and (ii) the audit effort involved professionals with specialized skill and knowledge to assist in evaluating certain audit evidence.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the allowance for loan and lease losses. These procedures also included, among others, testing management's process for estimating the allowance for loan and lease losses, including evaluating the appropriateness of the loss forecast models and methodology, testing the completeness and accuracy of certain data used in the allowance for loan and lease losses, and evaluating the reasonableness of significant assumptions and judgments used by management to estimate the qualitative component of the allowance for loan and lease losses including those judgments related to the impact of concentrations, economic conditions and other considerations. The procedures also included the involvement of professionals with specialized skill and knowledge to assist in evaluating the reasonableness of certain loss forecast models and methodologies, evaluating the reasonableness of risk ratings used in the allowance for commercial loans, and evaluating the reasonableness of certain judgments used by management in estimating the qualitative component of the allowance for loan and lease losses.

#### **Valuation of Certain Level 3 Financial Instruments**

As described in Notes 1 and 21 to the consolidated financial statements, the Corporation carries certain financial instruments at fair value, which includes \$10.3 billion of assets and \$5.9 billion of liabilities classified as Level 3 fair value measurements for which the determination of fair value requires significant

management judgment or estimation. The Corporation determines the fair value of certain Level 3 financial instruments using quantitative models that utilize multiple significant unobservable inputs, including long-dated volatility and forward price, as applicable. As disclosed by management, estimation risk is greater for financial instruments that are either option-based or have longer maturity dates where observable market inputs are less readily available, or are unobservable, in which case, quantitative-based extrapolations are used in determining fair values.

The principal considerations for our determination that performing procedures relating to the valuation of certain Level 3 financial instruments is a critical audit matter are the significant judgment and estimation used by management to determine the fair value of these financial instruments. This in turn led to a high degree of auditor judgment and effort in performing procedures, including the involvement of professionals with specialized skill and knowledge to assist in evaluating certain audit evidence.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the valuation of financial instruments, including controls related to valuation models, significant unobservable inputs, and data. These procedures also included, among others, the involvement of professionals with specialized skill and knowledge to assist in developing an independent estimate of fair value for a sample of these certain financial instruments and comparison of management's estimate to the independently developed estimate of fair value. Developing the independent estimate involved testing the completeness and accuracy of data provided by management and evaluating the reasonableness of management's assumptions used to develop the significant unobservable inputs.

*Priscilla Louise Cooper LLP*

Charlotte, North Carolina  
February 19, 2020

We have served as the Corporation's auditor since 1958.

## Report of Independent Registered Public Accounting Firm

### Bank of America Corporation and Subsidiaries

#### To the Board of Directors and Shareholders of Bank of America Corporation:

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

We have audited the accompanying consolidated balance sheets of Bank of America Corporation and its subsidiaries (the "Corporation") as of December 31, 2019 and December 31, 2018, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2019, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Corporation's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Corporation as of December 31, 2019 and December 31, 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

#### Basis for Opinions

The Corporation'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 Report of Management on Internal Control Over Financial Reporting. Our responsibility is to express opinions on the Corporation's consolidated financial statements and on the Corporation'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 Corporation 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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (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 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.

#### Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

##### *Allowance for Loan and Lease Losses*

As described in Notes 1 and 6 to the consolidated financial statements, the allowance for loan and lease losses represents management's estimate of probable incurred credit losses in the Corporation's loan and lease portfolio. As of December 31, 2019, the allowance for loan and lease losses was \$9.4 billion on total loans and leases of \$975.1 billion, which excludes loans accounted for under the fair value option. The allowance for loan and lease losses includes both quantitative and qualitative components. The allowance for certain consumer loan portfolios considers a variety of factors including historical loss experience, estimated defaults or foreclosures based on portfolio trends, delinquencies, bankruptcies, economic conditions, credit scores and the amount of loss in the event of default. The allowance for

## Report of Management on Internal Control Over Financial Reporting

### Bank of America Corporation and Subsidiaries

The management of Bank of America Corporation is responsible for establishing and maintaining adequate internal control over financial reporting.

The Corporation'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 accounting principles generally accepted in the United States of America. The Corporation's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Corporation; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States of America, and that receipts and expenditures of the Corporation are being made only in accordance with authorizations of management and directors of the Corporation; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Corporation'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.

Management assessed the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2019 based on the framework set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control – Integrated Framework (2013)*. Based on that assessment, management concluded that, as of December 31, 2019, the Corporation's internal control over financial reporting is effective.

The Corporation's internal control over financial reporting as of December 31, 2019 has been audited by PricewaterhouseCoopers, LLP, an independent registered public accounting firm, as stated in their accompanying report which expresses an unqualified opinion on the effectiveness of the Corporation's internal control over financial reporting as of December 31, 2019.



**Brian T. Moynihan**  
Chairman, Chief Executive Officer and President



**Paul M. Donofrio**  
Chief Financial Officer

## Financial Statements and Notes

### Table of Contents

|                                                                                                                          | <u>Page</u> |
|--------------------------------------------------------------------------------------------------------------------------|-------------|
| Consolidated Statement of Income                                                                                         | 110         |
| Consolidated Statement of Comprehensive Income                                                                           | 110         |
| Consolidated Balance Sheet                                                                                               | 111         |
| Consolidated Statement of Changes in Shareholders' Equity                                                                | 112         |
| Consolidated Statement of Cash Flows                                                                                     | 113         |
| Note 1 – Summary of Significant Accounting Principles                                                                    | 114         |
| Note 2 – Net Interest Income and Noninterest Income                                                                      | 122         |
| Note 3 – Derivatives                                                                                                     | 123         |
| Note 4 – Securities                                                                                                      | 130         |
| Note 5 – Outstanding Loans and Leases                                                                                    | 133         |
| Note 6 – Allowance for Credit Losses                                                                                     | 141         |
| Note 7 – Securitizations and Other Variable Interest Entities                                                            | 142         |
| Note 8 – Goodwill and Intangible Assets                                                                                  | 146         |
| Note 9 – Leases                                                                                                          | 146         |
| Note 10 – Deposits                                                                                                       | 147         |
| Note 11 – Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings<br>and Restricted Cash | 147         |
| Note 12 – Long-term Debt                                                                                                 | 149         |
| Note 13 – Commitments and Contingencies                                                                                  | 150         |
| Note 14 – Shareholders' Equity                                                                                           | 155         |
| Note 15 – Accumulated Other Comprehensive Income (Loss)                                                                  | 157         |
| Note 16 – Earnings Per Common Share                                                                                      | 158         |
| Note 17 – Regulatory Requirements and Restrictions                                                                       | 158         |
| Note 18 – Employee Benefit Plans                                                                                         | 160         |
| Note 19 – Stock-based Compensation Plans                                                                                 | 164         |
| Note 20 – Income Taxes                                                                                                   | 165         |
| Note 21 – Fair Value Measurements                                                                                        | 166         |
| Note 22 – Fair Value Option                                                                                              | 175         |
| Note 23 – Fair Value of Financial Instruments                                                                            | 177         |
| Note 24 – Business Segment Information                                                                                   | 177         |
| Note 25 – Parent Company Information                                                                                     | 180         |
| Note 26 – Performance by Geographical Area                                                                               | 182         |
| Glossary                                                                                                                 | 183         |
| Acronyms                                                                                                                 | 184         |

**Table V Allowance for Credit Losses (continued)**

| (Dollars in millions)                                                                                                                                                                                                                                    | 2019       | 2018       | 2017       | 2016       | 2015       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|
| <b>Loan and allowance ratios <sup>(6)</sup>:</b>                                                                                                                                                                                                         |            |            |            |            |            |
| Loans and leases outstanding at December 31 <sup>(7)</sup>                                                                                                                                                                                               | \$ 975,091 | \$ 942,546 | \$ 931,039 | \$ 908,812 | \$ 890,045 |
| Allowance for loan and lease losses as a percentage of total loans and leases outstanding at December 31 <sup>(7)</sup>                                                                                                                                  | 0.97%      | 1.02%      | 1.12%      | 1.26%      | 1.37%      |
| Consumer allowance for loan and lease losses as a percentage of total consumer loans and leases outstanding at December 31 <sup>(8)</sup>                                                                                                                | 0.98       | 1.08       | 1.18       | 1.36       | 1.63       |
| Commercial allowance for loan and lease losses as a percentage of total commercial loans and leases outstanding at December 31 <sup>(9)</sup>                                                                                                            | 0.96       | 0.97       | 1.05       | 1.16       | 1.11       |
| Average loans and leases outstanding <sup>(7)</sup>                                                                                                                                                                                                      | \$ 951,583 | \$ 927,531 | \$ 911,988 | \$ 892,255 | \$ 869,065 |
| Net charge-offs as a percentage of average loans and leases outstanding <sup>(7)</sup>                                                                                                                                                                   | 0.38%      | 0.41%      | 0.44%      | 0.43%      | 0.50%      |
| Allowance for loan and lease losses as a percentage of total nonperforming loans and leases at December 31                                                                                                                                               | 265        | 194        | 161        | 149        | 130        |
| Ratio of the allowance for loan and lease losses at December 31 to net charge-offs                                                                                                                                                                       | 2.58       | 2.55       | 2.61       | 3.00       | 2.82       |
| Amounts included in allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at December 31 <sup>(10)</sup>                                                                                        | \$ 4,151   | \$ 4,031   | \$ 3,971   | \$ 3,951   | \$ 4,518   |
| Allowance for loan and lease losses as a percentage of total nonperforming loans and leases, excluding the allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at December 31 <sup>(10)</sup> | 148%       | 113%       | 99%        | 98%        | 82%        |

- <sup>(6)</sup> Loan and allowance ratios for 2016 include \$243 million of non-U.S. credit card allowance for loan and lease losses and \$9.2 billion of ending non-U.S. credit card loans, which were sold in 2017.
- <sup>(7)</sup> Outstanding loan and lease balances and ratios do not include loans accounted for under the fair value option of \$8.3 billion, \$4.3 billion, \$5.7 billion, \$7.1 billion and \$6.9 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively. Average loans accounted for under the fair value option were \$6.8 billion, \$5.5 billion, \$6.7 billion, \$8.2 billion and \$7.7 billion in 2019, 2018, 2017, 2016 and 2015, respectively.
- <sup>(8)</sup> Excludes consumer loans accounted for under the fair value option of \$594 million, \$682 million, \$928 million, \$1.1 billion and \$1.9 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.
- <sup>(9)</sup> Excludes commercial loans accounted for under the fair value option of \$7.7 billion, \$3.7 billion, \$4.8 billion, \$6.0 billion and \$5.1 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.
- <sup>(10)</sup> Primarily includes amounts allocated to credit card and unsecured consumer lending portfolios in Consumer Banking and, in 2016 and 2015, the non-U.S. credit card portfolio in All Other.

**Table VI Allocation of the Allowance for Credit Losses by Product Type**

| (Dollars in millions)                                                       | 2019             |                  | 2018             |                  | 2017             |                  | 2016             |                  | 2015             |                  |
|-----------------------------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                                                             | Amount           | Percent of Total | Amount           | Percent of Total | Amount           | Percent of Total | Amount           | Percent of Total | Amount           | Percent of Total |
| <b>Allowance for loan and lease losses</b>                                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |                  |
| Residential mortgage                                                        | \$ 325           | 3.45%            | \$ 422           | 4.40%            | \$ 701           | 6.74%            | \$ 1,012         | 8.82%            | \$ 1,500         | 12.26%           |
| Home equity                                                                 | 221              | 2.35             | 506              | 5.27             | 1,019            | 9.80             | 1,738            | 15.14            | 2,414            | 19.73            |
| Credit card                                                                 | 3,710            | 39.39            | 3,597            | 37.47            | 3,368            | 32.41            | 2,934            | 25.56            | 2,927            | 23.93            |
| Non-U.S. credit card                                                        | —                | —                | —                | —                | —                | —                | 243              | 2.12             | 274              | 2.24             |
| Direct/indirect consumer                                                    | 234              | 2.49             | 248              | 2.58             | 264              | 2.54             | 244              | 2.13             | 223              | 1.82             |
| Other consumer                                                              | 52               | 0.55             | 29               | 0.30             | 31               | 0.30             | 51               | 0.44             | 47               | 0.38             |
| <b>Total consumer</b>                                                       | <b>4,542</b>     | <b>48.23</b>     | <b>4,802</b>     | <b>50.02</b>     | <b>5,383</b>     | <b>51.79</b>     | <b>6,222</b>     | <b>54.21</b>     | <b>7,385</b>     | <b>60.36</b>     |
| U.S. commercial <sup>(1)</sup>                                              | 3,015            | 32.02            | 3,010            | 31.35            | 3,113            | 29.95            | 3,326            | 28.97            | 2,964            | 24.23            |
| Non-U.S. commercial                                                         | 658              | 6.99             | 677              | 7.05             | 803              | 7.73             | 874              | 7.61             | 754              | 6.17             |
| Commercial real estate                                                      | 1,042            | 11.07            | 958              | 9.98             | 935              | 9.00             | 920              | 8.01             | 967              | 7.90             |
| Commercial lease financing                                                  | 159              | 1.69             | 154              | 1.60             | 159              | 1.53             | 138              | 1.20             | 164              | 1.34             |
| <b>Total commercial</b>                                                     | <b>4,874</b>     | <b>51.77</b>     | <b>4,799</b>     | <b>49.98</b>     | <b>5,010</b>     | <b>48.21</b>     | <b>5,258</b>     | <b>45.79</b>     | <b>4,849</b>     | <b>39.64</b>     |
| <b>Total allowance for loan and lease losses</b>                            | <b>9,416</b>     | <b>100.00%</b>   | <b>9,601</b>     | <b>100.00%</b>   | <b>10,393</b>    | <b>100.00%</b>   | <b>11,480</b>    | <b>100.00%</b>   | <b>12,234</b>    | <b>100.00%</b>   |
| Less: Allowance included in assets of business held for sale <sup>(2)</sup> | —                | —                | —                | —                | —                | —                | (243)            | —                | —                | —                |
| <b>Allowance for loan and lease losses</b>                                  | <b>9,416</b>     |                  | <b>9,601</b>     |                  | <b>10,393</b>    |                  | <b>11,237</b>    |                  | <b>12,234</b>    |                  |
| <b>Reserve for unfunded lending commitments</b>                             | <b>813</b>       |                  | <b>797</b>       |                  | <b>777</b>       |                  | <b>762</b>       |                  | <b>646</b>       |                  |
| <b>Allowance for credit losses</b>                                          | <b>\$ 10,229</b> |                  | <b>\$ 10,398</b> |                  | <b>\$ 11,170</b> |                  | <b>\$ 11,999</b> |                  | <b>\$ 12,880</b> |                  |

<sup>(1)</sup> Includes allowance for loan and lease losses for U.S. small business commercial loans of \$523 million, \$474 million, \$439 million, \$416 million and \$507 million at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.

<sup>(2)</sup> Represents allowance for loan and lease losses related to the non-U.S. credit card loan portfolio, which was sold in 2017.

**Table IV Selected Loan Maturity Data <sup>(1, 2)</sup>**

|                                                                                         | December 31, 2019       |                                       |                      |                   |
|-----------------------------------------------------------------------------------------|-------------------------|---------------------------------------|----------------------|-------------------|
|                                                                                         | Due in One Year or Less | Due After One Year Through Five Years | Due After Five Years | Total             |
| (Dollars in millions)                                                                   |                         |                                       |                      |                   |
| U.S. commercial                                                                         | \$ 76,523               | \$ 200,298                            | \$ 50,216            | \$ 327,037        |
| U.S. commercial real estate                                                             | 13,683                  | 39,259                                | 6,023                | 58,965            |
| Non-U.S. and other <sup>(3)</sup>                                                       | 47,828                  | 56,072                                | 7,875                | 111,775           |
| <b>Total selected loans</b>                                                             | <b>\$ 138,034</b>       | <b>\$ 295,629</b>                     | <b>\$ 64,114</b>     | <b>\$ 497,777</b> |
| Percent of total                                                                        | 28%                     | 59%                                   | 13%                  | 100%              |
| Sensitivity of selected loans to changes in interest rates for loans due after one year |                         |                                       |                      |                   |
| Fixed interest rates                                                                    |                         | \$ 21,526                             | \$ 31,383            |                   |
| Floating or adjustable interest rates                                                   |                         | 274,103                               | 32,731               |                   |
| <b>Total</b>                                                                            |                         | <b>\$ 295,629</b>                     | <b>\$ 64,114</b>     |                   |

<sup>(1)</sup> Loan maturities are based on the remaining maturities under contractual terms.

<sup>(2)</sup> Includes loans accounted for under the fair value option.

<sup>(3)</sup> Loan maturities include non-U.S. commercial and commercial real estate loans.

**Table V Allowance for Credit Losses**

| (Dollars in millions)                                                       | 2019             | 2018             | 2017             | 2016             | 2015             |
|-----------------------------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|
| <b>Allowance for loan and lease losses, January 1</b>                       | <b>\$ 9,601</b>  | <b>\$ 10,393</b> | <b>\$ 11,237</b> | <b>\$ 12,234</b> | <b>\$ 14,419</b> |
| <b>Loans and leases charged off</b>                                         |                  |                  |                  |                  |                  |
| Residential mortgage                                                        | (93)             | (207)            | (188)            | (403)            | (866)            |
| Home equity                                                                 | (429)            | (483)            | (582)            | (752)            | (975)            |
| Credit card                                                                 | (3,535)          | (3,345)          | (2,968)          | (2,691)          | (2,738)          |
| Non-U.S. credit card <sup>(1)</sup>                                         | —                | —                | (103)            | (238)            | (275)            |
| Direct/Indirect consumer                                                    | (518)            | (495)            | (491)            | (392)            | (383)            |
| Other consumer                                                              | (249)            | (197)            | (212)            | (232)            | (224)            |
| <b>Total consumer charge-offs</b>                                           | <b>(4,824)</b>   | <b>(4,727)</b>   | <b>(4,544)</b>   | <b>(4,708)</b>   | <b>(5,461)</b>   |
| U.S. commercial <sup>(2)</sup>                                              | (650)            | (575)            | (589)            | (567)            | (536)            |
| Non-U.S. commercial                                                         | (115)            | (82)             | (446)            | (133)            | (59)             |
| Commercial real estate                                                      | (31)             | (10)             | (24)             | (10)             | (30)             |
| Commercial lease financing                                                  | (26)             | (8)              | (16)             | (30)             | (19)             |
| <b>Total commercial charge-offs</b>                                         | <b>(822)</b>     | <b>(675)</b>     | <b>(1,075)</b>   | <b>(740)</b>     | <b>(644)</b>     |
| <b>Total loans and leases charged off</b>                                   | <b>(5,646)</b>   | <b>(5,402)</b>   | <b>(5,619)</b>   | <b>(5,448)</b>   | <b>(6,105)</b>   |
| <b>Recoveries of loans and leases previously charged off</b>                |                  |                  |                  |                  |                  |
| Residential mortgage                                                        | 140              | 179              | 288              | 272              | 393              |
| Home equity                                                                 | 787              | 485              | 369              | 347              | 339              |
| Credit card                                                                 | 587              | 508              | 455              | 422              | 424              |
| Non-U.S. credit card <sup>(1)</sup>                                         | —                | —                | 28               | 63               | 87               |
| Direct/Indirect consumer                                                    | 309              | 300              | 277              | 258              | 271              |
| Other consumer                                                              | 15               | 15               | 49               | 27               | 31               |
| <b>Total consumer recoveries</b>                                            | <b>1,838</b>     | <b>1,487</b>     | <b>1,466</b>     | <b>1,389</b>     | <b>1,545</b>     |
| U.S. commercial <sup>(3)</sup>                                              | 122              | 120              | 142              | 175              | 172              |
| Non-U.S. commercial                                                         | 31               | 14               | 6                | 13               | 5                |
| Commercial real estate                                                      | 2                | 9                | 15               | 41               | 35               |
| Commercial lease financing                                                  | 5                | 9                | 11               | 9                | 10               |
| <b>Total commercial recoveries</b>                                          | <b>160</b>       | <b>152</b>       | <b>174</b>       | <b>238</b>       | <b>222</b>       |
| <b>Total recoveries of loans and leases previously charged off</b>          | <b>1,998</b>     | <b>1,639</b>     | <b>1,640</b>     | <b>1,627</b>     | <b>1,767</b>     |
| <b>Net charge-offs</b>                                                      | <b>(3,648)</b>   | <b>(3,763)</b>   | <b>(3,979)</b>   | <b>(3,821)</b>   | <b>(4,338)</b>   |
| Provision for loan and lease losses                                         | 3,574            | 3,262            | 3,381            | 3,581            | 3,043            |
| Other <sup>(4)</sup>                                                        | (111)            | (291)            | (246)            | (514)            | (890)            |
| <b>Total allowance for loan and lease losses, December 31</b>               | <b>9,416</b>     | <b>9,601</b>     | <b>10,393</b>    | <b>11,480</b>    | <b>12,234</b>    |
| Less: Allowance included in assets of business held for sale <sup>(5)</sup> | —                | —                | —                | (243)            | —                |
| <b>Allowance for loan and lease losses, December 31</b>                     | <b>9,416</b>     | <b>9,601</b>     | <b>10,393</b>    | <b>11,237</b>    | <b>12,234</b>    |
| <b>Reserve for unfunded lending commitments, January 1</b>                  | <b>797</b>       | <b>777</b>       | <b>762</b>       | <b>646</b>       | <b>528</b>       |
| Provision for unfunded lending commitments                                  | 16               | 20               | 15               | 16               | 118              |
| Other <sup>(4)</sup>                                                        | —                | —                | —                | 100              | —                |
| <b>Reserve for unfunded lending commitments, December 31</b>                | <b>813</b>       | <b>797</b>       | <b>777</b>       | <b>762</b>       | <b>646</b>       |
| <b>Allowance for credit losses, December 31</b>                             | <b>\$ 10,229</b> | <b>\$ 10,398</b> | <b>\$ 11,170</b> | <b>\$ 11,999</b> | <b>\$ 12,880</b> |

<sup>(1)</sup> Represents amounts related to the non-U.S. credit card loan portfolio, which was sold in 2017.

<sup>(2)</sup> Includes U.S. small business commercial charge-offs of \$320 million, \$287 million, \$258 million, \$253 million and \$282 million in 2019, 2018, 2017, 2016 and 2015, respectively.

<sup>(3)</sup> Includes U.S. small business commercial recoveries of \$48 million, \$47 million, \$43 million, \$45 million and \$57 million in 2019, 2018, 2017, 2016 and 2015, respectively.

<sup>(4)</sup> Primarily represents write-offs of PCI loans, the net impact of portfolio sales, consolidations and deconsolidations, foreign currency translation adjustments, transfers to held for sale and certain other reclassifications.

<sup>(5)</sup> Represents allowance related to the non-U.S. credit card loan portfolio, which was sold in 2017.

**Table II Nonperforming Loans, Leases and Foreclosed Properties <sup>(1)</sup>**

| (Dollars in millions)                                              | December 31     |                 |                 |                 |                 |
|--------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                                                    | 2019            | 2018            | 2017            | 2016            | 2015            |
| <b>Consumer</b>                                                    |                 |                 |                 |                 |                 |
| Residential mortgage                                               | \$ 1,470        | \$ 1,893        | \$ 2,476        | \$ 3,056        | \$ 4,803        |
| Home equity                                                        | 536             | 1,893           | 2,644           | 2,918           | 3,337           |
| Direct/Indirect consumer                                           | 47              | 56              | 46              | 28              | 24              |
| Other consumer                                                     | —               | —               | —               | 2               | 1               |
| <b>Total consumer <sup>(2)</sup></b>                               | <b>2,053</b>    | <b>3,842</b>    | <b>5,166</b>    | <b>6,004</b>    | <b>8,165</b>    |
| <b>Commercial</b>                                                  |                 |                 |                 |                 |                 |
| U.S. commercial                                                    | 1,094           | 794             | 814             | 1,256           | 867             |
| Non-U.S. commercial                                                | 43              | 80              | 299             | 279             | 158             |
| Commercial real estate                                             | 280             | 156             | 112             | 72              | 93              |
| Commercial lease financing                                         | 32              | 18              | 24              | 36              | 12              |
|                                                                    | 1,449           | 1,048           | 1,249           | 1,643           | 1,130           |
| U.S. small business commercial                                     | 50              | 54              | 55              | 60              | 82              |
| <b>Total commercial <sup>(3)</sup></b>                             | <b>1,499</b>    | <b>1,102</b>    | <b>1,304</b>    | <b>1,703</b>    | <b>1,212</b>    |
| <b>Total nonperforming loans and leases</b>                        | <b>3,552</b>    | <b>4,944</b>    | <b>6,470</b>    | <b>7,707</b>    | <b>9,377</b>    |
| Foreclosed properties                                              | 285             | 300             | 288             | 377             | 459             |
| <b>Total nonperforming loans, leases and foreclosed properties</b> | <b>\$ 3,837</b> | <b>\$ 5,244</b> | <b>\$ 6,758</b> | <b>\$ 8,084</b> | <b>\$ 9,836</b> |

<sup>(1)</sup> Balances exclude foreclosed properties insured by certain government-guaranteed loans, principally FHA-insured loans, that entered foreclosure of \$260 million, \$488 million, \$801 million, \$1.2 billion and \$1.4 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.

<sup>(2)</sup> In 2019, \$422 million in interest income was estimated to be contractually due on \$2.1 billion of consumer loans and leases classified as nonperforming at December 31, 2019, as presented in the table above, plus \$5.5 billion of TDRs classified as performing at December 31, 2019. Approximately \$297 million of the estimated \$422 million in contractual interest was received and included in interest income for 2019.

<sup>(3)</sup> In 2019, \$133 million in interest income was estimated to be contractually due on \$1.5 billion of commercial loans and leases classified as nonperforming at December 31, 2019, as presented in the table above, plus \$1.3 billion of TDRs classified as performing at December 31, 2019. Approximately \$88 million of the estimated \$133 million in contractual interest was received and included in interest income for 2019.

**Table III Accruing Loans and Leases Past Due 90 Days or More <sup>(1)</sup>**

| (Dollars in millions)                                           | December 31     |                 |                 |                 |                 |
|-----------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                                                 | 2019            | 2018            | 2017            | 2016            | 2015            |
| <b>Consumer</b>                                                 |                 |                 |                 |                 |                 |
| Residential mortgage <sup>(2)</sup>                             | \$ 1,088        | \$ 1,884        | \$ 3,230        | \$ 4,793        | \$ 7,150        |
| Credit card                                                     | 1,042           | 994             | 900             | 782             | 789             |
| Non-U.S. credit card                                            | —               | —               | —               | 66              | 76              |
| Direct/Indirect consumer                                        | 33              | 38              | 40              | 34              | 39              |
| Other consumer                                                  | —               | —               | —               | 4               | 3               |
| <b>Total consumer</b>                                           | <b>2,163</b>    | <b>2,916</b>    | <b>4,170</b>    | <b>5,679</b>    | <b>8,057</b>    |
| <b>Commercial</b>                                               |                 |                 |                 |                 |                 |
| U.S. commercial                                                 | 106             | 197             | 144             | 106             | 113             |
| Non-U.S. commercial                                             | 8               | —               | 3               | 5               | 1               |
| Commercial real estate                                          | 19              | 4               | 4               | 7               | 3               |
| Commercial lease financing                                      | 20              | 29              | 19              | 19              | 15              |
|                                                                 | 153             | 230             | 170             | 137             | 132             |
| U.S. small business commercial                                  | 97              | 84              | 75              | 71              | 61              |
| <b>Total commercial</b>                                         | <b>250</b>      | <b>314</b>      | <b>245</b>      | <b>208</b>      | <b>193</b>      |
| <b>Total accruing loans and leases past due 90 days or more</b> | <b>\$ 2,413</b> | <b>\$ 3,230</b> | <b>\$ 4,415</b> | <b>\$ 5,887</b> | <b>\$ 8,250</b> |

<sup>(1)</sup> Our policy is to classify consumer real estate-secured loans as nonperforming at 90 days past due, except the fully-insured loan portfolio and loans accounted for under the fair value option.

<sup>(2)</sup> Balances are fully-insured loans.

## Statistical Tables

### Table of Contents

|                                                                          | Page |
|--------------------------------------------------------------------------|------|
| Table I – Outstanding Loans and Leases                                   | 102  |
| Table II – Nonperforming Loans, Leases and Foreclosed Properties         | 103  |
| Table III – Accruing Loans and Leases Past Due 90 Days or More           | 103  |
| Table IV – Selected Loan Maturity Data                                   | 104  |
| Table V – Allowance for Credit Losses                                    | 104  |
| Table VI – Allocation of the Allowance for Credit Losses by Product Type | 105  |

**Table I Outstanding Loans and Leases**

|                                                                                  | December 31       |                   |                   |                   |                   |
|----------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                                                                                  | 2019              | 2018              | 2017              | 2016              | 2015              |
| (Dollars in millions)                                                            |                   |                   |                   |                   |                   |
| <b>Consumer</b>                                                                  |                   |                   |                   |                   |                   |
| Residential mortgage                                                             | \$ 236,169        | \$ 208,557        | \$ 203,811        | \$ 191,797        | \$ 187,911        |
| Home equity                                                                      | 40,208            | 48,286            | 57,744            | 66,443            | 75,948            |
| Credit card                                                                      | 97,608            | 98,338            | 96,285            | 92,278            | 89,602            |
| Non-U.S. credit card                                                             | —                 | —                 | —                 | 9,214             | 9,975             |
| Direct/Indirect consumer <sup>(1)</sup>                                          | 90,998            | 91,166            | 96,342            | 95,962            | 90,149            |
| Other consumer <sup>(2)</sup>                                                    | 192               | 202               | 166               | 626               | 713               |
| Total consumer loans excluding loans accounted for under the fair value option   | 465,175           | 446,549           | 454,348           | 456,320           | 454,298           |
| Consumer loans accounted for under the fair value option <sup>(3)</sup>          | 594               | 682               | 928               | 1,051             | 1,871             |
| <b>Total consumer</b>                                                            | <b>465,769</b>    | <b>447,231</b>    | <b>455,276</b>    | <b>457,371</b>    | <b>456,169</b>    |
| <b>Commercial</b>                                                                |                   |                   |                   |                   |                   |
| U.S. commercial                                                                  | 307,048           | 299,277           | 284,836           | 270,372           | 252,771           |
| Non-U.S. commercial                                                              | 104,966           | 98,776            | 97,792            | 89,397            | 91,549            |
| Commercial real estate <sup>(4)</sup>                                            | 62,689            | 60,845            | 58,298            | 57,355            | 57,199            |
| Commercial lease financing                                                       | 19,880            | 22,534            | 22,116            | 22,375            | 21,352            |
|                                                                                  | 494,583           | 481,432           | 463,042           | 439,499           | 422,871           |
| U.S. small business commercial <sup>(5)</sup>                                    | 15,333            | 14,565            | 13,649            | 12,993            | 12,876            |
| Total commercial loans excluding loans accounted for under the fair value option | 509,916           | 495,997           | 476,691           | 452,492           | 435,747           |
| Commercial loans accounted for under the fair value option <sup>(3)</sup>        | 7,741             | 3,667             | 4,782             | 6,034             | 5,067             |
| <b>Total commercial</b>                                                          | <b>517,657</b>    | <b>499,664</b>    | <b>481,473</b>    | <b>458,526</b>    | <b>440,814</b>    |
| Less: Loans of business held for sale <sup>(6)</sup>                             | —                 | —                 | —                 | (9,214)           | —                 |
| <b>Total loans and leases</b>                                                    | <b>\$ 983,426</b> | <b>\$ 946,895</b> | <b>\$ 936,749</b> | <b>\$ 906,683</b> | <b>\$ 896,983</b> |

<sup>(1)</sup> Includes primarily auto and specialty lending loans and leases of \$50.4 billion, \$50.1 billion, \$52.4 billion, \$50.7 billion and \$43.9 billion, U.S. securities-based lending loans of \$36.7 billion, \$37.0 billion, \$39.8 billion, \$40.1 billion and \$39.8 billion and non-U.S. consumer loans of \$2.8 billion, \$2.9 billion, \$3.0 billion, \$3.0 billion and \$3.9 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.

<sup>(2)</sup> Substantially all of other consumer at December 31, 2019, 2018 and 2017 is consumer overdrafts. Other consumer at December 31, 2016 and 2015 also includes consumer finance loans of \$465 million and \$564 million, respectively.

<sup>(3)</sup> Consumer loans accounted for under the fair value option include residential mortgage loans of \$257 million, \$336 million, \$567 million, \$710 million and \$1.6 billion, and home equity loans of \$337 million, \$346 million, \$361 million, \$341 million and \$250 million at December 31, 2019, 2018, 2017, 2016 and 2015, respectively. Commercial loans accounted for under the fair value option include U.S. commercial loans of \$4.7 billion, \$2.5 billion, \$2.6 billion, \$2.9 billion and \$2.3 billion, and non-U.S. commercial loans of \$3.1 billion, \$1.1 billion, \$2.2 billion, \$3.1 billion and \$2.8 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.

<sup>(4)</sup> Includes U.S. commercial real estate loans of \$59.0 billion, \$56.6 billion, \$54.8 billion, \$54.3 billion and \$53.6 billion, and non-U.S. commercial real estate loans of \$3.7 billion, \$4.2 billion, \$3.5 billion, \$3.1 billion and \$3.5 billion at December 31, 2019, 2018, 2017, 2016 and 2015, respectively.

<sup>(5)</sup> Includes card-related products.

<sup>(6)</sup> Represents non-U.S. credit card loans, which were included in assets of business held for sale on the Consolidated Balance Sheet.

## Non-GAAP Reconciliations

Tables 50 and 51 provide reconciliations of certain non-GAAP financial measures to GAAP financial measures.

**Table 50 Five-year Reconciliations to GAAP Financial Measures <sup>(1)</sup>**

(Dollars in millions, shares in thousands)

|                                                                                                                                                    | 2019                | 2018                | 2017                | 2016                | 2015                |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Reconciliation of average shareholders' equity to average tangible shareholders' equity and average tangible common shareholders' equity</b>    |                     |                     |                     |                     |                     |
| Shareholders' equity                                                                                                                               | \$ 267,889          | \$ 264,748          | \$ 271,289          | \$ 265,843          | \$ 251,384          |
| Goodwill                                                                                                                                           | (68,951)            | (68,951)            | (69,286)            | (69,750)            | (69,772)            |
| Intangible assets (excluding MSRs)                                                                                                                 | (1,721)             | (2,058)             | (2,652)             | (3,382)             | (4,201)             |
| Related deferred tax liabilities                                                                                                                   | 773                 | 906                 | 1,463               | 1,644               | 1,852               |
| <b>Tangible shareholders' equity</b>                                                                                                               | <b>\$ 197,990</b>   | <b>\$ 194,645</b>   | <b>\$ 200,814</b>   | <b>\$ 194,355</b>   | <b>\$ 179,263</b>   |
| Preferred stock                                                                                                                                    | (23,036)            | (22,949)            | (24,188)            | (24,656)            | (21,808)            |
| <b>Tangible common shareholders' equity</b>                                                                                                        | <b>\$ 174,954</b>   | <b>\$ 171,696</b>   | <b>\$ 176,626</b>   | <b>\$ 169,699</b>   | <b>\$ 157,455</b>   |
| <b>Reconciliation of year-end shareholders' equity to year-end tangible shareholders' equity and year-end tangible common shareholders' equity</b> |                     |                     |                     |                     |                     |
| Shareholders' equity                                                                                                                               | \$ 264,810          | \$ 265,325          | \$ 267,146          | \$ 266,195          | \$ 255,615          |
| Goodwill                                                                                                                                           | (68,951)            | (68,951)            | (68,951)            | (69,744)            | (69,761)            |
| Intangible assets (excluding MSRs)                                                                                                                 | (1,661)             | (1,774)             | (2,312)             | (2,989)             | (3,768)             |
| Related deferred tax liabilities                                                                                                                   | 713                 | 858                 | 943                 | 1,545               | 1,716               |
| <b>Tangible shareholders' equity</b>                                                                                                               | <b>\$ 194,911</b>   | <b>\$ 195,458</b>   | <b>\$ 196,826</b>   | <b>\$ 195,007</b>   | <b>\$ 183,802</b>   |
| Preferred stock                                                                                                                                    | (23,401)            | (22,326)            | (22,323)            | (25,220)            | (22,272)            |
| <b>Tangible common shareholders' equity</b>                                                                                                        | <b>\$ 171,510</b>   | <b>\$ 173,132</b>   | <b>\$ 174,503</b>   | <b>\$ 169,787</b>   | <b>\$ 161,530</b>   |
| <b>Reconciliation of year-end assets to year-end tangible assets</b>                                                                               |                     |                     |                     |                     |                     |
| Assets                                                                                                                                             | \$ 2,434,079        | \$ 2,354,507        | \$ 2,281,234        | \$ 2,188,067        | \$ 2,144,606        |
| Goodwill                                                                                                                                           | (68,951)            | (68,951)            | (68,951)            | (69,744)            | (69,761)            |
| Intangible assets (excluding MSRs)                                                                                                                 | (1,661)             | (1,774)             | (2,312)             | (2,989)             | (3,768)             |
| Related deferred tax liabilities                                                                                                                   | 713                 | 858                 | 943                 | 1,545               | 1,716               |
| <b>Tangible assets</b>                                                                                                                             | <b>\$ 2,364,180</b> | <b>\$ 2,284,640</b> | <b>\$ 2,210,914</b> | <b>\$ 2,116,879</b> | <b>\$ 2,072,793</b> |

<sup>(1)</sup> Presents reconciliations of non-GAAP financial measures to GAAP financial measures. For more information on non-GAAP financial measures and ratios we use in assessing the results of the Corporation, see Supplemental Financial Data on page 48.

**Table 51 Quarterly Reconciliations to GAAP Financial Measures <sup>(1)</sup>**

(Dollars in millions)

|                                                                                                                                                          | 2019 Quarters       |                     |                     |                     | 2018 Quarters       |                     |                     |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                                                                                                                                                          | Fourth              | Third               | Second              | First               | Fourth              | Third               | Second              | First               |
| <b>Reconciliation of average shareholders' equity to average tangible shareholders' equity and average tangible common shareholders' equity</b>          |                     |                     |                     |                     |                     |                     |                     |                     |
| Shareholders' equity                                                                                                                                     | \$ 266,900          | \$ 270,430          | \$ 267,975          | \$ 266,217          | \$ 263,698          | \$ 264,653          | \$ 265,181          | \$ 265,480          |
| Goodwill                                                                                                                                                 | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            |
| Intangible assets (excluding MSRs)                                                                                                                       | (1,678)             | (1,707)             | (1,736)             | (1,763)             | (1,857)             | (1,992)             | (2,126)             | (2,261)             |
| Related deferred tax liabilities                                                                                                                         | 730                 | 752                 | 770                 | 841                 | 874                 | 896                 | 916                 | 939                 |
| <b>Tangible shareholders' equity</b>                                                                                                                     | <b>\$ 197,001</b>   | <b>\$ 200,524</b>   | <b>\$ 198,058</b>   | <b>\$ 196,344</b>   | <b>\$ 193,764</b>   | <b>\$ 194,606</b>   | <b>\$ 195,020</b>   | <b>\$ 195,207</b>   |
| Preferred stock                                                                                                                                          | (23,461)            | (23,800)            | (22,537)            | (22,326)            | (22,326)            | (22,841)            | (23,868)            | (22,767)            |
| <b>Tangible common shareholders' equity</b>                                                                                                              | <b>\$ 173,540</b>   | <b>\$ 176,724</b>   | <b>\$ 175,521</b>   | <b>\$ 174,018</b>   | <b>\$ 171,438</b>   | <b>\$ 171,765</b>   | <b>\$ 171,152</b>   | <b>\$ 172,440</b>   |
| <b>Reconciliation of period-end shareholders' equity to period-end tangible shareholders' equity and period-end tangible common shareholders' equity</b> |                     |                     |                     |                     |                     |                     |                     |                     |
| Shareholders' equity                                                                                                                                     | \$ 264,810          | \$ 268,387          | \$ 271,408          | \$ 267,010          | \$ 265,325          | \$ 262,158          | \$ 264,216          | \$ 266,224          |
| Goodwill                                                                                                                                                 | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            |
| Intangible assets (excluding MSRs)                                                                                                                       | (1,661)             | (1,690)             | (1,718)             | (1,747)             | (1,774)             | (1,908)             | (2,043)             | (2,177)             |
| Related deferred tax liabilities                                                                                                                         | 713                 | 734                 | 756                 | 773                 | 858                 | 878                 | 900                 | 920                 |
| <b>Tangible shareholders' equity</b>                                                                                                                     | <b>\$ 194,911</b>   | <b>\$ 198,480</b>   | <b>\$ 201,495</b>   | <b>\$ 197,085</b>   | <b>\$ 195,458</b>   | <b>\$ 192,177</b>   | <b>\$ 194,122</b>   | <b>\$ 196,016</b>   |
| Preferred stock                                                                                                                                          | (23,401)            | (23,606)            | (24,689)            | (22,326)            | (22,326)            | (22,326)            | (23,181)            | (24,672)            |
| <b>Tangible common shareholders' equity</b>                                                                                                              | <b>\$ 171,510</b>   | <b>\$ 174,874</b>   | <b>\$ 176,806</b>   | <b>\$ 174,759</b>   | <b>\$ 173,132</b>   | <b>\$ 169,851</b>   | <b>\$ 170,941</b>   | <b>\$ 171,344</b>   |
| <b>Reconciliation of period-end assets to period-end tangible assets</b>                                                                                 |                     |                     |                     |                     |                     |                     |                     |                     |
| Assets                                                                                                                                                   | \$ 2,434,079        | \$ 2,426,330        | \$ 2,395,892        | \$ 2,377,164        | \$ 2,354,507        | \$ 2,338,833        | \$ 2,291,670        | \$ 2,328,478        |
| Goodwill                                                                                                                                                 | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            | (68,951)            |
| Intangible assets (excluding MSRs)                                                                                                                       | (1,661)             | (1,690)             | (1,718)             | (1,747)             | (1,774)             | (1,908)             | (2,043)             | (2,177)             |
| Related deferred tax liabilities                                                                                                                         | 713                 | 734                 | 756                 | 773                 | 858                 | 878                 | 900                 | 920                 |
| <b>Tangible assets</b>                                                                                                                                   | <b>\$ 2,364,180</b> | <b>\$ 2,356,423</b> | <b>\$ 2,325,979</b> | <b>\$ 2,307,239</b> | <b>\$ 2,284,640</b> | <b>\$ 2,268,852</b> | <b>\$ 2,221,576</b> | <b>\$ 2,258,270</b> |

<sup>(1)</sup> Presents reconciliations of non-GAAP financial measures to GAAP financial measures. For more information on non-GAAP financial measures and ratios we use in assessing the results of the Corporation, see Supplemental Financial Data on page 48.

and 2017, see *Note 21 – Fair Value Measurements* to the Consolidated Financial Statements.

#### **Accrued Income Taxes and Deferred Tax Assets**

Accrued income taxes, reported as a component of either other assets or accrued expenses and other liabilities on the Consolidated Balance Sheet, represent the net amount of current income taxes we expect to pay to or receive from various taxing jurisdictions attributable to our operations to date. We currently file income tax returns in more than 100 jurisdictions and consider many factors, including statutory, judicial and regulatory guidance, in estimating the appropriate accrued income taxes for each jurisdiction.

Net deferred tax assets, reported as a component of other assets on the Consolidated Balance Sheet, represent the net decrease in taxes expected to be paid in the future because of net operating loss (NOL) and tax credit carryforwards and because of future reversals of temporary differences in the bases of assets and liabilities as measured by tax laws and their bases as reported in the financial statements. NOL and tax credit carryforwards result in reductions to future tax liabilities, and many of these attributes can expire if not utilized within certain periods. We consider the need for valuation allowances to reduce net deferred tax assets to the amounts that we estimate are more likely than not to be realized.

Consistent with the applicable accounting guidance, we monitor relevant tax authorities and change our estimates of accrued income taxes and/or net deferred tax assets due to changes in income tax laws and their interpretation by the courts and regulatory authorities. These revisions of our estimates, which also may result from our income tax planning and from the resolution of income tax audit matters, may be material to our operating results for any given period.

See *Note 20 – Income Taxes* to the Consolidated Financial Statements for a table of significant tax attributes and additional information. For more information, see Item 1A. Risk Factors of our 2019 Annual Report on Form 10-K.

#### **Goodwill and Intangible Assets**

The nature of and accounting for goodwill and intangible assets are discussed in *Note 1 – Summary of Significant Accounting Principles*, and *Note 8 – Goodwill and Intangible Assets* to the Consolidated Financial Statements.

We completed our annual goodwill impairment test as of June 30, 2019 for all of our reporting units that had goodwill. We performed that test by assessing qualitative factors to determine whether it is more likely than not that the fair value of each reporting unit is less than its respective carrying value. Factors considered in the qualitative assessments include, among other things, macroeconomic conditions, industry and market considerations, financial performance of the respective reporting unit and other relevant entity- and reporting-unit specific considerations. If based on the results of the qualitative assessment, it is more likely than not that the fair value of a reporting unit is less than its carrying value, a quantitative assessment is performed.

Based on our qualitative assessments, we determined that for each reporting unit with goodwill, it was more likely than not that its respective fair value exceeded its carrying value, indicating there was no impairment. For more information regarding goodwill balances at June 30, 2019, see *Note 8 – Goodwill and Intangible Assets* to the Consolidated Financial Statements.

#### **Certain Contingent Liabilities**

For more information on the complex judgments associated with certain contingent liabilities, see *Note 13 – Commitments and Contingencies* to the Consolidated Financial Statements.

### Allowance for Credit Losses

The allowance for credit losses, which includes the allowance for loan and lease losses and the reserve for unfunded lending commitments, represents management's estimate of probable incurred credit losses in the Corporation's loan and lease portfolio excluding those loans accounted for under the fair value option. The allowance for credit losses includes both quantitative and qualitative components. The qualitative component has a higher degree of management subjectivity, and includes factors such as concentrations, economic conditions and other considerations. Our process for determining the allowance for credit losses is discussed in *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements.

Our estimate for the allowance for loan and lease losses is sensitive to the loss rates and expected cash flows from our Consumer Real Estate and Credit Card and Other Consumer portfolio segments, as well as our U.S. small business commercial card portfolio within the Commercial portfolio segment. For each one-percent increase in the loss rates on loans collectively evaluated for impairment in our Consumer Real Estate portfolio segment, coupled with a one-percent decrease in the discounted cash flows on those loans individually evaluated for impairment within this portfolio segment, the allowance for loan and lease losses at December 31, 2019 would have increased \$18 million. Within our Credit Card and Other Consumer portfolio segment and U.S. small business commercial card portfolio, for each one-percent increase in the loss rates on loans collectively evaluated for impairment coupled with a one-percent decrease in the expected cash flows on those loans individually evaluated for impairment, the allowance for loan and lease losses at December 31, 2019 would have increased \$46 million.

Our allowance for loan and lease losses is sensitive to the risk ratings assigned to loans and leases within the Commercial portfolio segment (excluding the U.S. small business commercial card portfolio). Assuming a downgrade of one level in the internal risk ratings for commercial loans and leases, except loans and leases already classified as Substandard and Doubtful as defined by regulatory authorities, the allowance for loan and lease losses would have increased \$2.6 billion at December 31, 2019.

The allowance for loan and lease losses as a percentage of total loans and leases at December 31, 2019 was 0.97 percent and these hypothetical increases in the allowance would raise the ratio to 1.24 percent.

These sensitivity analyses do not represent management's expectations of the deterioration in risk ratings or the increases in loss rates but are provided as hypothetical scenarios to assess the sensitivity of the allowance for loan and lease losses to changes in key inputs. We believe the risk ratings and loss severities currently in use are appropriate and that the probability of the alternative scenarios outlined above occurring within a short period of time is remote.

The process of determining the level of the allowance for credit losses requires a high degree of judgment. It is possible that others, given the same information, may at any point in time reach different reasonable conclusions.

The processes, judgments and estimates described herein relate to the accounting standard in effect through December 31, 2019. On January 1, 2020, the Corporation adopted the new accounting standard that requires the measurement of the allowance for credit losses to be based on management's best estimate of lifetime expected credit losses inherent in the Corporation's relevant financial assets. The Corporation's lifetime expected credit losses are determined using macroeconomic forecast assumptions and management judgments applicable to and through the expected life of the loan portfolios. For more

information, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements.

### Fair Value of Financial Instruments

Under applicable accounting standards, we are required to maximize the use of observable inputs and minimize the use of unobservable inputs in measuring fair value. We classify fair value measurements of financial instruments and MSRs based on the three-level fair value hierarchy in the accounting standards.

The fair values of assets and liabilities may include adjustments, such as market liquidity and credit quality, where appropriate. Valuations of products using models or other techniques are sensitive to assumptions used for the significant inputs. Where market data is available, the inputs used for valuation reflect that information as of our valuation date. Inputs to valuation models are considered unobservable if they are supported by little or no market activity. In periods of extreme volatility, lessened liquidity or in illiquid markets, there may be more variability in market pricing or a lack of market data to use in the valuation process. In keeping with the prudent application of estimates and management judgment in determining the fair value of assets and liabilities, we have in place various processes and controls that include: a model validation policy that requires review and approval of quantitative models used for deal pricing, financial statement fair value determination and risk quantification; a trading product valuation policy that requires verification of all traded product valuations; and a periodic review and substantiation of daily profit and loss reporting for all traded products. Primarily through validation controls, we utilize both broker and pricing service inputs which can and do include both market-observable and internally-modeled values and/or valuation inputs. Our reliance on this information is affected by our understanding of how the broker and/or pricing service develops its data with a higher degree of reliance applied to those that are more directly observable and lesser reliance applied to those developed through their own internal modeling. For example, broker quotes in less active markets may only be indicative and therefore less reliable. These processes and controls are performed independently of the business. For more information, see *Note 21 – Fair Value Measurements* and *Note 22 – Fair Value Option* to the Consolidated Financial Statements.

### Level 3 Assets and Liabilities

Financial assets and liabilities, and MSRs, where values are based on valuation techniques that require inputs that are both unobservable and are significant to the overall fair value measurement are classified as Level 3 under the fair value hierarchy established in applicable accounting standards. The fair value of these Level 3 financial assets and liabilities and MSRs is determined using pricing models, discounted cash flow methodologies or similar techniques for which the determination of fair value requires significant management judgment or estimation.

Level 3 financial instruments may be hedged with derivatives classified as Level 1 or 2; therefore, gains or losses associated with Level 3 financial instruments may be offset by gains or losses associated with financial instruments classified in other levels of the fair value hierarchy. The Level 3 gains and losses recorded in earnings did not have a significant impact on our liquidity or capital. We conduct a review of our fair value hierarchy classifications on a quarterly basis. Transfers into or out of Level 3 are made if the significant inputs used in the financial models measuring the fair values of the assets and liabilities became unobservable or observable, respectively, in the current marketplace. For more information on transfers into and out of Level 3 during 2019, 2018

requirements of applicable laws, rules, regulations and our internal policies and procedures (collectively, applicable laws, rules and regulations).

Operational risk is the risk of loss resulting from inadequate or failed processes, people and systems or from external events. Operational risk may occur anywhere in the Corporation, including third-party business processes, and is not limited to operations functions. Effects may extend beyond financial losses and may result in reputational risk impacts. Operational risk includes legal risk. Additionally, operational risk is a component in the calculation of total risk-weighted assets used in the Basel 3 capital calculation. For more information on Basel 3 calculations, see Capital Management on page 66.

FLUs and control functions are first and foremost responsible for managing all aspects of their businesses, including their compliance and operational risk. FLUs and control functions are required to understand their business processes and related risks and controls, including third-party dependencies, the related regulatory requirements, and monitor and report on the effectiveness of the control environment. In order to actively monitor and assess the performance of their processes and controls, they must conduct comprehensive quality assurance activities and identify issues and risks to remediate control gaps and weaknesses. FLUs and control functions must also adhere to compliance and operational risk appetite limits to meet strategic, capital and financial planning objectives. Finally, FLUs and control functions are responsible for the proactive identification, management and escalation of compliance and operational risks across the Corporation.

Global Compliance and Operational Risk teams independently assess compliance and operational risk, monitor business activities and processes, evaluate FLUs and control functions for adherence to applicable laws, rules and regulations, including identifying issues and risks, determining and developing tests to be conducted by the Enterprise Independent Testing unit, and reporting on the state of the control environment. Enterprise Independent Testing, an independent testing function within IRM, works with Global Compliance and Operational Risk, the FLUs and control functions in the identification of testing needs and test design, and is accountable for test execution, reporting and analysis of results.

Corporate Audit provides independent assessment and validation through testing of key compliance and operational risk processes and controls across the Corporation.

The Corporation's Global Compliance Enterprise Policy and Operational Risk Management - Enterprise Policy set the requirements for reporting compliance and operational risk information to executive management as well as the Board or appropriate Board-level committees in support of Global Compliance and Operational Risk's responsibilities for conducting independent oversight of our compliance and operational risk management activities. The Board provides oversight of compliance risk through its Audit Committee and the ERC, and operational risk through the ERC.

A key operational risk facing the Corporation is information security, which includes cybersecurity. Cybersecurity risk represents, among other things, exposure to failures or interruptions of service or breaches of security, including as a result of malicious technological attacks, that impact the confidentiality, availability or integrity of our, or third parties' (including their downstream service providers, the financial services industry and financial data aggregators) operations, systems or data, including sensitive corporate and customer information. The Corporation manages information security risk in accordance with internal policies which govern our

comprehensive information security program designed to protect the Corporation by enabling preventative, detective and responsive measures to combat information and cybersecurity risks. The Board and the ERC provide cybersecurity and information security risk oversight for the Corporation and our Global Information Security Team manages the day-to-day implementation of our information security program.

## Reputational Risk Management

Reputational risk is the risk that negative perceptions of the Corporation's conduct or business practices may adversely impact its profitability or operations. Reputational risk may result from many of the Corporation's activities, including those related to the management of our strategic, operational, compliance and credit risks.

The Corporation manages reputational risk through established policies and controls in its businesses and risk management processes to mitigate reputational risks in a timely manner and through proactive monitoring and identification of potential reputational risk events. If reputational risk events occur, we focus on remediating the underlying issue and taking action to minimize damage to the Corporation's reputation. The Corporation has processes and procedures in place to respond to events that give rise to reputational risk, including educating individuals and organizations that influence public opinion, implementing external communication strategies to mitigate the risk, and informing key stakeholders of potential reputational risks. The Corporation's organization and governance structure provides oversight of reputational risks, and reputational risk reporting is provided regularly and directly to management and the ERC, which provides primary oversight of reputational risk. In addition, each FLU has a committee, which includes representatives from Compliance, Legal and Risk, that is responsible for the oversight of reputational risk. Such committees' oversight includes providing approval for business activities that present elevated levels of reputational risks.

## Complex Accounting Estimates

Our significant accounting principles, as described in *Note 1 - Summary of Significant Accounting Principles* to the Consolidated Financial Statements, are essential in understanding the MD&A. Many of our significant accounting principles require complex judgments to estimate the values of assets and liabilities. We have procedures and processes in place to facilitate making these judgments.

The more judgmental estimates are summarized in the following discussion. We have identified and described the development of the variables most important in the estimation processes that involve mathematical models to derive the estimates. In many cases, there are numerous alternative judgments that could be used in the process of determining the inputs to the models. Where alternatives exist, we have used the factors that we believe represent the most reasonable value in developing the inputs. Actual performance that differs from our estimates of the key variables could materially impact our results of operations. Separate from the possible future impact to our results of operations from input and model variables, the value of our lending portfolio and market-sensitive assets and liabilities may change subsequent to the balance sheet date, often significantly, due to the nature and magnitude of future credit and market conditions. Such credit and market conditions may change quickly and in unforeseen ways and the resulting volatility could have a significant, negative effect on future operating results. These fluctuations would not be indicative of deficiencies in our models or inputs.

durations of our open ALM derivatives at December 31, 2019 and 2018. These amounts do not include derivative hedges on our MSRs. During 2019, the fair value of receive-fixed interest rate

swaps increased while pay-fixed interest rate swaps decreased, driven by lower swap rates.

**Table 49 Asset and Liability Management Interest Rate and Foreign Exchange Contracts**

|                                                            | December 31, 2019 |           |           |           |           |           |           |            |                            |
|------------------------------------------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|----------------------------|
|                                                            | Expected Maturity |           |           |           |           |           |           |            |                            |
| (Dollars in millions, average estimated duration in years) | Fair Value        | Total     | 2020      | 2021      | 2022      | 2023      | 2024      | Thereafter | Average Estimated Duration |
| Receive-fixed interest rate swaps <sup>(1)</sup>           | \$ 12,370         |           |           |           |           |           |           |            | 6.47                       |
| Notional amount                                            |                   | \$215,123 | \$ 16,347 | \$ 14,642 | \$ 21,616 | \$ 36,356 | \$ 21,257 | \$104,905  |                            |
| Weighted-average fixed-rate                                |                   | 2.68%     | 2.68%     | 3.17%     | 2.48%     | 2.36%     | 2.55%     | 2.79%      |                            |
| Pay-fixed interest rate swaps <sup>(1)</sup>               | (2,669)           |           |           |           |           |           |           |            | 6.99                       |
| Notional amount                                            |                   | \$ 69,586 | \$ 4,344  | \$ 2,117  | \$ —      | \$ 13,993 | \$ 8,194  | \$ 40,938  |                            |
| Weighted-average fixed-rate                                |                   | 2.36%     | 2.16%     | 2.15%     | —%        | 2.52%     | 2.26%     | 2.35%      |                            |
| Same-currency basis swaps <sup>(2)</sup>                   | (290)             |           |           |           |           |           |           |            |                            |
| Notional amount                                            |                   | \$152,160 | \$ 18,857 | \$ 18,590 | \$ 4,306  | \$ 2,017  | \$ 14,567 | \$ 93,823  |                            |
| Foreign exchange basis swaps <sup>(1, 3, 4)</sup>          | (1,258)           |           |           |           |           |           |           |            |                            |
| Notional amount                                            |                   | 113,529   | 23,639    | 24,215    | 14,611    | 7,111     | 3,521     | 40,432     |                            |
| Foreign exchange contracts <sup>(1, 4, 5)</sup>            | 414               |           |           |           |           |           |           |            |                            |
| Notional amount <sup>(6)</sup>                             |                   | (53,106)  | (79,315)  | 4,539     | 2,674     | 2,340     | 4,432     | 12,224     |                            |
| Option products                                            | —                 |           |           |           |           |           |           |            |                            |
| Notional amount                                            |                   | 15        | —         | —         | —         | 15        | —         | —          |                            |
| Net ALM contracts                                          | \$ 8,567          |           |           |           |           |           |           |            |                            |

|                                                            | December 31, 2018 |           |           |           |           |           |           |            |                            |
|------------------------------------------------------------|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|----------------------------|
|                                                            | Expected Maturity |           |           |           |           |           |           |            |                            |
| (Dollars in millions, average estimated duration in years) | Fair Value        | Total     | 2019      | 2020      | 2021      | 2022      | 2023      | Thereafter | Average Estimated Duration |
| Receive-fixed interest rate swaps <sup>(1)</sup>           | \$ 2,128          |           |           |           |           |           |           |            | 5.17                       |
| Notional amount                                            |                   | \$198,914 | \$ 27,176 | \$ 16,347 | \$ 14,640 | \$ 19,866 | \$ 36,215 | \$ 84,670  |                            |
| Weighted-average fixed-rate                                |                   | 2.66%     | 1.87%     | 2.68%     | 3.17%     | 2.56%     | 2.37%     | 2.97%      |                            |
| Pay-fixed interest rate swaps <sup>(1)</sup>               | 295               |           |           |           |           |           |           |            | 6.30                       |
| Notional amount                                            |                   | \$ 49,275 | \$ 1,210  | \$ 4,344  | \$ 1,616  | \$ —      | \$ 10,801 | \$ 31,304  |                            |
| Weighted-average fixed-rate                                |                   | 2.50%     | 2.07%     | 2.16%     | 2.22%     | —%        | 2.59%     | 2.55%      |                            |
| Same-currency basis swaps <sup>(2)</sup>                   | 21                |           |           |           |           |           |           |            |                            |
| Notional amount                                            |                   | \$101,203 | \$ 7,628  | \$ 15,097 | \$ 15,493 | \$ 2,586  | \$ 2,017  | \$ 58,382  |                            |
| Foreign exchange basis swaps <sup>(1, 3, 4)</sup>          | (1,716)           |           |           |           |           |           |           |            |                            |
| Notional amount                                            |                   | 106,742   | 13,946    | 21,448    | 19,241    | 10,239    | 6,260     | 35,608     |                            |
| Foreign exchange contracts <sup>(1, 4, 5)</sup>            | 82                |           |           |           |           |           |           |            |                            |
| Notional amount <sup>(6)</sup>                             |                   | (8,447)   | (27,823)  | 13        | 4,196     | 2,741     | 2,448     | 9,978      |                            |
| Option products                                            | 2                 |           |           |           |           |           |           |            |                            |
| Notional amount                                            |                   | 587       | 572       | —         | —         | —         | 15        | —          |                            |
| Net ALM contracts                                          | \$ 812            |           |           |           |           |           |           |            |                            |

<sup>(1)</sup> Does not include basis adjustments on either fixed-rate debt issued by the Corporation or AFS debt securities, which are hedged using derivatives designated as fair value hedging instruments, that substantially offset the fair values of these derivatives.

<sup>(2)</sup> At December 31, 2019 and 2018, the notional amount of same-currency basis swaps included \$152.2 billion and \$101.2 billion in both foreign currency and U.S. dollar-denominated basis swaps in which both sides of the swap are in the same currency.

<sup>(3)</sup> Foreign exchange basis swaps consisted of cross-currency variable interest rate swaps used separately or in conjunction with receive-fixed interest rate swaps.

<sup>(4)</sup> Does not include foreign currency translation adjustments on certain non-U.S. debt issued by the Corporation that substantially offset the fair values of these derivatives.

<sup>(5)</sup> The notional amount of foreign exchange contracts of \$(53.1) billion at December 31, 2019 was comprised of \$29.0 billion in foreign currency-denominated and cross-currency receive-fixed swaps, \$(82.4) billion in net foreign currency forward rate contracts, \$(313) million in foreign currency-denominated interest rate swaps and \$644 million in net foreign currency futures contracts. Foreign exchange contracts of \$(8.4) billion at December 31, 2018 were comprised of \$25.2 billion in foreign currency-denominated and cross-currency receive-fixed swaps, \$(32.7) billion in net foreign currency forward rate contracts, \$(1.8) billion in foreign currency-denominated interest rate swaps and \$814 million in foreign currency futures contracts.

<sup>(6)</sup> Reflects the net of long and short positions. Amounts shown as negative reflect a net short position.

### Mortgage Banking Risk Management

We originate, fund and service mortgage loans, which subject us to credit, liquidity and interest rate risks, among others. We determine whether loans will be held for investment or held for sale at the time of commitment and manage credit and liquidity risks by selling or securitizing a portion of the loans we originate.

Interest rate risk and market risk can be substantial in the mortgage business. Changes in interest rates and other market factors impact the volume of mortgage originations. Changes in interest rates also impact the value of interest rate lock commitments (IRLCs) and the related residential first mortgage LHFS between the date of the IRLC and the date the loans are sold to the secondary market. An increase in mortgage interest rates typically leads to a decrease in the value of these instruments. Conversely, when there is an increase in interest

rates, the value of the MSRs will increase driven by lower prepayment expectations. Because the interest rate risks of these hedged items offset, we combine them into one overall hedged item with one combined economic hedge portfolio consisting of derivative contracts and securities.

During 2019, 2018 and 2017, we recorded gains of \$291 million, \$244 million and \$118 million related to the change in fair value of the MSRs, IRLCs and LHFS, net of gains and losses on the hedge portfolio. For more information on MSRs, see Note 21 – Fair Value Measurements to the Consolidated Financial Statements.

### Compliance and Operational Risk Management

Compliance risk is the risk of legal or regulatory sanctions, material financial loss or damage to the reputation of the Corporation arising from the failure of the Corporation to comply with the

our balance sheet position in order to maintain an acceptable level of exposure to interest rate changes.

The interest rate scenarios that we analyze incorporate balance sheet assumptions such as loan and deposit growth and pricing, changes in funding mix, product repricing, maturity characteristics and investment securities premium amortization. Our overall goal is to manage interest rate risk so that movements in interest rates do not significantly adversely affect earnings and capital.

Table 47 presents the spot and 12-month forward rates used in our baseline forecasts at December 31, 2019 and 2018.

**Table 47 Forward Rates**

|                        | December 31, 2019 |                   |              |
|------------------------|-------------------|-------------------|--------------|
|                        | Federal Funds     | Three-month LIBOR | 10-Year Swap |
| Spot rates             | 1.75%             | 1.91%             | 1.90%        |
| 12-month forward rates | 1.50              | 1.62              | 1.92         |
|                        | December 31, 2018 |                   |              |
|                        | Federal Funds     | Three-month LIBOR | 10-Year Swap |
| Spot rates             | 2.50%             | 2.81%             | 2.71%        |
| 12-month forward rates | 2.50              | 2.64              | 2.75         |

Table 48 shows the pretax impact to forecasted net interest income over the next 12 months from December 31, 2019 and 2018, resulting from instantaneous parallel and non-parallel shocks to the market-based forward curve. Periodically we evaluate the scenarios presented so that they are meaningful in the context of the current rate environment.

During 2019, the asset sensitivity of our balance sheet increased primarily due to decreases in interest rates. We continue to be asset sensitive to a parallel move in interest rates with the majority of that impact coming from the short end of the yield curve. Additionally, higher interest rates impact the fair value of debt securities and, accordingly, for debt securities classified as available for sale (AFS), may adversely affect accumulated other comprehensive income (OCI) and thus capital levels under the Basel 3 capital rules. Under instantaneous upward parallel shifts, the near-term adverse impact to Basel 3 capital is reduced over time by offsetting positive impacts to net interest income. For more information on Basel 3, see Capital Management – Regulatory Capital on page 67.

**Table 48 Estimated Banking Book Net Interest Income Sensitivity to Curve Changes**

| (Dollars in millions)          | Short Rate (bps) | Long Rate (bps) | December 31 |          |
|--------------------------------|------------------|-----------------|-------------|----------|
|                                |                  |                 | 2019        | 2018     |
| <b>Parallel Shifts</b>         |                  |                 |             |          |
| +100 bps instantaneous shift   | +100             | +100            | \$ 4,190    | \$ 2,833 |
| -100 bps instantaneous shift   | -100             | -100            | (6,536)     | (4,280)  |
| <b>Flatteners</b>              |                  |                 |             |          |
| Short-end instantaneous change | +100             | —               | 2,641       | 2,158    |
| Long-end instantaneous change  | —                | -100            | (2,965)     | (1,618)  |
| <b>Steepeners</b>              |                  |                 |             |          |
| Short-end instantaneous change | -100             | —               | (3,527)     | (2,648)  |
| Long-end instantaneous change  | —                | +100            | 1,561       | 675      |

The sensitivity analysis in Table 48 assumes that we take no action in response to these rate shocks and does not assume any change in other macroeconomic variables normally correlated with

changes in interest rates. As part of our ALM activities, we use securities, certain residential mortgages, and interest rate and foreign exchange derivatives in managing interest rate sensitivity.

The behavior of our deposits portfolio in the baseline forecast and in alternate interest rate scenarios is a key assumption in our projected estimates of net interest income. The sensitivity analysis in Table 48 assumes no change in deposit portfolio size or mix from the baseline forecast in alternate rate environments. In higher rate scenarios, any customer activity resulting in the replacement of low-cost or noninterest-bearing deposits with higher yielding deposits or market-based funding would reduce our benefit in those scenarios.

## Interest Rate and Foreign Exchange Derivative Contracts

Interest rate and foreign exchange derivative contracts are utilized in our ALM activities and serve as an efficient tool to manage our interest rate and foreign exchange risk. We use derivatives to hedge the variability in cash flows or changes in fair value on our balance sheet due to interest rate and foreign exchange components. For more information on our hedging activities, see Note 3 – Derivatives to the Consolidated Financial Statements.

Our interest rate contracts are generally non-leveraged generic interest rate and foreign exchange basis swaps, options, futures and forwards. In addition, we use foreign exchange contracts, including cross-currency interest rate swaps, foreign currency futures contracts, foreign currency forward contracts and options to mitigate the foreign exchange risk associated with foreign currency-denominated assets and liabilities.

Changes to the composition of our derivatives portfolio during 2019 reflect actions taken for interest rate and foreign exchange rate risk management. The decisions to reposition our derivatives portfolio are based on the current assessment of economic and financial conditions including the interest rate and foreign currency environments, balance sheet composition and trends, and the relative mix of our cash and derivative positions.

We use interest rate derivative instruments to hedge the variability in the cash flows of our assets and liabilities and other forecasted transactions (collectively referred to as cash flow hedges). The net losses on both open and terminated cash flow hedge derivative instruments recorded in accumulated OCI were \$496 million and \$1.3 billion, on a pretax basis, at December 31, 2019 and 2018. These net losses are expected to be reclassified into earnings in the same period as the hedged cash flows affect earnings and will decrease income or increase expense on the respective hedged cash flows. Assuming no change in open cash flow derivative hedge positions and no changes in prices or interest rates beyond what is implied in forward yield curves at December 31, 2019, the pretax net losses are expected to be reclassified into earnings as follows: 17 percent within the next year, 44 percent in years two through five, 22 percent in years six through ten, with the remaining 17 percent thereafter. For more information on derivatives designated as cash flow hedges, see Note 3 – Derivatives to the Consolidated Financial Statements.

We hedge our net investment in non-U.S. operations determined to have functional currencies other than the U.S. dollar using forward foreign exchange contracts that typically settle in less than 180 days, cross-currency basis swaps and foreign exchange options. We recorded net after-tax losses on derivatives in accumulated OCI associated with net investment hedges which were offset by gains on our net investments in consolidated non-U.S. entities at December 31, 2019.

Table 49 presents derivatives utilized in our ALM activities and shows the notional amount, fair value, weighted-average receive-fixed and pay-fixed rates, expected maturity and average estimated

## Backtesting

The accuracy of the VaR methodology is evaluated by backtesting, which compares the daily VaR results, utilizing a one-day holding period, against a comparable subset of trading revenue. A backtesting excess occurs when a trading loss exceeds the VaR for the corresponding day. These excesses are evaluated to understand the positions and market moves that produced the trading loss with a goal to ensure that the VaR methodology accurately represents those losses. We expect the frequency of trading losses in excess of VaR to be in line with the confidence level of the VaR statistic being tested. For example, with a 99 percent confidence level, we expect one trading loss in excess of VaR every 100 days or between two to three trading losses in excess of VaR over the course of a year. The number of backtesting excesses observed can differ from the statistically expected number of excesses if the current level of market volatility is materially different than the level of market volatility that existed during the three years of historical data used in the VaR calculation.

The trading revenue used for backtesting is defined by regulatory agencies in order to most closely align with the VaR component of the regulatory capital calculation. This revenue differs from total trading-related revenue in that it excludes revenue from trading activities that either do not generate market risk or the market risk cannot be included in VaR. Some examples of the types of revenue excluded for backtesting are fees, commissions, reserves, net interest income and intra-day trading revenues.

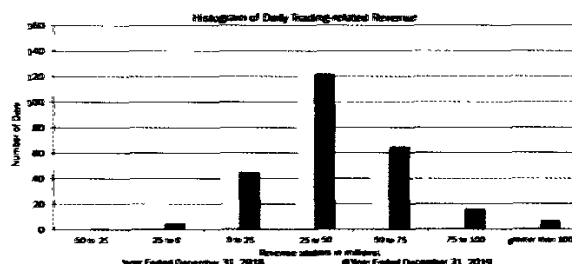
We conduct daily backtesting on the VaR results used for regulatory capital calculations as well as the VaR results for key legal entities, regions and risk factors. These results are reported to senior market risk management. Senior management regularly reviews and evaluates the results of these tests.

During 2019, there were no days in which there was a backtesting excess for our total covered portfolio VaR, utilizing a one-day holding period.

## Total Trading-related Revenue

Total trading-related revenue, excluding brokerage fees, and CVA, DVA and funding valuation adjustment gains (losses), represents the total amount earned from trading positions, including market-based net interest income, which are taken in a diverse range of financial instruments and markets. Trading account assets and liabilities are reported at fair value. For more information on fair value, see Note 21 – *Fair Value Measurements* to the Consolidated Financial Statements. Trading-related revenue can be volatile and is largely driven by general market conditions and customer demand. Also, trading-related revenue is dependent on the volume and type of transactions, the level of risk assumed, and the volatility of price and rate movements at any given time within the ever-changing market environment. Significant daily revenue by business is monitored and the primary drivers of these are reviewed.

The following histogram is a graphic depiction of trading volatility and illustrates the daily level of trading-related revenue for 2019 and 2018. During 2019, positive trading-related revenue was recorded for 98 percent of the trading days, of which 80 percent were daily trading gains of over \$25 million, and the largest loss was \$35 million. This compares to 2018 where positive trading-related revenue was recorded for 98 percent of the trading days, of which 79 percent were daily trading gains of over \$25 million.



## Trading Portfolio Stress Testing

Because the very nature of a VaR model suggests results can exceed our estimates and it is dependent on a limited historical window, we also stress test our portfolio using scenario analysis. This analysis estimates the change in the value of our trading portfolio that may result from abnormal market movements.

A set of scenarios, categorized as either historical or hypothetical, are computed daily for the overall trading portfolio and individual businesses. These scenarios include shocks to underlying market risk factors that may be well beyond the shocks found in the historical data used to calculate VaR. Historical scenarios simulate the impact of the market moves that occurred during a period of extended historical market stress. Generally, a multi-week period representing the most severe point during a crisis is selected for each historical scenario. Hypothetical scenarios provide estimated portfolio impacts from potential future market stress events. Scenarios are reviewed and updated in response to changing positions and new economic or political information. In addition, new or ad hoc scenarios are developed to address specific potential market events or particular vulnerabilities in the portfolio. The stress tests are reviewed on a regular basis and the results are presented to senior management.

Stress testing for the trading portfolio is integrated with enterprise-wide stress testing and incorporated into the limits framework. The macroeconomic scenarios used for enterprise-wide stress testing purposes differ from the typical trading portfolio scenarios in that they have a longer time horizon and the results are forecasted over multiple periods for use in consolidated capital and liquidity planning. For more information, see *Managing Risk* on page 63.

## Interest Rate Risk Management for the Banking Book

The following discussion presents net interest income for banking book activities.

Interest rate risk represents the most significant market risk exposure to our banking book balance sheet. Interest rate risk is measured as the potential change in net interest income caused by movements in market interest rates. Client-facing activities, primarily lending and deposit-taking, create interest rate sensitive positions on our balance sheet.

We prepare forward-looking forecasts of net interest income. The baseline forecast takes into consideration expected future business growth, ALM positioning and the direction of interest rate movements as implied by the market-based forward curve. We then measure and evaluate the impact that alternative interest rate scenarios have on the baseline forecast in order to assess interest rate sensitivity under varied conditions. The net interest income forecast is frequently updated for changing assumptions and differing outlooks based on economic trends, market conditions and business strategies. Thus, we continually monitor

exchange and commodity positions are always considered covered positions, regardless of trading or banking treatment for the trade, except for structural foreign currency positions that are excluded with prior regulatory approval.

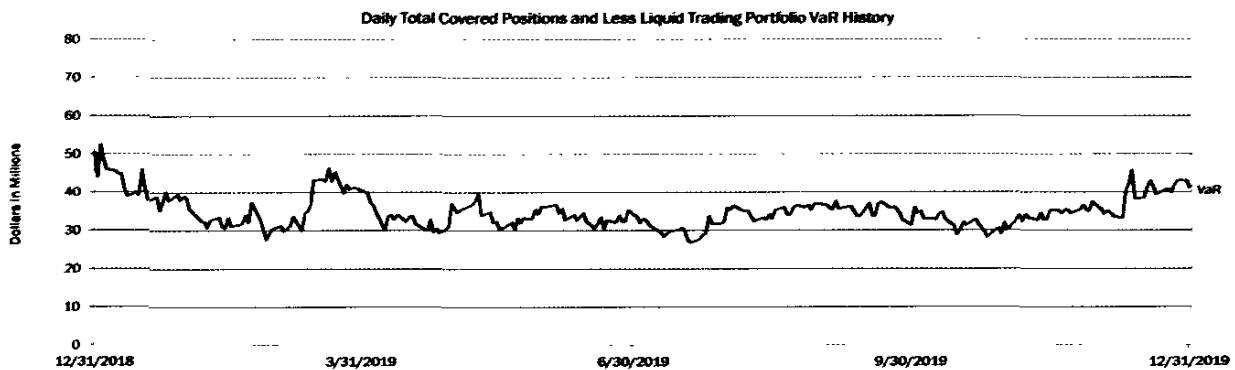
The annual average of total covered positions and less liquid trading positions portfolio VaR slightly increased during 2019 with no significant drivers.

**Table 45 Market Risk VaR for Trading Activities**

| (Dollars in millions)                                                      | 2019         |              |                     |                    | 2018         |              |                     |                    |
|----------------------------------------------------------------------------|--------------|--------------|---------------------|--------------------|--------------|--------------|---------------------|--------------------|
|                                                                            | Year End     | Average      | High <sup>(1)</sup> | Low <sup>(1)</sup> | Year End     | Average      | High <sup>(1)</sup> | Low <sup>(1)</sup> |
| Foreign exchange                                                           | \$ 4         | \$ 6         | \$ 13               | \$ 2               | \$ 9         | \$ 8         | \$ 15               | \$ 2               |
| Interest rate                                                              | 25           | 24           | 49                  | 14                 | 36           | 25           | 45                  | 15                 |
| Credit                                                                     | 26           | 23           | 32                  | 16                 | 26           | 25           | 31                  | 20                 |
| Equity                                                                     | 29           | 22           | 33                  | 14                 | 20           | 20           | 40                  | 11                 |
| Commodities                                                                | 4            | 6            | 31                  | 4                  | 13           | 8            | 15                  | 3                  |
| Portfolio diversification                                                  | (47)         | (49)         | —                   | —                  | (59)         | (55)         | —                   | —                  |
| <b>Total covered positions portfolio</b>                                   | <b>41</b>    | <b>32</b>    | <b>47</b>           | <b>24</b>          | <b>45</b>    | <b>31</b>    | <b>45</b>           | <b>20</b>          |
| Impact from less liquid exposures                                          | —            | 3            | —                   | —                  | 5            | 3            | —                   | —                  |
| <b>Total covered positions and less liquid trading positions portfolio</b> | <b>41</b>    | <b>35</b>    | <b>53</b>           | <b>27</b>          | <b>50</b>    | <b>34</b>    | <b>51</b>           | <b>23</b>          |
| Fair value option loans                                                    | 8            | 10           | 13                  | 7                  | 8            | 11           | 18                  | 8                  |
| Fair value option hedges                                                   | 10           | 10           | 17                  | 4                  | 5            | 9            | 17                  | 4                  |
| Fair value option portfolio diversification                                | (9)          | (10)         | —                   | —                  | (7)          | (11)         | —                   | —                  |
| <b>Total fair value option portfolio</b>                                   | <b>9</b>     | <b>10</b>    | <b>16</b>           | <b>5</b>           | <b>6</b>     | <b>9</b>     | <b>16</b>           | <b>5</b>           |
| Portfolio diversification                                                  | (5)          | (7)          | —                   | —                  | (3)          | (5)          | —                   | —                  |
| <b>Total market-based portfolio</b>                                        | <b>\$ 45</b> | <b>\$ 38</b> | <b>56</b>           | <b>28</b>          | <b>\$ 53</b> | <b>\$ 38</b> | <b>57</b>           | <b>26</b>          |

<sup>(1)</sup> The high and low for each portfolio may have occurred on different trading days than the high and low for the components. Therefore the impact from less liquid exposures and the amount of portfolio diversification, which is the difference between the total portfolio and the sum of the individual components, is not relevant.

The graph below presents the daily covered positions and less liquid trading positions portfolio VaR for 2019, corresponding to the data in Table 45.



Additional VaR statistics produced within our single VaR model are provided in Table 46 at the same level of detail as in Table 45. Evaluating VaR with additional statistics allows for an increased understanding of the risks in the portfolio as the historical market data used in the VaR calculation does not necessarily follow a predefined statistical distribution. Table 46 presents average trading VaR statistics at 99 percent and 95 percent confidence levels for 2019 and 2018.

**Table 46 Average Market Risk VaR for Trading Activities – 99 percent and 95 percent VaR Statistics**

| (Dollars in millions)                                                      | 2019         |              | 2018         |              |
|----------------------------------------------------------------------------|--------------|--------------|--------------|--------------|
|                                                                            | 99 percent   | 95 percent   | 99 percent   | 95 percent   |
| Foreign exchange                                                           | \$ 6         | \$ 3         | \$ 8         | \$ 5         |
| Interest rate                                                              | 24           | 15           | 25           | 16           |
| Credit                                                                     | 23           | 15           | 25           | 15           |
| Equity                                                                     | 22           | 11           | 20           | 11           |
| Commodities                                                                | 6            | 3            | 8            | 4            |
| Portfolio diversification                                                  | (49)         | (29)         | (55)         | (33)         |
| <b>Total covered positions portfolio</b>                                   | <b>32</b>    | <b>18</b>    | <b>31</b>    | <b>18</b>    |
| Impact from less liquid exposures                                          | 3            | 2            | 3            | 1            |
| <b>Total covered positions and less liquid trading positions portfolio</b> | <b>35</b>    | <b>20</b>    | <b>34</b>    | <b>19</b>    |
| Fair value option loans                                                    | 10           | 5            | 11           | 6            |
| Fair value option hedges                                                   | 10           | 6            | 9            | 6            |
| Fair value option portfolio diversification                                | (10)         | (5)          | (11)         | (7)          |
| <b>Total fair value option portfolio</b>                                   | <b>10</b>    | <b>6</b>     | <b>9</b>     | <b>5</b>     |
| Portfolio diversification                                                  | (7)          | (5)          | (5)          | (3)          |
| <b>Total market-based portfolio</b>                                        | <b>\$ 38</b> | <b>\$ 21</b> | <b>\$ 38</b> | <b>\$ 21</b> |

used to mitigate this risk include bonds, CDS and other credit fixed-income instruments.

### Market Liquidity Risk

Market liquidity risk represents the risk that the level of expected market activity changes dramatically and, in certain cases, may even cease. This exposes us to the risk that we will not be able to transact business and execute trades in an orderly manner which may impact our results. This impact could be further exacerbated if expected hedging or pricing correlations are compromised by disproportionate demand or lack of demand for certain instruments. We utilize various risk mitigating techniques as discussed in more detail in Trading Risk Management.

### Trading Risk Management

To evaluate risks in our trading activities, we focus on the actual and potential volatility of revenues generated by individual positions as well as portfolios of positions. Various techniques and procedures are utilized to enable the most complete understanding of these risks. Quantitative measures of market risk are evaluated on a daily basis from a single position to the portfolio of the Corporation. These measures include sensitivities of positions to various market risk factors, such as the potential impact on revenue from a one basis point change in interest rates, and statistical measures utilizing both actual and hypothetical market moves, such as VaR and stress testing. Periods of extreme market stress influence the reliability of these techniques to varying degrees. Qualitative evaluations of market risk utilize the suite of quantitative risk measures while understanding each of their respective limitations. Additionally, risk managers independently evaluate the risk of the portfolios under the current market environment and potential future environments.

VaR is a common statistic used to measure market risk as it allows the aggregation of market risk factors, including the effects of portfolio diversification. A VaR model simulates the value of a portfolio under a range of scenarios in order to generate a distribution of potential gains and losses. VaR represents the loss a portfolio is not expected to exceed more than a certain number of times per period, based on a specified holding period, confidence level and window of historical data. We use one VaR model consistently across the trading portfolios and it uses a historical simulation approach based on a three-year window of historical data. Our primary VaR statistic is equivalent to a 99 percent confidence level, which means that for a VaR with a one-day holding period, there should not be losses in excess of VaR, on average, 99 out of 100 trading days.

Within any VaR model, there are significant and numerous assumptions that will differ from company to company. The accuracy of a VaR model depends on the availability and quality of historical data for each of the risk factors in the portfolio. A VaR model may require additional modeling assumptions for new products that do not have the necessary historical market data or for less liquid positions for which accurate daily prices are not consistently available. For positions with insufficient historical data for the VaR calculation, the process for establishing an appropriate proxy is based on fundamental and statistical analysis of the new product or less liquid position. This analysis identifies reasonable alternatives that replicate both the expected volatility and correlation to other market risk factors that the missing data would be expected to experience.

VaR may not be indicative of realized revenue volatility as changes in market conditions or in the composition of the portfolio can have a material impact on the results. In particular, the historical data used for the VaR calculation might indicate higher or lower levels of portfolio diversification than will be experienced.

In order for the VaR model to reflect current market conditions, we update the historical data underlying our VaR model on a weekly basis, or more frequently during periods of market stress, and regularly review the assumptions underlying the model. A minor portion of risks related to our trading positions is not included in VaR. These risks are reviewed as part of our ICAAP. For more information regarding ICAAP, see Capital Management on page 66.

Global Risk Management continually reviews, evaluates and enhances our VaR model so that it reflects the material risks in our trading portfolio. Changes to the VaR model are reviewed and approved prior to implementation and any material changes are reported to management through the appropriate management committees.

Trading limits on quantitative risk measures, including VaR, are independently set by Global Markets Risk Management and reviewed on a regular basis so that trading limits remain relevant and within our overall risk appetite for market risks. Trading limits are reviewed in the context of market liquidity, volatility and strategic business priorities. Trading limits are set at both a granular level to allow for extensive coverage of risks as well as at aggregated portfolios to account for correlations among risk factors. All trading limits are approved at least annually. Approved trading limits are stored and tracked in a centralized limits management system. Trading limit excesses are communicated to management for review. Certain quantitative market risk measures and corresponding limits have been identified as critical in the Corporation's Risk Appetite Statement. These risk appetite limits are reported on a daily basis and are approved at least annually by the ERC and the Board.

In periods of market stress, *Global Markets* senior leadership communicates daily to discuss losses, key risk positions and any limit excesses. As a result of this process, the businesses may selectively reduce risk.

Table 45 presents the total market-based portfolio VaR which is the combination of the total covered positions (and less liquid trading positions) portfolio and the fair value option portfolio. Covered positions are defined by regulatory standards as trading assets and liabilities, both on- and off-balance sheet, that meet a defined set of specifications. These specifications identify the most liquid trading positions which are intended to be held for a short-term horizon and where we are able to hedge the material risk elements in a two-way market. Positions in less liquid markets, or where there are restrictions on the ability to trade the positions, typically do not qualify as covered positions. Foreign exchange and commodity positions are always considered covered positions, except for structural foreign currency positions that are excluded with prior regulatory approval. In addition, Table 45 presents our fair value option portfolio, which includes substantially all of the funded and unfunded exposures for which we elect the fair value option, and their corresponding hedges. Additionally, market risk VaR for trading activities as presented in Table 45 differs from VaR used for regulatory capital calculations due to the holding period being used. The holding period for VaR used for regulatory capital calculations is 10 days, while for the market risk VaR presented below, it is one day. Both measures utilize the same process and methodology.

The total market-based portfolio VaR results in Table 45 include market risk to which we are exposed from all business segments, excluding credit valuation adjustment (CVA), DVA and related hedges. The majority of this portfolio is within the *Global Markets* segment.

Table 45 presents year-end, average, high and low daily trading VaR for 2019 and 2018 using a 99 percent confidence level. The amounts disclosed in Table 45 and Table 46 align to the view of covered positions used in the Basel 3 capital calculations. Foreign

## Market Risk Management

Market risk is the risk that changes in market conditions may adversely impact the value of assets or liabilities, or otherwise negatively impact earnings. This risk is inherent in the financial instruments associated with our operations, primarily within our *Global Markets* segment. We are also exposed to these risks in other areas of the Corporation (e.g., our ALM activities). In the event of market stress, these risks could have a material impact on our results. For more information, see *Interest Rate Risk Management* for the Banking Book on page 95.

Our traditional banking loan and deposit products are non-trading positions and are generally reported at amortized cost for assets or the amount owed for liabilities (historical cost). However, these positions are still subject to changes in economic value based on varying market conditions, with one of the primary risks being changes in the levels of interest rates. The risk of adverse changes in the economic value of our non-trading positions arising from changes in interest rates is managed through our ALM activities. We have elected to account for certain assets and liabilities under the fair value option.

Our trading positions are reported at fair value with changes reflected in income. Trading positions are subject to various changes in market-based risk factors. The majority of this risk is generated by our activities in the interest rate, foreign exchange, credit, equity and commodities markets. In addition, the values of assets and liabilities could change due to market liquidity, correlations across markets and expectations of market volatility. We seek to manage these risk exposures by using a variety of techniques that encompass a broad range of financial instruments. The key risk management techniques are discussed in more detail in the *Trading Risk Management* section.

Global Risk Management is responsible for providing senior management with a clear and comprehensive understanding of the trading risks to which we are exposed. These responsibilities include ownership of market risk policy, developing and maintaining quantitative risk models, calculating aggregated risk measures, establishing and monitoring position limits consistent with risk appetite, conducting daily reviews and analysis of trading inventory, approving material risk exposures and fulfilling regulatory requirements. Market risks that impact businesses outside of *Global Markets* are monitored and governed by their respective governance functions.

Model risk is the potential for adverse consequences from decisions based on incorrect or misused model outputs and reports. Given that models are used across the Corporation, model risk impacts all risk types including credit, market and operational risk. The Enterprise Model Risk Committee (EMRC), a subcommittee of the MRC, is responsible for providing management oversight and approval of model risk management and governance. The EMRC defines model risk standards, consistent with the Corporation's Risk Framework and risk appetite, prevailing regulatory guidance and industry best practice. All models, including risk management, valuation and regulatory capital models, must meet certain validation criteria, including effective challenge of the conceptual soundness of the model, independent model testing and ongoing monitoring through outcomes analysis and benchmarking. The EMRC oversees that model standards are consistent with model risk requirements and monitors the effective challenge in the model validation process across the Corporation.

## Interest Rate Risk

Interest rate risk represents exposures to instruments whose values vary with the level or volatility of interest rates. These instruments include, but are not limited to, loans, debt securities,

certain trading-related assets and liabilities, deposits, borrowings and derivatives. Hedging instruments used to mitigate these risks include derivatives such as options, futures, forwards and swaps.

## Foreign Exchange Risk

Foreign exchange risk represents exposures to changes in the values of current holdings and future cash flows denominated in currencies other than the U.S. dollar. The types of instruments exposed to this risk include investments in non-U.S. subsidiaries, foreign currency-denominated loans and securities, future cash flows in foreign currencies arising from foreign exchange transactions, foreign currency-denominated debt and various foreign exchange derivatives whose values fluctuate with changes in the level or volatility of currency exchange rates or non-U.S. interest rates. Hedging instruments used to mitigate this risk include foreign exchange options, currency swaps, futures, forwards, and foreign currency-denominated debt and deposits.

## Mortgage Risk

Mortgage risk represents exposures to changes in the values of mortgage-related instruments. The values of these instruments are sensitive to prepayment rates, mortgage rates, agency debt ratings, default, market liquidity, government participation and interest rate volatility. Our exposure to these instruments takes several forms. For example, we trade and engage in market-making activities in a variety of mortgage securities including whole loans, pass-through certificates, commercial mortgages and collateralized mortgage obligations including collateralized debt obligations using mortgages as underlying collateral. In addition, we originate a variety of MBS, which involves the accumulation of mortgage-related loans in anticipation of eventual securitization, and we may hold positions in mortgage securities and residential mortgage loans as part of the ALM portfolio. We also record MSRs as part of our mortgage origination activities. Hedging instruments used to mitigate this risk include derivatives such as options, swaps, futures and forwards as well as securities including MBS and U.S. Treasury securities. For more information, see *Mortgage Banking Risk Management* on page 97.

## Equity Market Risk

Equity market risk represents exposures to securities that represent an ownership interest in a corporation in the form of domestic and foreign common stock or other equity-linked instruments. Instruments that would lead to this exposure include, but are not limited to, the following: common stock, exchange-traded funds, American Depositary Receipts, convertible bonds, listed equity options (puts and calls), OTC equity options, equity total return swaps, equity index futures and other equity derivative products. Hedging instruments used to mitigate this risk include options, futures, swaps, convertible bonds and cash positions.

## Commodity Risk

Commodity risk represents exposures to instruments traded in the petroleum, natural gas, power and metals markets. These instruments consist primarily of futures, forwards, swaps and options. Hedging instruments used to mitigate this risk include options, futures and swaps in the same or similar commodity product, as well as cash positions.

## Issuer Credit Risk

Issuer credit risk represents exposures to changes in the creditworthiness of individual issuers or groups of issuers. Our portfolio is exposed to issuer credit risk where the value of an asset may be adversely impacted by changes in the levels of credit spreads, by credit migration or by defaults. Hedging instruments

Table 44 presents a rollforward of the allowance for credit losses, which includes the allowance for loan and lease losses and the reserve for unfunded lending commitments, for 2019 and 2018.

**Table 44 Allowance for Credit Losses**

| (Dollars in millions)                                                                                                                                                                                                                                   | 2019             | 2018             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
| <b>Allowance for loan and lease losses, January 1</b>                                                                                                                                                                                                   | <b>\$ 9,601</b>  | <b>\$ 10,393</b> |
| <b>Loans and leases charged off</b>                                                                                                                                                                                                                     |                  |                  |
| Residential mortgage                                                                                                                                                                                                                                    | (93)             | (207)            |
| Home equity                                                                                                                                                                                                                                             | (429)            | (483)            |
| Credit card                                                                                                                                                                                                                                             | (3,535)          | (3,345)          |
| Direct/Indirect consumer                                                                                                                                                                                                                                | (518)            | (495)            |
| Other consumer                                                                                                                                                                                                                                          | (249)            | (197)            |
| <b>Total consumer charge-offs</b>                                                                                                                                                                                                                       | <b>(4,824)</b>   | <b>(4,727)</b>   |
| U.S. commercial <sup>(1)</sup>                                                                                                                                                                                                                          | (650)            | (575)            |
| Non-U.S. commercial                                                                                                                                                                                                                                     | (115)            | (82)             |
| Commercial real estate                                                                                                                                                                                                                                  | (31)             | (10)             |
| Commercial lease financing                                                                                                                                                                                                                              | (26)             | (8)              |
| <b>Total commercial charge-offs</b>                                                                                                                                                                                                                     | <b>(822)</b>     | <b>(675)</b>     |
| <b>Total loans and leases charged off</b>                                                                                                                                                                                                               | <b>(5,646)</b>   | <b>(5,402)</b>   |
| <b>Recoveries of loans and leases previously charged off</b>                                                                                                                                                                                            |                  |                  |
| Residential mortgage                                                                                                                                                                                                                                    | 140              | 179              |
| Home equity                                                                                                                                                                                                                                             | 787              | 485              |
| Credit card                                                                                                                                                                                                                                             | 587              | 508              |
| Direct/Indirect consumer                                                                                                                                                                                                                                | 309              | 300              |
| Other consumer                                                                                                                                                                                                                                          | 15               | 15               |
| <b>Total consumer recoveries</b>                                                                                                                                                                                                                        | <b>1,838</b>     | <b>1,487</b>     |
| U.S. commercial <sup>(2)</sup>                                                                                                                                                                                                                          | 122              | 120              |
| Non-U.S. commercial                                                                                                                                                                                                                                     | 31               | 14               |
| Commercial real estate                                                                                                                                                                                                                                  | 2                | 9                |
| Commercial lease financing                                                                                                                                                                                                                              | 5                | 9                |
| <b>Total commercial recoveries</b>                                                                                                                                                                                                                      | <b>160</b>       | <b>152</b>       |
| <b>Total recoveries of loans and leases previously charged off</b>                                                                                                                                                                                      | <b>1,998</b>     | <b>1,639</b>     |
| <b>Net charge-offs</b>                                                                                                                                                                                                                                  | <b>(3,648)</b>   | <b>(3,763)</b>   |
| Provision for loan and lease losses                                                                                                                                                                                                                     | 3,574            | 3,262            |
| Other <sup>(3)</sup>                                                                                                                                                                                                                                    | (111)            | (291)            |
| <b>Allowance for loan and lease losses, December 31</b>                                                                                                                                                                                                 | <b>9,416</b>     | <b>9,601</b>     |
| <b>Reserve for unfunded lending commitments, January 1</b>                                                                                                                                                                                              | <b>797</b>       | <b>777</b>       |
| Provision for unfunded lending commitments                                                                                                                                                                                                              | 16               | 20               |
| <b>Reserve for unfunded lending commitments, December 31</b>                                                                                                                                                                                            | <b>813</b>       | <b>797</b>       |
| <b>Allowance for credit losses, December 31</b>                                                                                                                                                                                                         | <b>\$ 10,229</b> | <b>\$ 10,398</b> |
| <b>Loan and allowance ratios:</b>                                                                                                                                                                                                                       |                  |                  |
| Loans and leases outstanding at December 31 <sup>(4)</sup>                                                                                                                                                                                              | \$ 975,091       | \$ 942,546       |
| Allowance for loan and lease losses as a percentage of total loans and leases outstanding at December 31 <sup>(4)</sup>                                                                                                                                 | 0.97%            | 1.02%            |
| Consumer allowance for loan and lease losses as a percentage of total consumer loans and leases outstanding at December 31 <sup>(5)</sup>                                                                                                               | 0.98             | 1.08             |
| Commercial allowance for loan and lease losses as a percentage of total commercial loans and leases outstanding at December 31 <sup>(6)</sup>                                                                                                           | 0.96             | 0.97             |
| Average loans and leases outstanding <sup>(4)</sup>                                                                                                                                                                                                     | \$ 951,583       | \$ 927,531       |
| Net charge-offs as a percentage of average loans and leases outstanding <sup>(4)</sup>                                                                                                                                                                  | 0.38%            | 0.41%            |
| Allowance for loan and lease losses as a percentage of total nonperforming loans and leases at December 31                                                                                                                                              | 265              | 194              |
| Ratio of the allowance for loan and lease losses at December 31 to net charge-offs                                                                                                                                                                      | 2.58             | 2.55             |
| Amounts included in allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at December 31 <sup>(7)</sup>                                                                                        | \$ 4,151         | \$ 4,031         |
| Allowance for loan and lease losses as a percentage of total nonperforming loans and leases, excluding the allowance for loan and lease losses for loans and leases that are excluded from nonperforming loans and leases at December 31 <sup>(7)</sup> | 148%             | 113%             |

<sup>(1)</sup> Includes U.S. small business commercial charge-offs of \$320 million and \$287 million in 2019 and 2018.

<sup>(2)</sup> Includes U.S. small business commercial recoveries of \$48 million and \$47 million in 2019 and 2018.

<sup>(3)</sup> Primarily represents write-offs of purchased credit-impaired (PCI) loans, the net impact of portfolio sales, and transfers to loans held-for-sale.

<sup>(4)</sup> Outstanding loan and lease balances and ratios do not include loans accounted for under the fair value option of \$8.3 billion and \$4.3 billion at December 31, 2019 and 2018. Average loans accounted for under the fair value option were \$6.8 billion and \$5.5 billion in 2019 and 2018.

<sup>(5)</sup> Excludes consumer loans accounted for under the fair value option of \$594 million and \$682 million at December 31, 2019 and 2018.

<sup>(6)</sup> Excludes commercial loans accounted for under the fair value option of \$7.7 billion and \$3.7 billion at December 31, 2019 and 2018.

<sup>(7)</sup> Primarily includes amounts allocated to credit card and unsecured consumer lending portfolios in Consumer Banking.

reduction in the allowance for the consumer real estate portfolio was driven by improved credit quality, a decrease in loan balances in our non-core portfolio, proactive credit risk management initiatives and high credit quality originations. The improved credit quality was impacted by continuing improvements in the U.S. economy and strong labor markets evidenced by low levels of unemployment and increases in home prices. Nonperforming consumer loans decreased \$1.8 billion during 2019 as loan sales, returns to performing status and paydowns continued to outpace additions. The increase in allowance for the credit card portfolio was primarily driven by continued portfolio seasoning.

The allowance for loan and lease losses for the commercial portfolio, as presented in Table 43, was \$4.9 billion at December 31, 2019, an increase of \$75 million from December 31, 2018. Commercial reservable criticized utilized exposure increased to \$11.5 billion at December 31, 2019 from \$11.1 billion (to 2.09 percent from 2.08 percent of total commercial reservable utilized exposure) at December 31, 2018, and nonperforming commercial loans increased to \$1.5 billion at December 31, 2019 from \$1.1 billion (to 0.29 percent from 0.22 percent of outstanding commercial loans excluding loans accounted for under the fair value option) at December 31, 2018 with the increases spread across multiple industries. See Tables 32, 33 and 34 for more details on key commercial credit statistics.

The allowance for loan and lease losses as a percentage of total loans and leases outstanding was 0.97 percent at December 31, 2019 compared to 1.02 percent at December 31, 2018.

On January 1, 2020, the Corporation adopted the new accounting standard that requires the measurement of the allowance for credit losses to be based on management's best estimate of lifetime expected credit losses inherent in the

Corporation's relevant financial assets. Upon adoption of the standard on January 1, 2020, the Corporation recorded a \$3.3 billion, or 32 percent, increase to the allowance for credit losses. After adjusting for deferred taxes and other adoption effects, a \$2.4 billion decrease was recorded in retained earnings through a cumulative-effect adjustment. For more information regarding this new accounting standard, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements.

#### Reserve for Unfunded Lending Commitments

In addition to the allowance for loan and lease losses, we also estimate probable losses related to unfunded lending commitments such as letters of credit, financial guarantees, unfunded bankers' acceptances and binding loan commitments, excluding commitments accounted for under the fair value option. Unfunded lending commitments are subject to the same assessment as funded loans, including estimates of probability of default and LGD. Due to the nature of unfunded commitments, the estimate of probable losses must also consider utilization. To estimate the portion of these undrawn commitments that is likely to be drawn by a borrower at the time of estimated default, analyses of our historical experience are applied to the unfunded commitments to estimate the funded exposure at default (EAD). The expected loss for unfunded lending commitments is the product of the probability of default, the LGD and the EAD, adjusted for any qualitative factors including economic uncertainty and inherent imprecision in models.

The reserve for unfunded lending commitments was \$813 million at December 31, 2019 compared to \$797 million at December 31, 2018.

**Table 43 Allocation of the Allowance for Credit Losses by Product Type**

|                                                 | December 31, 2019 |                  |                                                        | December 31, 2018 |                  |                                                        |
|-------------------------------------------------|-------------------|------------------|--------------------------------------------------------|-------------------|------------------|--------------------------------------------------------|
| (Dollars in millions)                           | Amount            | Percent of Total | Percent of Loans and Leases Outstanding <sup>(1)</sup> | Amount            | Percent of Total | Percent of Loans and Leases Outstanding <sup>(1)</sup> |
| <b>Allowance for loan and lease losses</b>      |                   |                  |                                                        |                   |                  |                                                        |
| Residential mortgage                            | \$ 325            | 3.45%            | 0.14%                                                  | \$ 422            | 4.40%            | 0.20%                                                  |
| Home equity                                     | 221               | 2.35             | 0.55                                                   | 506               | 5.27             | 1.05                                                   |
| Credit card                                     | 3,710             | 39.39            | 3.80                                                   | 3,597             | 37.47            | 3.66                                                   |
| Direct/Indirect consumer                        | 234               | 2.49             | 0.26                                                   | 248               | 2.58             | 0.27                                                   |
| Other consumer                                  | 52                | 0.55             | n/m                                                    | 29                | 0.30             | n/m                                                    |
| <b>Total consumer</b>                           | <b>4,542</b>      | <b>48.23</b>     | <b>0.98</b>                                            | <b>4,802</b>      | <b>50.02</b>     | <b>1.08</b>                                            |
| U.S. commercial <sup>(2)</sup>                  | 3,015             | 32.02            | 0.94                                                   | 3,010             | 31.35            | 0.96                                                   |
| Non-U.S. commercial                             | 658               | 6.99             | 0.63                                                   | 677               | 7.05             | 0.69                                                   |
| Commercial real estate                          | 1,042             | 11.07            | 1.66                                                   | 958               | 9.98             | 1.57                                                   |
| Commercial lease financing                      | 159               | 1.69             | 0.80                                                   | 154               | 1.60             | 0.68                                                   |
| <b>Total commercial</b>                         | <b>4,874</b>      | <b>51.77</b>     | <b>0.96</b>                                            | <b>4,799</b>      | <b>49.98</b>     | <b>0.97</b>                                            |
| <b>Allowance for loan and lease losses</b>      | <b>9,416</b>      | <b>100.00%</b>   | <b>0.97</b>                                            | <b>9,601</b>      | <b>100.00%</b>   | <b>1.02</b>                                            |
| <b>Reserve for unfunded lending commitments</b> | <b>813</b>        |                  |                                                        | <b>797</b>        |                  |                                                        |
| <b>Allowance for credit losses</b>              | <b>\$ 10,229</b>  |                  |                                                        | <b>\$ 10,398</b>  |                  |                                                        |

<sup>(1)</sup> Ratios are calculated as allowance for loan and lease losses as a percentage of loans and leases outstanding excluding loans accounted for under the fair value option. Consumer loans accounted for under the fair value option include residential mortgage loans of \$257 million and \$336 million and home equity loans of \$337 million and \$346 million at December 31, 2019 and 2018. Commercial loans accounted for under the fair value option include U.S. commercial loans of \$4.7 billion and \$2.5 billion and non-U.S. commercial loans of \$3.1 billion and \$1.1 billion at December 31, 2019 and 2018.

<sup>(2)</sup> Includes allowance for loan and lease losses for U.S. small business commercial loans of \$523 million and \$474 million at December 31, 2019 and 2018.  
n/m = not meaningful

### **Provision for Credit Losses**

The provision for credit losses increased \$308 million to \$3.6 billion in 2019 compared to 2018. The provision for credit losses was \$58 million lower than net charge-offs for 2019, resulting in a decrease in the allowance for credit losses. This compared to a decrease of \$481 million in the allowance for credit losses in 2018. Net charge-offs in 2019 were \$3.6 billion compared to \$3.8 billion in 2018.

The provision for credit losses for the consumer portfolio decreased \$117 million to \$2.8 billion in 2019 compared to 2018. The decrease was primarily driven by consumer real estate loan sales.

The provision for credit losses for the commercial portfolio, including unfunded lending commitments, increased \$425 million to \$758 million in 2019 compared to 2018. The increase was due in part to energy reserve releases in the prior-year periods.

Assuming a stable economic environment in 2020 compared to the end of 2019, we expect net charge-offs of approximately \$1 billion per quarter in 2020. In view of the newly adopted accounting standard on the measurement of the allowance for credit losses, we expect the provision for credit losses to be modestly higher than net charge-offs in 2020, assuming no change in the current economic outlook and estimates of loan growth, including product mix. For more information regarding the new accounting standard, see Note 1 - Summary of Significant Accounting Principles to the Consolidated Financial Statements.

### **Allowance for Credit Losses**

#### **Allowance for Loan and Lease Losses**

The allowance for loan and lease losses is comprised of two components. The first component covers nonperforming commercial loans and TDRs. The second component covers loans and leases on which there are incurred losses that are not yet individually identifiable, as well as incurred losses that may not be represented in the loss forecast models. We evaluate the adequacy of the allowance for loan and lease losses based on the total of these two components, each of which is described in more detail below. The allowance for loan and lease losses excludes loans held-for-sale (LHFS) and loans accounted for under the fair value option as the fair value reflects a credit risk component.

The first component of the allowance for loan and lease losses covers both nonperforming commercial loans and all TDRs within the consumer and commercial portfolios. These loans are subject to impairment measurement based on the present value of projected future cash flows discounted at the loan's original effective interest rate, or in certain circumstances, impairment may also be based upon the collateral value or the loan's observable market price if available. Impairment measurement for the renegotiated consumer credit card and small business credit card TDR portfolios is based on the present value of projected cash flows discounted using the average portfolio contractual interest rate, excluding promotionally priced loans, in effect prior to restructuring. For purposes of computing this specific loss component of the allowance, larger impaired loans are evaluated individually and smaller impaired loans are evaluated as a pool using historical experience for the respective product types and risk ratings of the loans.

The second component of the allowance for loan and lease losses covers the remaining consumer and commercial loans and leases that have incurred losses that are not yet individually identifiable. The allowance for consumer (including credit card and other consumer loans) and certain homogeneous commercial loan and lease products is based on aggregated portfolio evaluations, which include both quantitative and qualitative components,

generally by product type. Loss forecast models are utilized that consider a variety of factors including, but not limited to, historical loss experience, estimated defaults or foreclosures based on portfolio trends, delinquencies, economic trends, credit scores and the amount of loss in the event of default. Our consumer real estate loss forecast model estimates the portion of loans that will default based on individual loan attributes, the most significant of which are refreshed LTV or combined loan-to-value (CLTV), and borrower credit score as well as vintage and geography, all of which are further broken down into current delinquency status. Additionally, we incorporate the delinquency status of underlying first-lien loans on our junior-lien home equity portfolio in our allowance process. Incorporating refreshed LTV and CLTV into our probability of default allows us to factor the impact of changes in home prices into our allowance for loan and lease losses. These loss forecast models are updated on a quarterly basis to incorporate information reflecting the current economic environment. As of December 31, 2019, the loss forecast process resulted in reductions in the allowance related to the residential mortgage and home equity portfolios compared to December 31, 2018.

The allowance for commercial loan and lease losses is established by product type after analyzing historical loss experience, internal risk rating, current economic conditions, industry performance trends, geographic and obligor concentrations within each portfolio and any other pertinent information. The statistical models for commercial loans are generally updated annually and utilize our historical database of actual defaults and other data, including external default data. The loan risk ratings and composition of the commercial portfolios used to calculate the allowance are updated quarterly to incorporate the most recent data reflecting the current economic environment. For risk-rated commercial loans, we estimate the probability of default and the loss given default (LGD) based on our historical experience of defaults and credit losses. Factors considered when assessing the internal risk rating include the value of the underlying collateral, if applicable, the industry in which the obligor operates, the obligor's liquidity and other financial indicators, and other quantitative and qualitative factors relevant to the obligor's credit risk. As of December 31, 2019, the allowance for the commercial real estate portfolio increased compared to December 31, 2018.

Also included within the second component of the allowance for loan and lease losses are reserves to cover losses that are incurred but, in our assessment, may not be adequately represented in the historical loss data used in the loss forecast models. For example, factors that we consider include, among others, changes in lending policies and procedures, changes in economic and business conditions, changes in the nature and size of the portfolio, changes in portfolio concentrations, changes in the volume and severity of past due loans and nonaccrual loans, the effect of external factors such as competition, and legal and regulatory requirements. Further, we consider the inherent uncertainty in mathematical models that are built upon historical data.

We monitor differences between estimated and actual incurred loan and lease losses. This monitoring process includes periodic assessments by senior management of loan and lease portfolios and the models used to estimate incurred losses in those portfolios.

The allowance for loan and lease losses for the consumer portfolio, as presented in Table 43, was \$4.5 billion at December 31, 2019, a decrease of \$260 million from December 31, 2018. The decrease was primarily in the consumer real estate portfolio, partially offset by an increase in the credit card portfolio. The

**Table 41 Top 20 Non-U.S. Countries Exposure**

| (Dollars in millions)                           | Funded Loans and Loan Equivalents | Unfunded Loan Commitments | Net Counterparty Exposure | Securities/ Other Investments | Country Exposure at December 31 2019 | Hedges and Credit Default Protection | Net Country Exposure at December 31 2019 | Increase (Decrease) from December 31 2018 |
|-------------------------------------------------|-----------------------------------|---------------------------|---------------------------|-------------------------------|--------------------------------------|--------------------------------------|------------------------------------------|-------------------------------------------|
| United Kingdom                                  | \$ 29,156                         | \$ 17,341                 | \$ 7,800                  | \$ 3,545                      | \$ 57,842                            | \$ (1,998)                           | \$ 55,844                                | \$ 990                                    |
| Germany                                         | 21,920                            | 7,408                     | 1,828                     | 1,967                         | 33,123                               | (2,295)                              | 30,828                                   | 2,171                                     |
| Canada                                          | 7,967                             | 8,255                     | 1,690                     | 2,879                         | 20,791                               | (669)                                | 20,122                                   | 607                                       |
| France                                          | 7,243                             | 9,208                     | 876                       | 969                           | 18,296                               | (2,041)                              | 16,255                                   | 3,604                                     |
| China                                           | 13,304                            | 497                       | 1,085                     | 949                           | 15,835                               | (248)                                | 15,587                                   | 946                                       |
| India                                           | 7,817                             | 364                       | 398                       | 3,660                         | 12,239                               | (222)                                | 12,017                                   | 905                                       |
| Brazil                                          | 7,393                             | 716                       | 218                       | 3,683                         | 12,010                               | (238)                                | 11,772                                   | 1,523                                     |
| Australia                                       | 6,100                             | 3,583                     | 415                       | 1,443                         | 11,541                               | (439)                                | 11,102                                   | 1,172                                     |
| Japan                                           | 8,450                             | 896                       | 1,002                     | 1,589                         | 11,937                               | (1,405)                              | 10,532                                   | (9,491)                                   |
| Netherlands                                     | 6,322                             | 3,585                     | 330                       | 876                           | 11,113                               | (786)                                | 10,327                                   | (1,250)                                   |
| South Korea                                     | 5,981                             | 758                       | 386                       | 1,762                         | 8,887                                | (182)                                | 8,705                                    | (465)                                     |
| Singapore                                       | 3,749                             | 435                       | 172                       | 3,528                         | 7,884                                | (58)                                 | 7,826                                    | 2,309                                     |
| Mexico                                          | 4,190                             | 1,733                     | 224                       | 1,814                         | 7,961                                | (150)                                | 7,811                                    | 1,575                                     |
| Switzerland                                     | 4,387                             | 2,947                     | 213                       | 325                           | 7,872                                | (487)                                | 7,385                                    | (379)                                     |
| Hong Kong                                       | 5,106                             | 353                       | 434                       | 1,194                         | 7,087                                | (31)                                 | 7,056                                    | (180)                                     |
| Belgium                                         | 5,077                             | 1,259                     | 526                       | 159                           | 7,021                                | (514)                                | 6,507                                    | 929                                       |
| Italy                                           | 2,353                             | 2,303                     | 510                       | 1,386                         | 6,552                                | (1,175)                              | 5,377                                    | 2,296                                     |
| Spain                                           | 3,153                             | 1,073                     | 258                       | 867                           | 5,351                                | (629)                                | 4,722                                    | 72                                        |
| United Arab Emirates                            | 3,267                             | 229                       | 119                       | 10                            | 3,625                                | (38)                                 | 3,587                                    | (62)                                      |
| Ireland                                         | 2,142                             | 979                       | 76                        | 201                           | 3,398                                | (31)                                 | 3,367                                    | 1,206                                     |
| <b>Total top 20 non-U.S. countries exposure</b> | <b>\$ 155,077</b>                 | <b>\$ 63,922</b>          | <b>\$ 18,560</b>          | <b>\$ 32,806</b>              | <b>\$ 270,365</b>                    | <b>\$ (13,636)</b>                   | <b>\$ 256,729</b>                        | <b>\$ 8,478</b>                           |

A number of economic conditions and geopolitical events have given rise to risk aversion in certain emerging markets. Additionally, in light of ongoing trade tensions, we continue to closely monitor our exposures to tariff-sensitive regions and industries, particularly to countries that account for a large percentage of U.S. trade, such as China.

Our largest emerging market country exposure at December 31, 2019 was China, with net exposure of \$15.6 billion, concentrated in large state-owned companies, subsidiaries of multinational corporations and commercial banks.

The economic performance in the EU remains uncertain, including as a result of the uncertainty surrounding the terms of a potential trade agreement and other terms associated with the future relationship between the U.K. and the EU, which could weigh unevenly on the economic performance of EU countries generally, and even more heavily on that of the U.K. For more information, see Item 1A. Risk Factors of our 2019 Annual Report on Form 10-K and Executive Summary – Recent Developments – U.K. Exit from the EU on page 44. Our largest EU country exposure at December

31, 2019 was the U.K. with net exposure of \$55.8 billion, which represents a \$990 million increase from December 31, 2018. Our second largest EU exposure was Germany with net exposure of \$30.8 billion as of December 31, 2019, which represents a \$2.2 billion increase from December 31, 2018. The increase in Germany was primarily driven by an increase in sovereign exposure.

Table 42 presents countries that had total cross-border exposure, including the notional amount of cash loaned under secured financing agreements, exceeding one percent of our total assets at December 31, 2019. Local exposure, defined as exposure booked in local offices of a respective country with clients in the same country, is excluded. At December 31, 2019, the U.K. and France were the only countries where their respective total cross-border exposures exceeded one percent of our total assets. At December 31, 2019, Germany had total cross-border exposure of \$19.4 billion representing 0.80 percent of our total assets. No other countries had total cross-border exposure that exceeded 0.75 percent of our total assets at December 31, 2019.

**Table 42 Total Cross-border Exposure Exceeding One Percent of Total Assets**

| (Dollars in millions) | December 31 | Public Sector | Banks    | Private Sector | Cross-border Exposure | Exposure as a Percent of Total Assets |
|-----------------------|-------------|---------------|----------|----------------|-----------------------|---------------------------------------|
| United Kingdom        | 2019        | \$ 1,859      | \$ 3,580 | \$ 93,232      | \$ 98,671             | 4.05%                                 |
|                       | 2018        | 1,505         | 3,458    | 46,191         | 51,154                | 2.17                                  |
|                       | 2017        | 923           | 2,984    | 47,205         | 51,112                | 2.24                                  |
| France                | 2019        | 736           | 2,473    | 23,172         | 26,381                | 1.08                                  |
|                       | 2018        | 633           | 2,385    | 29,847         | 32,865                | 1.40                                  |
|                       | 2017        | 2,964         | 1,521    | 27,903         | 32,388                | 1.42                                  |

**Table 40 Net Credit Default Protection by Credit Exposure Debt Rating**

|                                        | Net<br>Notional <sup>(1)</sup> | Percent of<br>Total | Net<br>Notional <sup>(1)</sup> | Percent of<br>Total |
|----------------------------------------|--------------------------------|---------------------|--------------------------------|---------------------|
|                                        | December 31                    |                     |                                |                     |
|                                        | 2019                           |                     | 2018                           |                     |
| (Dollars in millions)                  |                                |                     |                                |                     |
| Ratings <sup>(2, 3)</sup>              |                                |                     |                                |                     |
| A                                      | \$ (697)                       | 20.8%               | \$ (700)                       | 26.3%               |
| BBB                                    | (1,089)                        | 32.5                | (501)                          | 18.8                |
| BB                                     | (766)                          | 22.9                | (804)                          | 30.2                |
| B                                      | (373)                          | 11.1                | (422)                          | 15.8                |
| CCC and below                          | (119)                          | 3.6                 | (205)                          | 7.7                 |
| NR <sup>(4)</sup>                      | (309)                          | 9.1                 | (31)                           | 1.2                 |
| Total net credit<br>default protection | \$ (3,349)                     | 100.0%              | \$ (2,663)                     | 100.0%              |

<sup>(1)</sup> Represents net credit default protection purchased.

<sup>(2)</sup> Ratings are refreshed on a quarterly basis.

<sup>(3)</sup> Ratings of BBB- or higher are considered to meet the definition of investment grade.

<sup>(4)</sup> NR is comprised of index positions held and any names that have not been rated.

In addition to our net notional credit default protection purchased to cover the funded and unfunded portion of certain credit exposures, credit derivatives are used for market-making activities for clients and establishing positions intended to profit from directional or relative value changes. We execute the majority of our credit derivative trades in the OTC market with large, multinational financial institutions, including broker-dealers and, to a lesser degree, with a variety of other investors. Because these transactions are executed in the OTC market, we are subject to settlement risk. We are also subject to credit risk in the event that these counterparties fail to perform under the terms of these contracts. In order to properly reflect counterparty credit risk, we record counterparty credit risk valuation adjustments on certain derivative assets, including our purchased credit default protection.

In most cases, credit derivative transactions are executed on a daily margin basis. Therefore, events such as a credit downgrade, depending on the ultimate rating level, or a breach of credit covenants would typically require an increase in the amount of collateral required by the counterparty, where applicable, and/or

allow us to take additional protective measures such as early termination of all trades. For more information on credit derivatives and counterparty credit risk valuation adjustments, see Note 3 – Derivatives to the Consolidated Financial Statements.

### Non-U.S. Portfolio

Our non-U.S. credit and trading portfolios are subject to country risk. We define country risk as the risk of loss from unfavorable economic and political conditions, currency fluctuations, social instability and changes in government policies. A risk management framework is in place to measure, monitor and manage non-U.S. risk and exposures. In addition to the direct risk of doing business in a country, we also are exposed to indirect country risks (e.g., related to the collateral received on secured financing transactions or related to client clearing activities). These indirect exposures are managed in the normal course of business through credit, market and operational risk governance, rather than through country risk governance.

Table 41 presents our 20 largest non-U.S. country exposures at December 31, 2019. These exposures accounted for 88 percent and 89 percent of our total non-U.S. exposure at December 31, 2019 and 2018. Net country exposure for these 20 countries increased \$8.5 billion in 2019, primarily driven by increased sovereign and corporate exposure across multiple countries.

Non-U.S. exposure is presented on an internal risk management basis and includes sovereign and non-sovereign credit exposure, securities and other investments issued by or domiciled in countries other than the U.S.

Funded loans and loan equivalents include loans, leases, and other extensions of credit and funds, including letters of credit and due from placements. Unfunded commitments are the undrawn portion of legally binding commitments related to loans and loan equivalents. Net counterparty exposure includes the fair value of derivatives, including the counterparty risk associated with credit default swaps (CDS), and secured financing transactions. Securities and other investments are carried at fair value and long securities exposures are netted against short exposures with the same underlying issuer to, but not below, zero. Net country exposure represents country exposure less hedges and credit default protection purchased, net of credit default protection sold.

**Table 38 Commercial Credit Exposure by Industry <sup>(1)</sup>**

|                                                                             | Commercial Utilized |            | Total Commercial Committed <sup>(2)</sup> |              |
|-----------------------------------------------------------------------------|---------------------|------------|-------------------------------------------|--------------|
|                                                                             | December 31         |            |                                           |              |
|                                                                             | 2019                | 2018       | 2019                                      | 2018         |
| (Dollars in millions)                                                       |                     |            |                                           |              |
| Asset managers and funds                                                    | \$ 71,289           | \$ 71,756  | \$ 109,972                                | \$ 107,888   |
| Real estate <sup>(3)</sup>                                                  | 70,341              | 65,328     | 96,349                                    | 86,514       |
| Capital goods                                                               | 41,060              | 39,192     | 80,871                                    | 75,080       |
| Finance companies                                                           | 40,171              | 36,662     | 63,940                                    | 56,659       |
| Healthcare equipment and services                                           | 34,353              | 35,763     | 55,918                                    | 56,489       |
| Government and public education                                             | 41,889              | 43,675     | 53,566                                    | 54,749       |
| Materials                                                                   | 26,663              | 27,347     | 52,128                                    | 51,865       |
| Consumer services                                                           | 28,434              | 25,702     | 49,071                                    | 43,298       |
| Retailing                                                                   | 25,868              | 25,333     | 48,317                                    | 47,507       |
| Food, beverage and tobacco                                                  | 24,163              | 23,586     | 45,956                                    | 42,745       |
| Commercial services and supplies                                            | 23,102              | 22,623     | 38,943                                    | 39,349       |
| Energy                                                                      | 16,407              | 13,727     | 36,327                                    | 32,279       |
| Utilities                                                                   | 12,383              | 12,035     | 36,060                                    | 27,623       |
| Transportation                                                              | 23,448              | 22,814     | 33,027                                    | 31,523       |
| Global commercial banks                                                     | 26,492              | 26,583     | 28,670                                    | 28,627       |
| Individuals and trusts                                                      | 18,926              | 18,643     | 27,815                                    | 25,019       |
| Technology hardware and equipment                                           | 10,645              | 13,014     | 24,071                                    | 26,228       |
| Media                                                                       | 12,429              | 12,132     | 23,629                                    | 24,502       |
| Vehicle dealers                                                             | 18,013              | 17,603     | 21,435                                    | 20,446       |
| Consumer durables and apparel                                               | 10,193              | 9,904      | 21,245                                    | 20,199       |
| Software and services                                                       | 10,432              | 8,809      | 20,556                                    | 19,172       |
| Pharmaceuticals and biotechnology                                           | 5,962               | 7,430      | 20,203                                    | 23,634       |
| Telecommunication services                                                  | 9,144               | 8,686      | 16,103                                    | 14,166       |
| Insurance                                                                   | 6,669               | 8,674      | 15,214                                    | 15,807       |
| Automobiles and components                                                  | 7,345               | 7,131      | 14,910                                    | 13,893       |
| Financial markets infrastructure (clearinghouses)                           | 9,351               | 8,317      | 11,851                                    | 10,042       |
| Food and staples retailing                                                  | 6,290               | 4,787      | 10,392                                    | 9,093        |
| Religious and social organizations                                          | 3,844               | 3,757      | 5,756                                     | 5,620        |
| Total commercial credit exposure by industry                                | \$ 635,306          | \$ 621,013 | \$ 1,062,295                              | \$ 1,010,016 |
| Net credit default protection purchased on total commitments <sup>(4)</sup> |                     |            | \$ (3,349)                                | \$ (2,663)   |

<sup>(1)</sup> Includes U.S. small business commercial exposure

<sup>(2)</sup> Includes the notional amount of unfunded legally binding lending commitments net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were \$10.6 billion and \$10.7 billion at December 31, 2019 and 2018.

<sup>(3)</sup> Industries are viewed from a variety of perspectives to best isolate the perceived risks. For purposes of this table, the real estate industry is defined based on the primary business activity of the borrowers or counterparties using operating cash flows and primary source of repayment as key factors.

<sup>(4)</sup> Represents net notional credit protection purchased to hedge funded and unfunded exposures for which we elected the fair value option, as well as certain other credit exposures. For more information, see Commercial Portfolio Credit Risk Management – Risk Mitigation

## Risk Mitigation

We purchase credit protection to cover the funded portion as well as the unfunded portion of certain credit exposures. To lower the cost of obtaining our desired credit protection levels, we may add credit exposure within an industry, borrower or counterparty group by selling protection.

At December 31, 2019 and 2018, net notional credit default protection purchased in our credit derivatives portfolio to hedge our funded and unfunded exposures for which we elected the fair value option, as well as certain other credit exposures, was \$3.3 billion and \$2.7 billion. We recorded net losses of \$145 million in 2019 compared to net losses of \$2 million in 2018 on these positions. The gains and losses on these instruments were offset by gains and losses on the related exposures. The Value-at-Risk (VaR) results for these exposures are included in the fair value

option portfolio information in Table 45. For more information, see Trading Risk Management on page 93.

Tables 39 and 40 present the maturity profiles and the credit exposure debt ratings of the net credit default protection portfolio at December 31, 2019 and 2018.

**Table 39 Net Credit Default Protection by Maturity**

|                                                            | December 31 |             |
|------------------------------------------------------------|-------------|-------------|
|                                                            | 2019        | 2018        |
| Less than or equal to one year                             | 54%         | 20%         |
| Greater than one year and less than or equal to five years | 45          | 78          |
| Greater than five years                                    | 1           | 2           |
| <b>Total net credit default protection</b>                 | <b>100%</b> | <b>100%</b> |

Table 37 presents our commercial TDRs by product type and performing status. U.S. small business commercial TDRs are comprised of renegotiated small business card loans and small business loans. The renegotiated small business card loans are not classified as nonperforming as they are charged off no later than the end of the month in which the loan becomes 180 days past due. For more information on TDRs, see Note 5 – *Outstanding Loans and Leases* to the Consolidated Financial Statements.

**Table 37 Commercial Troubled Debt Restructurings**

| (Dollars in millions)                                | December 31, 2019 |                 |                 | December 31, 2018 |                 |                 |
|------------------------------------------------------|-------------------|-----------------|-----------------|-------------------|-----------------|-----------------|
|                                                      | Nonperforming     | Performing      | Total           | Nonperforming     | Performing      | Total           |
| Commercial and industrial:                           |                   |                 |                 |                   |                 |                 |
| U.S. commercial                                      | \$ 617            | \$ 999          | \$ 1,616        | \$ 306            | \$ 1,092        | \$ 1,398        |
| Non-U.S. commercial                                  | 41                | 193             | 234             | 78                | 162             | 240             |
| Total commercial and industrial                      | 658               | 1,192           | 1,850           | 384               | 1,254           | 1,638           |
| Commercial real estate                               | 212               | 14              | 226             | 114               | 6               | 120             |
| Commercial lease financing                           | 18                | 31              | 49              | 3                 | 68              | 71              |
|                                                      | 888               | 1,237           | 2,125           | 501               | 1,328           | 1,829           |
| U.S. small business commercial                       | —                 | 27              | 27              | 3                 | 18              | 21              |
| <b>Total commercial troubled debt restructurings</b> | <b>\$ 888</b>     | <b>\$ 1,264</b> | <b>\$ 2,152</b> | <b>\$ 504</b>     | <b>\$ 1,346</b> | <b>\$ 1,850</b> |

### Industry Concentrations

Table 38 presents commercial committed and utilized credit exposure by industry and the total net credit default protection purchased to cover the funded and unfunded portions of certain credit exposures. Our commercial credit exposure is diversified across a broad range of industries. Total commercial committed exposure increased \$52.3 billion, or five percent, during 2019 to \$1.1 trillion. The increase in commercial committed exposure was concentrated in the Real estate, Utilities and Finance companies industry sectors. Increases were partially offset by decreased exposure to the Pharmaceuticals and biotechnology, Technology hardware and equipment, and Government and public education industry sectors.

Industry limits are used internally to manage industry concentrations and are based on committed exposure that is allocated on an industry-by-industry basis. A risk management framework is in place to set and approve industry limits as well

as to provide ongoing monitoring. The MRC oversees industry limit governance.

Asset managers and funds, our largest industry concentration with committed exposure of \$110.0 billion, increased \$2.1 billion, or two percent, during 2019.

Real estate, our second largest industry concentration with committed exposure of \$96.3 billion, increased \$9.8 billion, or 11 percent, during 2019. This growth occurred primarily in the category of industrial and warehouse buildings, partially offset by declines in REITs.

Capital goods, our third largest industry concentration with committed exposure of \$80.9 billion, increased \$5.8 billion, or eight percent, during 2019 with the growth largely occurring in the trading companies and distributors industry categories, partially offset by a decrease in industrial conglomerates. For more information on the commercial real estate and related portfolios, see Commercial Portfolio Credit Risk Management – Commercial Real Estate on page 83.

**Table 35 Outstanding Commercial Real Estate Loans**

| (Dollars in millions)                                 | December 31      |                  |
|-------------------------------------------------------|------------------|------------------|
|                                                       | 2019             | 2018             |
| <b>By Geographic Region</b>                           |                  |                  |
| California                                            | \$ 14,910        | \$ 14,002        |
| Northeast                                             | 12,408           | 10,895           |
| Southwest                                             | 8,408            | 7,339            |
| Southeast                                             | 5,937            | 5,726            |
| Florida                                               | 3,984            | 3,680            |
| Illinois                                              | 3,349            | 2,989            |
| Midwest                                               | 3,203            | 3,772            |
| Midsouth                                              | 2,468            | 2,919            |
| Northwest                                             | 1,638            | 2,178            |
| Non-U.S.                                              | 3,724            | 4,240            |
| Other <sup>(1)</sup>                                  | 2,660            | 3,105            |
| <b>Total outstanding commercial real estate loans</b> | <b>\$ 62,689</b> | <b>\$ 60,845</b> |
| <b>By Property Type</b>                               |                  |                  |
| <b>Non-residential</b>                                |                  |                  |
| Office                                                | \$ 17,902        | \$ 17,246        |
| Industrial / Warehouse                                | 8,677            | 5,379            |
| Shopping centers / Retail                             | 8,183            | 8,798            |
| Multi-family rental                                   | 7,250            | 7,762            |
| Hotels / Motels                                       | 6,982            | 7,248            |
| Unsecured                                             | 3,438            | 2,956            |
| Multi-use                                             | 1,788            | 2,848            |
| Other                                                 | 6,958            | 7,029            |
| <b>Total non-residential</b>                          | <b>61,178</b>    | <b>59,266</b>    |
| <b>Residential</b>                                    | <b>1,511</b>     | <b>1,579</b>     |
| <b>Total outstanding commercial real estate loans</b> | <b>\$ 62,689</b> | <b>\$ 60,845</b> |

<sup>(1)</sup> Includes unsecured loans to real estate investment trusts and national home builders whose portfolios of properties span multiple geographic regions and properties in the states of Colorado, Utah, Hawaii, Wyoming and Montana

#### U.S. Small Business Commercial

The U.S. small business commercial loan portfolio is comprised of small business card loans and small business loans managed in *Consumer Banking*. Credit card-related products were 52 percent and 51 percent of the U.S. small business commercial portfolio at December 31, 2019 and 2018. Of the U.S. small business commercial net charge-offs, 94 percent and 95 percent were credit card-related products in 2019 and 2018.

#### Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity

Table 36 presents the nonperforming commercial loans, leases and foreclosed properties activity during 2019 and 2018.

Nonperforming loans do not include loans accounted for under the fair value option. During 2019, nonperforming commercial loans and leases increased \$397 million to \$1.5 billion. At December 31, 2019, 94 percent of commercial nonperforming loans, leases and foreclosed properties were secured and 64 percent were contractually current. Commercial nonperforming loans were earned at 88 percent of their unpaid principal balance before consideration of the allowance for loan and lease losses as the carrying value of these loans has been reduced to the estimated collateral value less costs to sell.

**Table 36 Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity <sup>(1, 2)</sup>**

| (Dollars in millions)                                                                                                                                             | 2019            | 2018            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| <b>Nonperforming loans and leases, January 1</b>                                                                                                                  | <b>\$ 1,102</b> | <b>\$ 1,304</b> |
| Additions                                                                                                                                                         | 2,048           | 1,415           |
| Reductions:                                                                                                                                                       |                 |                 |
| Paydowns                                                                                                                                                          | (648)           | (771)           |
| Sales                                                                                                                                                             | (215)           | (210)           |
| Returns to performing status <sup>(3)</sup>                                                                                                                       | (120)           | (246)           |
| Charge-offs                                                                                                                                                       | (478)           | (361)           |
| Transfers to foreclosed properties                                                                                                                                | (9)             | (12)            |
| Transfers to loans held-for-sale                                                                                                                                  | (181)           | (17)            |
| <b>Total net reductions to nonperforming loans and leases</b>                                                                                                     | <b>397</b>      | <b>(202)</b>    |
| <b>Total nonperforming loans and leases, December 31</b>                                                                                                          | <b>1,499</b>    | <b>1,102</b>    |
| <b>Foreclosed properties, December 31</b>                                                                                                                         | <b>56</b>       | <b>56</b>       |
| <b>Nonperforming commercial loans, leases and foreclosed properties, December 31</b>                                                                              | <b>\$ 1,555</b> | <b>\$ 1,158</b> |
| Nonperforming commercial loans and leases as a percentage of outstanding commercial loans and leases <sup>(4)</sup>                                               | 0.29%           | 0.22%           |
| Nonperforming commercial loans, leases and foreclosed properties as a percentage of outstanding commercial loans, leases and foreclosed properties <sup>(4)</sup> | 0.30            | 0.23            |

<sup>(1)</sup> Balances do not include nonperforming loans held-for-sale of \$239 million and \$292 million at December 31, 2019 and 2018

<sup>(2)</sup> Includes U.S. small business commercial activity. Small business card loans are excluded as they are not classified as nonperforming

<sup>(3)</sup> Commercial loans and leases may be returned to performing status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected, or when the loan otherwise becomes well-secured and is in the process of collection. TDRs are generally classified as performing after a sustained period of demonstrated payment performance

<sup>(4)</sup> Outstanding commercial loans exclude loans accounted for under the fair value option

Table 34 presents commercial reservable criticized utilized exposure by loan type. Criticized exposure corresponds to the Special Mention, Substandard and Doubtful asset categories as defined by regulatory authorities. At December 31, 2019 and 2018, 90 percent and 91 percent of commercial reservable criticized utilized exposure was secured.

**Table 34 Commercial Reservable Criticized Utilized Exposure <sup>(1, 2)</sup>**

| (Dollars in millions)                                                          | December 31      |             |                  |             |
|--------------------------------------------------------------------------------|------------------|-------------|------------------|-------------|
|                                                                                | 2019             |             | 2018             |             |
| Commercial and industrial:                                                     |                  |             |                  |             |
| U.S. commercial                                                                | \$ 8,272         | 2.46%       | \$ 7,986         | 2.43%       |
| Non-U.S. commercial                                                            | 989              | 0.89        | 1,013            | 0.97        |
| Total commercial and industrial                                                | 9,261            | 2.07        | 8,999            | 2.08        |
| Commercial real estate                                                         | 1,129            | 1.75        | 936              | 1.50        |
| Commercial lease financing                                                     | 329              | 1.66        | 366              | 1.62        |
|                                                                                | 10,719           | 2.01        | 10,301           | 1.99        |
| U.S. small business commercial                                                 | 733              | 4.78        | 760              | 5.22        |
| <b>Total commercial reservable criticized utilized exposure <sup>(1)</sup></b> | <b>\$ 11,452</b> | <b>2.09</b> | <b>\$ 11,061</b> | <b>2.08</b> |

<sup>(1)</sup> Total commercial reservable criticized utilized exposure includes loans and leases of \$10.7 billion and \$10.3 billion and commercial letters of credit of \$715 million and \$781 million at December 31, 2019 and 2018.

<sup>(2)</sup> Percentages are calculated as commercial reservable criticized utilized exposure divided by total commercial reservable utilized exposure for each exposure category.

### **Commercial and Industrial**

Commercial and industrial loans include U.S. commercial and non-U.S. commercial portfolios.

#### **U.S. Commercial**

At December 31, 2019, 70 percent of the U.S. commercial loan portfolio, excluding small business, was managed in *Global Banking*, 16 percent in *Global Markets*, 13 percent in *GWIM* (generally business-purpose loans for high net worth clients) and the remainder primarily in *Consumer Banking*. U.S. commercial loans increased \$7.8 billion during 2019, across lines of business.

#### **Non-U.S. Commercial**

At December 31, 2019, 83 percent of the non-U.S. commercial loan portfolio was managed in *Global Banking* and 17 percent in *Global Markets*. Non-U.S. commercial loans increased \$6.2 billion during 2019, primarily in *Global Banking*. For information on the non-U.S. commercial portfolio, see Non-U.S. Portfolio on page 87.

### **Commercial Real Estate**

Commercial real estate primarily includes commercial loans secured by non-owner-occupied real estate and is dependent on the sale or lease of the real estate as the primary source of

repayment. Outstanding loans increased \$1.8 billion, or three percent, during 2019 to \$62.7 billion due to new originations slightly outpacing paydowns. The portfolio remains diversified across property types and geographic regions. California represented the largest state concentration at 24 percent and 23 percent of the commercial real estate portfolio at December 31, 2019 and 2018. The commercial real estate portfolio is predominantly managed in *Global Banking* and consists of loans made primarily to public and private developers, and commercial real estate firms.

During 2019, we continued to see low default rates and solid credit quality in both the residential and non-residential portfolios. We use a number of proactive risk mitigation initiatives to reduce adversely rated exposure in the commercial real estate portfolio, including transfers of deteriorating exposures to management by independent special asset officers and the pursuit of loan restructurings or asset sales to achieve the best results for our customers and the Corporation.

Table 35 presents outstanding commercial real estate loans by geographic region, based on the geographic location of the collateral, and by property type.

**Table 31 Commercial Credit Exposure by Type**

|                                                    | Commercial Utilized <sup>(1)</sup> |                   | Commercial Unfunded <sup>(2, 3, 4)</sup> |                   | Total Commercial Committed |                     |
|----------------------------------------------------|------------------------------------|-------------------|------------------------------------------|-------------------|----------------------------|---------------------|
|                                                    |                                    |                   | December 31                              |                   |                            |                     |
|                                                    | 2019                               | 2018              | 2019                                     | 2018              | 2019                       | 2018                |
| (Dollars in millions)                              |                                    |                   |                                          |                   |                            |                     |
| Loans and leases                                   | \$ 517,657                         | \$ 499,664        | \$ 405,834                               | \$ 369,282        | \$ 923,491                 | \$ 868,946          |
| Derivative assets <sup>(5)</sup>                   | 40,485                             | 43,725            | —                                        | —                 | 40,485                     | 43,725              |
| Standby letters of credit and financial guarantees | 36,062                             | 34,941            | 468                                      | 491               | 36,530                     | 35,432              |
| Debt securities and other investments              | 25,546                             | 25,425            | 5,101                                    | 4,250             | 30,647                     | 29,675              |
| Loans held-for-sale                                | 7,047                              | 9,090             | 15,135                                   | 14,812            | 22,182                     | 23,902              |
| Operating leases                                   | 6,660                              | 6,060             | —                                        | —                 | 6,660                      | 6,060               |
| Commercial letters of credit                       | 1,049                              | 1,210             | 451                                      | 168               | 1,500                      | 1,378               |
| Other                                              | 800                                | 898               | —                                        | —                 | 800                        | 898                 |
| <b>Total</b>                                       | <b>\$ 635,306</b>                  | <b>\$ 621,013</b> | <b>\$ 426,989</b>                        | <b>\$ 389,003</b> | <b>\$ 1,062,295</b>        | <b>\$ 1,010,016</b> |

<sup>(1)</sup> Commercial utilized exposure includes loans of \$7.7 billion and \$3.7 billion and issued letters of credit with a notional amount of \$170 million and \$100 million accounted for under the fair value option at December 31, 2019 and 2018.

<sup>(2)</sup> Commercial unfunded exposure includes commitments accounted for under the fair value option with a notional amount of \$4.2 billion and \$3.0 billion at December 31, 2019 and 2018.

<sup>(3)</sup> Excludes unused business card lines, which are not legally binding.

<sup>(4)</sup> Includes the notional amount of unfunded legally binding lending commitments net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were \$10.6 billion and \$10.7 billion at December 31, 2019 and 2018.

<sup>(5)</sup> Derivative assets are carried at fair value, reflect the effects of legally enforceable master netting agreements and have been reduced by cash collateral of \$33.9 billion and \$32.4 billion at December 31, 2019 and 2018. Not reflected in utilized and committed exposure is additional non-cash derivative collateral held of \$35.2 billion and \$33.0 billion at December 31, 2019 and 2018, which consists primarily of other marketable securities.

Outstanding commercial loans and leases increased \$18.0 billion during 2019 primarily in the commercial and industrial portfolio. Nonperforming commercial loans increased \$397 million and commercial reservable criticized utilized exposure increased \$391 million driven by a small number of client downgrades across industries which were not indicative of broader issues in the

portfolio. The allowance for loan and lease losses for the commercial portfolio increased \$75 million to \$4.9 billion at December 31, 2019. For more information, see Allowance for Credit Losses on page 89. Table 32 presents our commercial loans and leases portfolio and related credit quality information at December 31, 2019 and 2018.

**Table 32 Commercial Credit Quality**

|                                                                            | Outstandings      |                   | Nonperforming   |                 | Accruing Past Due 90 Days or More |               |
|----------------------------------------------------------------------------|-------------------|-------------------|-----------------|-----------------|-----------------------------------|---------------|
|                                                                            |                   |                   | December 31     |                 |                                   |               |
|                                                                            | 2019              | 2018              | 2019            | 2018            | 2019                              | 2018          |
| (Dollars in millions)                                                      |                   |                   |                 |                 |                                   |               |
| Commercial and industrial                                                  |                   |                   |                 |                 |                                   |               |
| U.S. commercial                                                            | \$ 307,048        | \$ 299,277        | \$ 1,094        | \$ 794          | \$ 106                            | \$ 197        |
| Non-U.S. commercial                                                        | 104,966           | 98,776            | 43              | 80              | 8                                 | —             |
| Total commercial and industrial                                            | 412,014           | 398,053           | 1,137           | 874             | 114                               | 197           |
| Commercial real estate                                                     | 62,689            | 60,845            | 280             | 156             | 19                                | 4             |
| Commercial lease financing                                                 | 19,880            | 22,534            | 32              | 18              | 20                                | 29            |
|                                                                            | 494,583           | 481,432           | 1,449           | 1,048           | 153                               | 230           |
| U.S. small business commercial <sup>(1)</sup>                              | 15,333            | 14,565            | 50              | 54              | 97                                | 84            |
| Commercial loans excluding loans accounted for under the fair value option | 509,916           | 495,997           | 1,499           | 1,102           | 250                               | 314           |
| Loans accounted for under the fair value option <sup>(2)</sup>             | 7,741             | 3,667             | —               | —               | —                                 | —             |
| <b>Total commercial loans and leases</b>                                   | <b>\$ 517,657</b> | <b>\$ 499,664</b> | <b>\$ 1,499</b> | <b>\$ 1,102</b> | <b>\$ 250</b>                     | <b>\$ 314</b> |

<sup>(1)</sup> Includes card-related products.

<sup>(2)</sup> Commercial loans accounted for under the fair value option include U.S. commercial of \$4.7 billion and \$2.5 billion and non-U.S. commercial of \$3.1 billion and \$1.1 billion at December 31, 2019 and 2018. For more information on the fair value option, see Note 22 – Fair Value Option to the Consolidated Financial Statements.

Table 33 presents net charge-offs and related ratios for our commercial loans and leases for 2019 and 2018.

**Table 33 Commercial Net Charge-offs and Related Ratios**

|                                 | Net Charge-offs |               | Net Charge-off Ratios <sup>(1)</sup> |             |
|---------------------------------|-----------------|---------------|--------------------------------------|-------------|
|                                 | 2019            | 2018          | 2019                                 | 2018        |
| (Dollars in millions)           |                 |               |                                      |             |
| Commercial and industrial       |                 |               |                                      |             |
| U.S. commercial                 | \$ 256          | \$ 215        | 0.08%                                | 0.07%       |
| Non-U.S. commercial             | 84              | 68            | 0.08                                 | 0.07        |
| Total commercial and industrial | 340             | 283           | 0.08                                 | 0.07        |
| Commercial real estate          | 29              | 1             | 0.05                                 | —           |
| Commercial lease financing      | 21              | (1)           | 0.10                                 | (0.01)      |
|                                 | 390             | 283           | 0.08                                 | 0.06        |
| U.S. small business commercial  | 272             | 240           | 1.83                                 | 1.70        |
| <b>Total commercial</b>         | <b>\$ 662</b>   | <b>\$ 523</b> | <b>0.13</b>                          | <b>0.11</b> |

<sup>(1)</sup> Net charge-off ratios are calculated as net charge-offs divided by average outstanding loans and leases excluding loans accounted for under the fair value option.

Modifications of credit card and other consumer loans are made through renegotiation programs utilizing direct customer contact, but may also utilize external renegotiation programs. The renegotiated TDR portfolio is excluded in large part from Table 29 as substantially all of the loans remain on accrual status until either charged off or paid in full. At December 31, 2019 and 2018, our renegotiated TDR portfolio was \$679 million and \$566 million, of which \$570 million and \$481 million were current or less than 30 days past due under the modified terms. The increase in the renegotiated TDR portfolio was primarily driven by new renegotiated enrollments outpacing runoff of existing portfolios.

### **Commercial Portfolio Credit Risk Management**

Credit risk management for the commercial portfolio begins with an assessment of the credit risk profile of the borrower or counterparty based on an analysis of its financial position. As part of the overall credit risk assessment, our commercial credit exposures are assigned a risk rating and are subject to approval based on defined credit approval standards. Subsequent to loan origination, risk ratings are monitored on an ongoing basis, and if necessary, adjusted to reflect changes in the financial condition, cash flow, risk profile or outlook of a borrower or counterparty. In making credit decisions, we consider risk rating, collateral, country, industry and single-name concentration limits while also balancing these considerations with the total borrower or counterparty relationship. We use a variety of tools to continuously monitor the ability of a borrower or counterparty to perform under its obligations. We use risk rating aggregations to measure and evaluate concentrations within portfolios. In addition, risk ratings are a factor in determining the level of allocated capital and the allowance for credit losses.

As part of our ongoing risk mitigation initiatives, we attempt to work with clients experiencing financial difficulty to modify their loans to terms that better align with their current ability to pay. In situations where an economic concession has been granted to a borrower experiencing financial difficulty, we identify these loans as TDRs. For more information on our accounting policies regarding delinquencies, nonperforming status and net charge-offs for the commercial portfolio, see *Note 1 – Summary of Significant Accounting Principles* to the Consolidated Financial Statements.

### **Management of Commercial Credit Risk Concentrations**

Commercial credit risk is evaluated and managed with the goal that concentrations of credit exposure continue to be aligned with our risk appetite. We review, measure and manage concentrations of credit exposure by industry, product, geography, customer relationship and loan size. We also review, measure and manage commercial real estate loans by geographic location and property type. In addition, within our non-U.S. portfolio, we evaluate exposures by region and by country. Tables 35, 38 and 41 summarize our concentrations. We also utilize syndications of

exposure to third parties, loan sales, hedging and other risk mitigation techniques to manage the size and risk profile of the commercial credit portfolio. For more information on our industry concentrations, see *Commercial Portfolio Credit Risk Management – Industry Concentrations* on page 85 and Table 38.

We account for certain large corporate loans and loan commitments, including issued but unfunded letters of credit which are considered utilized for credit risk management purposes, that exceed our single-name credit risk concentration guidelines under the fair value option. Lending commitments, both funded and unfunded, are actively managed and monitored, and as appropriate, credit risk for these lending relationships may be mitigated through the use of credit derivatives, with our credit view and market perspectives determining the size and timing of the hedging activity. In addition, we purchase credit protection to cover the funded portion as well as the unfunded portion of certain other credit exposures. To lessen the cost of obtaining our desired credit protection levels, credit exposure may be added within an industry, borrower or counterparty group by selling protection. These credit derivatives do not meet the requirements for treatment as accounting hedges. They are carried at fair value with changes in fair value recorded in other income.

In addition, we are a member of various securities and derivative exchanges and clearinghouses, both in the U.S. and other countries. As a member, we may be required to pay a pro-rata share of the losses incurred by some of these organizations as a result of another member default and under other loss scenarios. For more information, see *Note 13 – Commitments and Contingencies* to the Consolidated Financial Statements.

### **Commercial Credit Portfolio**

During 2019, credit quality among large corporate and middle-market borrowers in our commercial and industrial portfolio remained strong. Credit quality of commercial real estate borrowers in most sectors remained stable with conservative LTV ratios. However, some of the real estate markets experienced slowing tenant demand and decelerating rental income.

Total commercial utilized credit exposure increased \$14.3 billion in 2019 to \$635.3 billion driven by higher loans and leases. The utilization rate for loans and leases, SBLCs and financial guarantees, and commercial letters of credit, in the aggregate, was 58 percent at December 31, 2019 and 59 percent at December 31, 2018.

Table 31 presents commercial credit exposure by type for utilized, unfunded and total binding committed credit exposure. Commercial utilized credit exposure includes SBLCs and financial guarantees and commercial letters of credit that have been issued and for which we are legally bound to advance funds under prescribed conditions during a specified time period, and excludes exposure related to trading account assets. Although funds have not yet been advanced, these exposure types are considered utilized for credit risk management purposes.

**Table 28 Direct/Indirect State Concentrations**

| (Dollars in millions)                | Outstandings |           | Accruing Past Due<br>90 Days or More |       | Net Charge-offs |        |
|--------------------------------------|--------------|-----------|--------------------------------------|-------|-----------------|--------|
|                                      |              |           | December 31                          |       |                 |        |
|                                      | 2019         | 2018      | 2019                                 | 2018  | 2019            | 2018   |
| California                           | \$ 11,912    | \$ 11,734 | \$ 4                                 | \$ 4  | \$ 49           | \$ 21  |
| Florida                              | 10,154       | 10,240    | 4                                    | 4     | 27              | 36     |
| Texas                                | 9,516        | 9,876     | 5                                    | 6     | 29              | 30     |
| New York                             | 6,394        | 6,296     | 1                                    | 2     | 12              | 9      |
| New Jersey                           | 3,468        | 3,308     | 1                                    | 1     | 4               | 2      |
| Other                                | 49,554       | 49,712    | 18                                   | 21    | 88              | 97     |
| Total direct/indirect loan portfolio | \$ 90,998    | \$ 91,166 | \$ 33                                | \$ 38 | \$ 209          | \$ 195 |

**Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity**

Table 29 presents nonperforming consumer loans, leases and foreclosed properties activity during 2019 and 2018. During 2019, nonperforming consumer loans decreased \$1.8 billion to \$2.1 billion primarily driven by loan sales of \$1.5 billion.

At December 31, 2019, \$606 million, or 29 percent, of nonperforming loans were 180 days or more past due and had been written down to their estimated property value less costs to sell. In addition, at December 31, 2019, \$901 million, or 44

percent, of nonperforming consumer loans were modified and are now current after successful trial periods, or are current loans classified as nonperforming loans in accordance with applicable policies.

Foreclosed properties decreased \$15 million in 2019 to \$229 million as liquidations outpaced additions.

Nonperforming loans also include certain loans that have been modified in TDRs where economic concessions have been granted to borrowers experiencing financial difficulties. Nonperforming TDRs are included in Table 29.

**Table 29 Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity**

| (Dollars in millions)                                                                                                                                         | 2019            | 2018            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| <b>Nonperforming loans and leases, January 1</b>                                                                                                              | <b>\$ 3,842</b> | <b>\$ 5,166</b> |
| Additions                                                                                                                                                     | 1,407           | 2,440           |
| Reductions:                                                                                                                                                   |                 |                 |
| Paydowns and payoffs                                                                                                                                          | (701)           | (958)           |
| Sales                                                                                                                                                         | (1,523)         | (969)           |
| Returns to performing status <sup>(1)</sup>                                                                                                                   | (766)           | (1,283)         |
| Charge-offs                                                                                                                                                   | (111)           | (401)           |
| Transfers to foreclosed properties                                                                                                                            | (95)            | (151)           |
| Transfers to loans held-for-sale                                                                                                                              | —               | (2)             |
| Total net reductions to nonperforming loans and leases                                                                                                        | (1,789)         | (1,324)         |
| <b>Total nonperforming loans and leases, December 31</b>                                                                                                      | <b>2,053</b>    | <b>3,842</b>    |
| <b>Foreclosed properties, December 31 <sup>(2)</sup></b>                                                                                                      | <b>229</b>      | <b>244</b>      |
| <b>Nonperforming consumer loans, leases and foreclosed properties, December 31</b>                                                                            | <b>\$ 2,282</b> | <b>\$ 4,086</b> |
| Nonperforming consumer loans and leases as a percentage of outstanding consumer loans and leases <sup>(3)</sup>                                               | 0.44%           | 0.86%           |
| Nonperforming consumer loans, leases and foreclosed properties as a percentage of outstanding consumer loans, leases and foreclosed properties <sup>(3)</sup> | 0.49            | 0.92            |

<sup>(1)</sup> Consumer loans may be returned to performing status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected, or when the loan otherwise becomes well-secured and is in the process of collection.

<sup>(2)</sup> Foreclosed property balances do not include properties insured by certain government-guaranteed loans, principally FHA-insured, of \$260 million and \$488 million at December 31, 2019 and 2018.

<sup>(3)</sup> Outstanding consumer loans and leases exclude loans accounted for under the fair value option.

Table 30 presents TDRs for the consumer real estate portfolio. Performing TDR balances are excluded from nonperforming loans and leases in Table 29.

**Table 30 Consumer Real Estate Troubled Debt Restructurings**

| (Dollars in millions)                                          | December 31, 2019 |                 |                 | December 31, 2018 |                 |                 |
|----------------------------------------------------------------|-------------------|-----------------|-----------------|-------------------|-----------------|-----------------|
|                                                                | Nonperforming     | Performing      | Total           | Nonperforming     | Performing      | Total           |
| Residential mortgage <sup>(1, 2)</sup>                         | \$ 921            | \$ 3,832        | \$ 4,753        | \$ 1,209          | \$ 4,988        | \$ 6,197        |
| Home equity <sup>(3)</sup>                                     | 252               | 977             | 1,229           | 1,107             | 1,252           | 2,359           |
| <b>Total consumer real estate troubled debt restructurings</b> | <b>\$ 1,173</b>   | <b>\$ 4,809</b> | <b>\$ 5,982</b> | <b>\$ 2,316</b>   | <b>\$ 6,240</b> | <b>\$ 8,556</b> |

<sup>(1)</sup> At December 31, 2019 and 2018, residential mortgage TDRs deemed collateral dependent totaled \$1.2 billion and \$1.6 billion, and included \$748 million and \$960 million of loans classified as nonperforming and \$468 million and \$605 million of loans classified as performing.

<sup>(2)</sup> At December 31, 2019 and 2018, residential mortgage performing TDRs include \$2.1 billion and \$2.8 billion of loans that were fully-insured.

<sup>(3)</sup> At December 31, 2019 and 2018, home equity TDRs deemed collateral dependent totaled \$442 million and \$1.3 billion, and include \$209 million and \$961 million of loans classified as nonperforming and \$233 million and \$322 million of loans classified as performing.

In addition to modifying consumer real estate loans, we work with customers who are experiencing financial difficulty by modifying credit card and other consumer loans. Credit card and other consumer loan modifications generally involve a reduction

in the customer's interest rate on the account and placing the customer on a fixed payment plan not exceeding 60 months, all of which are considered TDRs (the renegotiated TDR portfolio).

nonperforming status when compared to the HELOC portfolio as a whole. At December 31, 2019, \$149 million, or one percent, of outstanding HELOCs that had entered the amortization period were accruing past due 30 days or more. In addition, at December 31, 2019, \$472 million, or four percent, were nonperforming. Loans that have yet to enter the amortization period in our interest-only portfolio are primarily post-2008 vintages and generally have better credit quality than the previous vintages that had entered the amortization period. We communicate to contractually current customers more than a year prior to the end of their draw period to inform them of the potential change to the payment structure before entering the amortization period, and provide payment options to customers prior to the end of the draw period.

Although we do not actively track how many of our home equity customers pay only the minimum amount due on their home equity

loans and lines, we can infer some of this information through a review of our HELOC portfolio that we service and that is still in its revolving period. During 2019, 13 percent of these customers with an outstanding balance did not pay any principal on their HELOCs.

Table 26 presents outstandings, nonperforming balances and net charge-offs by certain state concentrations for the home equity portfolio. In the New York area, the New York-Northern New Jersey-Long Island MSA made up 13 percent of the outstanding home equity portfolio at both December 31, 2019 and 2018. The Los Angeles-Long Beach-Santa Ana MSA within California made up 11 percent of the outstanding home equity portfolio at both December 31, 2019 and 2018.

**Table 26 Home Equity State Concentrations**

| (Dollars in millions)                   | Outstandings <sup>(1)</sup> |                  | Nonperforming <sup>(1)</sup> |                 | Net Charge-offs |               |
|-----------------------------------------|-----------------------------|------------------|------------------------------|-----------------|-----------------|---------------|
|                                         | December 31                 |                  |                              |                 |                 |               |
|                                         | 2019                        | 2018             | 2019                         | 2018            | 2019            | 2018          |
| California                              | \$ 11,232                   | \$ 13,515        | \$ 101                       | \$ 536          | \$ (117)        | \$ (54)       |
| Florida                                 | 4,327                       | 5,418            | 71                           | 315             | (74)            | 1             |
| New Jersey                              | 3,216                       | 3,871            | 56                           | 150             | (8)             | 25            |
| New York                                | 2,899                       | 3,590            | 85                           | 194             | (1)             | 23            |
| Massachusetts                           | 2,023                       | 2,400            | 29                           | 65              | (5)             | 5             |
| Other                                   | 16,511                      | 19,492           | 194                          | 633             | (153)           | (2)           |
| <b>Total home equity loan portfolio</b> | <b>\$ 40,208</b>            | <b>\$ 48,286</b> | <b>\$ 536</b>                | <b>\$ 1,893</b> | <b>\$ (358)</b> | <b>\$ (2)</b> |

<sup>(1)</sup> Outstandings and nonperforming loans exclude loans accounted for under the fair value option.

#### **Credit Card**

At December 31, 2019, 97 percent of the credit card portfolio was managed in *Consumer Banking* with the remainder in *GWIM*. Outstandings in the credit card portfolio decreased \$730 million in 2019 to \$97.6 billion. In 2019, net charge-offs increased \$111 million to \$2.9 billion compared to net charge-offs of \$2.8 billion in 2018. Credit card loans 30 days or more past due and still

accruing interest increased \$46 million and loans 90 days or more past due and still accruing interest increased \$48 million. These increases were driven by portfolio seasoning.

Unused lines of credit for credit card increased to \$336.9 billion at December 31, 2019 from \$334.8 billion at December 31, 2018.

Table 27 presents certain state concentrations for the credit card portfolio.

**Table 27 Credit Card State Concentrations**

| (Dollars in millions)              | Outstandings     |                  | Accruing Past Due 90 Days or More |               | Net Charge-offs |                 |
|------------------------------------|------------------|------------------|-----------------------------------|---------------|-----------------|-----------------|
|                                    | December 31      |                  |                                   |               |                 |                 |
|                                    | 2019             | 2018             | 2019                              | 2018          | 2019            | 2018            |
| California                         | \$ 16,135        | \$ 16,062        | \$ 178                            | \$ 163        | \$ 526          | \$ 479          |
| Florida                            | 9,075            | 8,840            | 135                               | 119           | 363             | 332             |
| Texas                              | 7,815            | 7,730            | 93                                | 84            | 241             | 224             |
| New York                           | 5,975            | 6,066            | 80                                | 81            | 243             | 268             |
| Washington                         | 4,639            | 4,558            | 26                                | 24            | 71              | 63              |
| Other                              | 53,969           | 55,082           | 530                               | 523           | 1,504           | 1,471           |
| <b>Total credit card portfolio</b> | <b>\$ 97,608</b> | <b>\$ 98,338</b> | <b>\$ 1,042</b>                   | <b>\$ 994</b> | <b>\$ 2,948</b> | <b>\$ 2,837</b> |

#### **Direct/Indirect Consumer**

At December 31, 2019, 56 percent of the direct/indirect portfolio was included in *Consumer Banking* (consumer auto and specialty lending – automotive, recreational vehicle, marine, aircraft and consumer personal loans) and 44 percent was included in *GWIM* (principally securities-based lending loans).

Outstandings of \$91.0 billion in the direct/indirect portfolio were relatively unchanged at December 31, 2019.

Table 28 presents certain state concentrations for the direct/indirect consumer loan portfolio.

**Table 24 Residential Mortgage State Concentrations**

|                                           | Outstandings <sup>(1)</sup> |            | Nonperforming <sup>(1)</sup> |          | Net Charge-offs |         |
|-------------------------------------------|-----------------------------|------------|------------------------------|----------|-----------------|---------|
|                                           | December 31                 |            |                              |          |                 |         |
| (Dollars in millions)                     | 2019                        | 2018       | 2019                         | 2018     | 2019            | 2018    |
| California                                | \$ 88,998                   | \$ 76,323  | \$ 274                       | \$ 314   | \$ (22)         | \$ (22) |
| New York                                  | 22,385                      | 19,219     | 196                          | 222      | 5               | 10      |
| Florida                                   | 12,833                      | 11,624     | 143                          | 221      | (12)            | (6)     |
| Texas                                     | 8,943                       | 7,820      | 65                           | 102      | 1               | 4       |
| New Jersey                                | 8,734                       | 7,051      | 77                           | 98       | (4)             | 8       |
| Other                                     | 75,586                      | 66,390     | 715                          | 936      | (15)            | 34      |
| Residential mortgage loans                | \$ 217,479                  | \$ 188,427 | \$ 1,470                     | \$ 1,893 | \$ (47)         | \$ 28   |
| Fully-insured loan portfolio              | 18,690                      | 20,130     |                              |          |                 |         |
| Total residential mortgage loan portfolio | \$ 236,169                  | \$ 208,557 |                              |          |                 |         |

<sup>(1)</sup> Outstandings and nonperforming loans exclude loans accounted for under the fair value option

### Home Equity

At December 31, 2019, the home equity portfolio made up nine percent of the consumer portfolio and was comprised of home equity lines of credit (HELOCs), home equity loans and reverse mortgages. We no longer originate home equity loans or reverse mortgages.

At December 31, 2019, our HELOC portfolio had an outstanding balance of \$37.5 billion, or 93 percent of the total home equity portfolio, compared to \$44.3 billion, or 92 percent, at December 31, 2018. HELOCs generally have an initial draw period of 10 years, and after the initial draw period ends, the loans generally convert to 15- or 20-year amortizing loans.

At December 31, 2019, our home equity loan portfolio had an outstanding balance of \$1.2 billion, or three percent of the total home equity portfolio, compared to \$1.8 billion, or four percent, at December 31, 2018. At December 31, 2019, our reverse mortgage portfolio had an outstanding balance of \$1.5 billion, or four percent of the total home equity portfolio, compared to \$2.2 billion, also four percent, at December 31, 2018.

At December 31, 2019, 80 percent of the home equity portfolio was in *Consumer Banking*, 12 percent was in *All Other* and the remainder of the portfolio was primarily in *GWIM*. Outstanding balances in the home equity portfolio decreased \$8.1 billion in 2019 primarily due to paydowns and loan sales of \$2.0 billion outpacing new originations and draws on existing lines. Of the total home equity portfolio at December 31, 2019 and 2018, \$15.0 billion, or 37 percent, and \$17.3 billion, or 36 percent, were in first-lien positions. At December 31, 2019, outstanding balances in the home equity portfolio that were in a second-lien or more junior-lien position and where we also held the first-lien loan totaled \$6.9 billion, or 17 percent of our total home equity portfolio.

Unused HELOCs totaled \$43.6 billion and \$43.1 billion at December 31, 2019 and 2018. The increase was primarily driven by the impact of lower utilization of open lines and new production partially offset by customers choosing to close accounts. The HELOC utilization rate was 46 percent and 51 percent at December 31, 2019 and 2018.

Table 25 presents certain home equity portfolio key credit statistics.

**Table 25 Home Equity – Key Credit Statistics<sup>(1)</sup>**

| (Dollars in millions)                                        | December 31 |           |
|--------------------------------------------------------------|-------------|-----------|
|                                                              | 2019        | 2018      |
| Outstandings                                                 | \$ 40,208   | \$ 48,286 |
| Accruing past due 30 days or more <sup>(2)</sup>             | 218         | 363       |
| Nonperforming loans <sup>(2)</sup>                           | 536         | 1,893     |
| <b>Percent of portfolio</b>                                  |             |           |
| Refreshed CLTV greater than 90 but less than or equal to 100 | 1%          | 2%        |
| Refreshed CLTV greater than 100                              | 2           | 3         |
| Refreshed FICO below 620                                     | 3           | 5         |
| 2006 and 2007 vintages <sup>(3)</sup>                        | 18          | 22        |

<sup>(1)</sup> Outstandings, accruing past due, nonperforming loans and Percentages of the portfolio exclude loans accounted for under the fair value option

<sup>(2)</sup> Accruing past due 30 days or more include \$30 million and \$48 million and nonperforming loans include \$57 million and \$218 million of loans where we serviced the underlying first lien at December 31, 2019 and 2018

<sup>(3)</sup> These vintages of loans accounted for 34 percent and 49 percent of nonperforming home equity loans at December 31, 2019 and 2018

Nonperforming outstanding balances in the home equity portfolio decreased \$1.4 billion in 2019 as outflows, primarily sales, outpaced new inflows. Of the nonperforming home equity loans at December 31, 2019, \$241 million, or 45 percent, were current on contractual payments. Nonperforming loans that are contractually current primarily consist of collateral-dependent TDRs, including those that have been discharged in Chapter 7 bankruptcy, junior-lien loans where the underlying first lien is 90 days or more past due, as well as loans that have not yet demonstrated a sustained period of payment performance following a TDR. In addition, \$162 million, or 30 percent, of nonperforming home equity loans were 180 days or more past due and had been written down to the estimated fair value of the

collateral, less costs to sell. Accruing loans that were 30 days or more past due decreased \$145 million in 2019.

Net charge-offs decreased \$356 million to a net recovery of \$358 million in 2019 compared to a net recovery of \$2 million in 2018 primarily driven by recoveries from the sales of previously charged off non-core home equity loans.

Of the \$40.2 billion in total home equity portfolio outstandings at December 31, 2019, as shown in Table 25, 17 percent require interest-only payments. The outstanding balance of HELOCs that have reached the end of their draw period and have entered the amortization period was \$11.5 billion at December 31, 2019. The HELOCs that have entered the amortization period have experienced a higher percentage of early stage delinquencies and

We believe that the presentation of information adjusted to exclude the impact of the fully-insured loan portfolio and loans accounted for under the fair value option is more representative of the ongoing operations and credit quality of the business. As a result, in the following tables and discussions of the residential mortgage and home equity portfolios, we exclude loans accounted for under the fair value option and provide information that excludes the impact of the fully-insured loan portfolio in certain credit quality statistics.

### Residential Mortgage

The residential mortgage portfolio made up the largest percentage of our consumer loan portfolio at 51 percent of consumer loans and leases at December 31, 2019. Approximately 50 percent of the residential mortgage portfolio was in *Consumer Banking* and 36 percent was in *GWIM*. The remaining portion was in *All Other* and was comprised of loans used in our overall ALM activities,

delinquent FHA loans repurchased pursuant to our servicing agreements with the Government National Mortgage Association as well as loans repurchased related to our representations and warranties.

Outstanding balances in the residential mortgage portfolio increased \$27.6 billion in 2019 as retention of new originations was partially offset by loan sales of \$2.7 billion and runoff.

At December 31, 2019 and 2018, the residential mortgage portfolio included \$18.7 billion and \$20.1 billion of outstanding fully-insured loans, of which \$11.2 billion and \$14.0 billion had FHA insurance with the remainder protected by long-term standby agreements.

Table 23 presents certain residential mortgage key credit statistics on both a reported basis and excluding the fully-insured loan portfolio. The following discussion presents the residential mortgage portfolio excluding the fully-insured loan portfolio.

**Table 23 Residential Mortgage – Key Credit Statistics**

|                                                             | Reported Basis <sup>(1)</sup> |            | Excluding Fully-Insured Loans <sup>(1)</sup> |            |
|-------------------------------------------------------------|-------------------------------|------------|----------------------------------------------|------------|
|                                                             | December 31                   |            |                                              |            |
|                                                             | 2019                          | 2018       | 2019                                         | 2018       |
| (Dollars in millions)                                       |                               |            |                                              |            |
| Outstandings                                                | \$ 236,169                    | \$ 208,557 | \$ 217,479                                   | \$ 188,427 |
| Accruing past due 30 days or more                           | 3,108                         | 3,945      | 1,296                                        | 1,155      |
| Accruing past due 90 days or more                           | 1,088                         | 1,884      | —                                            | —          |
| Nonperforming loans                                         | 1,470                         | 1,893      | 1,470                                        | 1,893      |
| Percent of portfolio                                        |                               |            |                                              |            |
| Refreshed LTV greater than 90 but less than or equal to 100 | 2%                            | 2%         | 2%                                           | 2%         |
| Refreshed LTV greater than 100                              | 1                             | 1          | 1                                            | 1          |
| Refreshed FICO below 620                                    | 3                             | 4          | 2                                            | 2          |
| 2006 and 2007 vintages <sup>(2)</sup>                       | 4                             | 6          | 4                                            | 6          |

<sup>(1)</sup> Outstandings, accruing past due, nonperforming loans and percentages of portfolio exclude loans accounted for under the fair value option.

<sup>(2)</sup> These vintages of loans accounted for \$365 million, or 25 percent, and \$536 million, or 28 percent, of nonperforming residential mortgage loans at December 31, 2019 and 2018.

Nonperforming residential mortgage loans decreased \$423 million in 2019 primarily driven by sales. Of the nonperforming residential mortgage loans at December 31, 2019, \$616 million, or 42 percent, were current on contractual payments. Loans accruing past due 30 days or more increased \$141 million.

Net charge-offs improved \$75 million to a net recovery of \$47 million in 2019 compared to net charge-offs of \$28 million in 2018 primarily due to recoveries from the sales of previously charged-off loans and continued improvement in credit quality.

Of the \$217.5 billion in total residential mortgage loans outstanding at December 31, 2019, as shown in Table 23, 26 percent were originated as interest-only loans. The outstanding balance of interest-only residential mortgage loans that have entered the amortization period was \$7.4 billion, or 13 percent, at December 31, 2019. Residential mortgage loans that have entered the amortization period generally have experienced a higher rate of early stage delinquencies and nonperforming status compared to the residential mortgage portfolio as a whole. At December 31, 2019, \$124 million, or two percent, of outstanding interest-only residential mortgages that had entered the amortization period were accruing past due 30 days or more

compared to \$1.3 billion, or one percent, for the entire residential mortgage portfolio. In addition, at December 31, 2019, \$260 million, or four percent, of outstanding interest-only residential mortgage loans that had entered the amortization period were nonperforming, of which \$108 million were contractually current, compared to \$1.5 billion, or one percent, for the entire residential mortgage portfolio. Loans that have yet to enter the amortization period in our interest-only residential mortgage portfolio are primarily well-collateralized loans to our wealth management clients and have an interest-only period of three to ten years. Approximately 94 percent of these loans that have yet to enter the amortization period will not be required to make a fully-amortizing payment until 2022 or later.

Table 24 presents outstandings, nonperforming loans and net charge-offs by certain state concentrations for the residential mortgage portfolio. The Los Angeles-Long Beach-Santa Ana Metropolitan Statistical Area (MSA) within California represented 16 percent of outstandings at both December 31, 2019 and 2018. In the New York area, the New York-Northern New Jersey-Long Island MSA made up 13 percent of outstandings at both December 31, 2019 and 2018.

Table 21 presents net charge-offs and related ratios for consumer loans and leases.

**Table 21 Consumer Net Charge-offs and Related Ratios**

| (Dollars in millions)    | Net Charge-offs |                 | Net Charge-off Ratios <sup>(1)</sup> |             |
|--------------------------|-----------------|-----------------|--------------------------------------|-------------|
|                          | 2019            | 2018            | 2019                                 | 2018        |
| Residential mortgage     | \$ (47)         | \$ 28           | (0.02)%                              | 0.01%       |
| Home equity              | (358)           | (2)             | (0.81)                               | —           |
| Credit card              | 2,948           | 2,837           | 3.12                                 | 3.00        |
| Direct/indirect consumer | 209             | 195             | 0.23                                 | 0.21        |
| Other consumer           | 234             | 182             | n/m                                  | n/m         |
| <b>Total</b>             | <b>\$ 2,986</b> | <b>\$ 3,240</b> | <b>0.66</b>                          | <b>0.72</b> |

<sup>(1)</sup> Net charge-off ratios are calculated as net charge-offs divided by average outstanding loans and leases excluding loans accounted for under the fair value option  
n/m = not meaningful

Table 22 presents outstandings, nonperforming balances, net charge-offs, allowance for loan and lease losses and provision for loan and lease losses for the core and non-core portfolios within the consumer real estate portfolio. We categorize consumer real estate loans as core and non-core based on loan and customer characteristics such as origination date, product type, loan-to-value (LTV), Fair Isaac Corporation (FICO) score and delinquency status consistent with our current consumer and mortgage servicing strategy. Generally, loans that were originated after January 1, 2010, qualified under GSE underwriting guidelines, or otherwise met our underwriting guidelines in place in 2015 are characterized

as core loans. All other loans are generally characterized as non-core loans and represent runoff portfolios. Core loans as reported in Table 22 include loans held in the *Consumer Banking* and *GWIM* segments, as well as loans held for ALM activities in *All Other*.

As shown in Table 22, outstanding core consumer real estate loans increased \$27.3 billion during 2019 driven by an increase of \$32.1 billion in residential mortgage, partially offset by a \$4.8 billion decrease in home equity.

During 2019, we sold \$4.7 billion of consumer real estate loans, primarily non-core, compared to \$11.6 billion in 2018.

**Table 22 Consumer Real Estate Portfolio <sup>(1)</sup>**

| (Dollars in millions)                       | Outstandings                        |                   | Nonperforming                       |                 | Net Charge-offs |              |
|---------------------------------------------|-------------------------------------|-------------------|-------------------------------------|-----------------|-----------------|--------------|
|                                             | December 31                         |                   |                                     |                 |                 |              |
|                                             | 2019                                | 2018              | 2019                                | 2018            | 2019            | 2018         |
| <b>Core portfolio</b>                       |                                     |                   |                                     |                 |                 |              |
| Residential mortgage                        | \$ 225,770                          | \$ 193,695        | \$ 883                              | \$ 1,010        | \$ 7            | \$ 11        |
| Home equity                                 | 35,226                              | 40,010            | 363                                 | 955             | 51              | 78           |
| <b>Total core portfolio</b>                 | <b>260,996</b>                      | <b>233,705</b>    | <b>1,246</b>                        | <b>1,965</b>    | <b>58</b>       | <b>89</b>    |
| <b>Non-core portfolio</b>                   |                                     |                   |                                     |                 |                 |              |
| Residential mortgage                        | 10,399                              | 14,862            | 587                                 | 883             | (54)            | 17           |
| Home equity                                 | 4,982                               | 8,276             | 173                                 | 938             | (409)           | (80)         |
| <b>Total non-core portfolio</b>             | <b>15,381</b>                       | <b>23,138</b>     | <b>760</b>                          | <b>1,821</b>    | <b>(463)</b>    | <b>(63)</b>  |
| <b>Consumer real estate portfolio</b>       |                                     |                   |                                     |                 |                 |              |
| Residential mortgage                        | 236,169                             | 208,557           | 1,470                               | 1,893           | (47)            | 28           |
| Home equity                                 | 40,208                              | 48,286            | 536                                 | 1,893           | (358)           | (2)          |
| <b>Total consumer real estate portfolio</b> | <b>\$ 276,377</b>                   | <b>\$ 256,843</b> | <b>\$ 2,006</b>                     | <b>\$ 3,786</b> | <b>\$ (405)</b> | <b>\$ 26</b> |
|                                             |                                     |                   |                                     |                 |                 |              |
|                                             | Allowance for Loan and Lease Losses |                   | Provision for Loan and Lease Losses |                 |                 |              |
|                                             | December 31                         |                   |                                     |                 |                 |              |
|                                             | 2019                                | 2018              | 2019                                | 2018            | 2019            | 2018         |
| <b>Core portfolio</b>                       |                                     |                   |                                     |                 |                 |              |
| Residential mortgage                        | \$ 229                              | \$ 214            | \$ 22                               | \$ 7            |                 |              |
| Home equity                                 | 120                                 | 228               | (58)                                | (60)            |                 |              |
| <b>Total core portfolio</b>                 | <b>349</b>                          | <b>442</b>        | <b>(36)</b>                         | <b>(53)</b>     |                 |              |
| <b>Non-core portfolio</b>                   |                                     |                   |                                     |                 |                 |              |
| Residential mortgage                        | 96                                  | 208               | (134)                               | (104)           |                 |              |
| Home equity                                 | 101                                 | 278               | (510)                               | (335)           |                 |              |
| <b>Total non-core portfolio</b>             | <b>197</b>                          | <b>486</b>        | <b>(644)</b>                        | <b>(439)</b>    |                 |              |
| <b>Consumer real estate portfolio</b>       |                                     |                   |                                     |                 |                 |              |
| Residential mortgage                        | 325                                 | 422               | (112)                               | (97)            |                 |              |
| Home equity                                 | 221                                 | 506               | (568)                               | (395)           |                 |              |
| <b>Total consumer real estate portfolio</b> | <b>\$ 546</b>                       | <b>\$ 928</b>     | <b>\$ (680)</b>                     | <b>\$ (492)</b> |                 |              |

<sup>(1)</sup> Outstandings and nonperforming loans exclude loans accounted for under the fair value option. Consumer loans accounted for under the fair value option include residential mortgage loans of \$257 million and \$336 million and home equity loans of \$337 million and \$346 million at December 31, 2019 and 2018. For more information, see Note 22 – Fair Value Option to the Consolidated Financial Statements.

value adjustments recorded in earnings. For derivative positions, our credit risk is measured as the net cost in the event the counterparties with contracts in which we are in a gain position fail to perform under the terms of those contracts. We use the current fair value to represent credit exposure without giving consideration to future mark-to-market changes. The credit risk amounts take into consideration the effects of legally enforceable master netting agreements and cash collateral. Our consumer and commercial credit extension and review procedures encompass funded and unfunded credit exposures. For more information on derivatives and credit extension commitments, see Note 3 – Derivatives and Note 13 – Commitments and Contingencies to the Consolidated Financial Statements.

We manage credit risk based on the risk profile of the borrower or counterparty, repayment sources, the nature of underlying collateral, and other support given current events, conditions and expectations. We classify our portfolios as either consumer or commercial and monitor credit risk in each as discussed below.

We refine our underwriting and credit risk management practices as well as credit standards to meet the changing economic environment. To mitigate losses and enhance customer support in our consumer businesses, we have in place collection programs and loan modification and customer assistance infrastructures. We utilize a number of actions to mitigate losses in the commercial businesses including increasing the frequency and intensity of portfolio monitoring, hedging activity and our practice of transferring management of deteriorating commercial exposures to independent special asset officers as credits enter criticized categories.

For more information on our credit risk management activities, see Consumer Portfolio Credit Risk Management below, Commercial Portfolio Credit Risk Management on page 81, Non-U.S. Portfolio on page 87, Provision for Credit Losses on page 89, Allowance for Credit Losses on page 89, and Note 5 – Outstanding Loans and Leases and Note 6 – Allowance for Credit Losses to the Consolidated Financial Statements.

## Consumer Portfolio Credit Risk Management

Credit risk management for the consumer portfolio begins with initial underwriting and continues throughout a borrower's credit cycle. Statistical techniques in conjunction with experiential judgment are used in all aspects of portfolio management including underwriting, product pricing, risk appetite, setting credit limits, and establishing operating processes and metrics to quantify and balance risks and returns. Statistical models are built using detailed behavioral information from external sources such as credit bureaus and/or internal historical experience and are a component of our consumer credit risk management process. These models are used in part to assist in making both new and ongoing credit decisions, as well as portfolio management strategies, including authorizations and line management, collection practices and strategies, and determination of the allowance for loan and lease losses and allocated capital for credit risk.

## Consumer Credit Portfolio

Improvement in home prices continued during 2019 resulting in improved credit quality compared to 2018. Net recoveries in the consumer real estate portfolio due primarily to non-core loan sales were partially offset by seasoning in the credit card portfolio compared to 2018.

Improved credit quality and continued loan balance runoff primarily in the non-core consumer real estate portfolio, partially offset by seasoning within the credit card portfolio, drove a \$260 million decrease in the consumer allowance for loan and lease losses in 2019 to \$4.5 billion. For more information, see Allowance for Credit Losses on page 89.

For more information on our accounting policies regarding delinquencies, nonperforming status, charge-offs and troubled debt restructurings (TDRs) for the consumer portfolio, see Note 1 – Summary of Significant Accounting Principles and Note 5 – Outstanding Loans and Leases to the Consolidated Financial Statements.

Table 20 presents our outstanding consumer loans and leases, consumer nonperforming loans and accruing consumer loans past due 90 days or more.

**Table 20 Consumer Credit Quality**

|                                                                                                             | Outstandings      |                   | Nonperforming |          | Accruing Past Due 90 Days or More |          |
|-------------------------------------------------------------------------------------------------------------|-------------------|-------------------|---------------|----------|-----------------------------------|----------|
|                                                                                                             |                   |                   | December 31   |          |                                   |          |
|                                                                                                             | 2019              | 2018              | 2019          | 2018     | 2019                              | 2018     |
| (Dollars in millions)                                                                                       |                   |                   |               |          |                                   |          |
| Residential mortgage <sup>(1)</sup>                                                                         | \$ 236,169        | \$ 208,557        | \$ 1,470      | \$ 1,893 | \$ 1,088                          | \$ 1,884 |
| Home equity                                                                                                 | 40,208            | 48,286            | 536           | 1,893    | —                                 | —        |
| Credit card                                                                                                 | 97,608            | 98,338            | n/a           | n/a      | 1,042                             | 994      |
| Direct/Indirect consumer <sup>(2)</sup>                                                                     | 90,998            | 91,166            | 47            | 56       | 33                                | 38       |
| Other consumer                                                                                              | 192               | 202               | —             | —        | —                                 | —        |
| Consumer loans excluding loans accounted for under the fair value option                                    | \$ 465,175        | \$ 446,549        | \$ 2,053      | \$ 3,842 | \$ 2,163                          | \$ 2,916 |
| Loans accounted for under the fair value option <sup>(3)</sup>                                              | 594               | 682               |               |          |                                   |          |
| <b>Total consumer loans and leases</b>                                                                      | <b>\$ 465,769</b> | <b>\$ 447,231</b> |               |          |                                   |          |
| Percentage of outstanding consumer loans and leases <sup>(4)</sup>                                          | n/a               | n/a               | 0.44%         | 0.86%    | 0.47%                             | 0.65%    |
| Percentage of outstanding consumer loans and leases, excluding fully-insured loan portfolios <sup>(4)</sup> | n/a               | n/a               | 0.46          | 0.90     | 0.24                              | 0.24     |

<sup>(1)</sup> Residential mortgage loans accruing past due 90 days or more are fully-insured loans. At December 31, 2019 and 2018, residential mortgage includes \$740 million and \$1.4 billion of loans on which interest had been curtailed by the FHA, and therefore were no longer accruing interest, although principal was still insured, and \$348 million and \$498 million of loans on which interest was still accruing.

<sup>(2)</sup> Outstandings primarily include auto and specialty lending loans and leases of \$50.4 billion and \$50.1 billion, U.S. securities-based lending loans of \$36.7 billion and \$37.0 billion and non-U.S. consumer loans of \$2.8 billion and \$2.9 billion at December 31, 2019 and 2018.

<sup>(3)</sup> Consumer loans accounted for under the fair value option include residential mortgage loans of \$257 million and \$336 million and home equity loans of \$337 million and \$346 million at December 31, 2019 and 2018. For more information on the fair value option, see Note 22 – Fair Value Option to the Consolidated Financial Statements.

<sup>(4)</sup> Excludes consumer loans accounted for under the fair value option. At December 31, 2019 and 2018, \$6 million and \$12 million of loans accounted for under the fair value option were past due 90 days or more and not accruing interest.

n/a = not applicable

agencies could make adjustments to our ratings at any time, and they provide no assurances that they will maintain our ratings at current levels.

Other factors that influence our credit ratings include changes to the rating agencies' methodologies for our industry or certain security types; the rating agencies' assessment of the general operating environment for financial services companies; our relative positions in the markets in which we compete; our various risk exposures and risk management policies and activities; pending litigation and other contingencies or potential tail risks; our reputation; our liquidity position, diversity of funding sources and funding costs; the current and expected level and volatility of our earnings; our capital position and capital management practices; our corporate governance; the sovereign credit ratings of the U.S. government; current or future regulatory and legislative initiatives; and the agencies' views on whether the U.S. government would provide meaningful support to the Corporation or its subsidiaries in a crisis.

On June 12, 2019, Fitch Ratings (Fitch) completed its periodic review of the 12 large, complex securities trading and universal banks, including Bank of America Corporation. The agency affirmed the long-term and short-term senior debt ratings of the Corporation and all of its rated subsidiaries, except Bank of America Merrill

Lynch International Designated Activity Company, which Fitch upgraded by one notch to AA-/F1+. The rating outlook for all long-term ratings is currently stable.

On March 6, 2019, Moody's Investors Service (Moody's) upgraded the long-term and short-term ratings of the Corporation by one notch to A2/P-1 from A3/P-2 for senior debt, as well as the long-term ratings of its rated subsidiaries, including BANA, which the agency upgraded to Aa2 from Aa3 for senior debt. Moody's concurrently affirmed the short-term ratings of the Corporation's rated subsidiaries, including BANA. Moody's cited the Corporation's strengthening profitability, continued adherence to a conservative risk profile and stable capital ratios as rationale for the upgrade. The rating outlook for all long-term ratings is currently stable.

The ratings from Standard & Poor's Global Ratings (S&P) for the Corporation and its subsidiaries did not change during 2019. The long-term and short-term debt ratings of BofAS and BofASE, which were initially rated by S&P during the first quarter 2019, also remained unchanged during the rest of 2019.

Table 19 presents the Corporation's current long-term/short-term senior debt ratings and outlooks expressed by the rating agencies.

**Table 19 Senior Debt Ratings**

|                                                                         | Moody's Investors Service |            |         | Standard & Poor's Global Ratings |            |         | Fitch Ratings |            |         |
|-------------------------------------------------------------------------|---------------------------|------------|---------|----------------------------------|------------|---------|---------------|------------|---------|
|                                                                         | Long-term                 | Short-term | Outlook | Long-term                        | Short-term | Outlook | Long-term     | Short-term | Outlook |
| Bank of America Corporation                                             | A2                        | P-1        | Stable  | A-                               | A-2        | Stable  | A+            | F1         | Stable  |
| Bank of America, N.A.                                                   | Aa2                       | P-1        | Stable  | A+                               | A-1        | Stable  | AA-           | F1+        | Stable  |
| Bank of America Merrill Lynch International Designated Activity Company | NR                        | NR         | NR      | A+                               | A-1        | Stable  | AA-           | F1+        | Stable  |
| Merrill Lynch, Pierce, Fenner & Smith Incorporated                      | NR                        | NR         | NR      | A+                               | A-1        | Stable  | AA-           | F1+        | Stable  |
| BofA Securities, Inc.                                                   | NR                        | NR         | NR      | A+                               | A-1        | Stable  | AA-           | F1+        | Stable  |
| Merrill Lynch International                                             | NR                        | NR         | NR      | A+                               | A-1        | Stable  | A+            | F1         | Stable  |
| BofA Securities Europe SA                                               | NR                        | NR         | NR      | A+                               | A-1        | Stable  | A+            | F1         | Stable  |

NR = not rated

A reduction in certain of our credit ratings or the ratings of certain asset-backed securitizations may have a material adverse effect on our liquidity, potential loss of access to credit markets, the related cost of funds, our businesses and on certain revenues, particularly in those businesses where counterparty creditworthiness is critical. In addition, under the terms of certain OTC derivative contracts and other trading agreements, in the event of downgrades of our or our rated subsidiaries' credit ratings, the counterparties to those agreements may require us to provide additional collateral, or to terminate these contracts or agreements, which could cause us to sustain losses and/or adversely impact our liquidity. If the short-term credit ratings of our parent company, bank or broker-dealer subsidiaries were downgraded by one or more levels, the potential loss of access to short-term funding sources such as repo financing and the effect on our incremental cost of funds could be material.

While certain potential impacts are contractual and quantifiable, the full scope of the consequences of a credit rating downgrade to a financial institution is inherently uncertain, as it depends upon numerous dynamic, complex and inter-related factors and assumptions, including whether any downgrade of a company's long-term credit ratings precipitates downgrades to its short-term credit ratings, and assumptions about the potential behaviors of various customers, investors and counterparties. For more information on potential impacts of credit rating downgrades, see Liquidity Risk – Liquidity Stress Analysis on page 72.

For more information on additional collateral and termination payments that could be required in connection with certain OTC derivative contracts and other trading agreements as a result of such a credit rating downgrade, see Note 3 – Derivatives to the Consolidated Financial Statements and Item 1A. Risk Factors of our 2019 Annual Report on Form 10-K.

### Common Stock Dividends

For a summary of our declared quarterly cash dividends on common stock during 2019 and through February 19, 2020, see Note 14 – Shareholders' Equity to the Consolidated Financial Statements.

### Credit Risk Management

Credit risk is the risk of loss arising from the inability or failure of a borrower or counterparty to meet its obligations. Credit risk can also arise from operational failures that result in an erroneous advance, commitment or investment of funds. We define the credit exposure to a borrower or counterparty as the loss potential arising from all product classifications including loans and leases, deposit overdrafts, derivatives, assets held-for-sale and unfunded lending commitments which include loan commitments, letters of credit and financial guarantees. Derivative positions are recorded at fair value and assets held-for-sale are recorded at either fair value or the lower of cost or fair value. Certain loans and unfunded commitments are accounted for under the fair value option. Credit risk for categories of assets carried at fair value is not accounted for as part of the allowance for credit losses but as part of the fair

often overnight. Disruptions in secured financing markets for financial institutions have occurred in prior market cycles which resulted in adverse changes in terms or significant reductions in the availability of such financing. We manage the liquidity risks arising from secured funding by sourcing funding globally from a diverse group of counterparties, providing a range of securities collateral and pursuing longer durations, when appropriate. For more information on secured financing agreements, see *Note 11 – Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash* to the Consolidated Financial Statements.

We issue long-term unsecured debt in a variety of maturities and currencies to achieve cost-efficient funding and to maintain an appropriate maturity profile. While the cost and availability of unsecured funding may be negatively impacted by general market conditions or by matters specific to the financial services industry or the Corporation, we seek to mitigate refinancing risk by actively managing the amount of our borrowings that we anticipate will mature within any month or quarter.

Table 18 presents our long-term debt by major currency at December 31, 2019 and 2018.

**Table 18 Long-term Debt by Major Currency**

| (Dollars in millions)       | December 31       |                   |
|-----------------------------|-------------------|-------------------|
|                             | 2019              | 2018              |
| U.S. dollar                 | \$ 191,284        | \$ 180,724        |
| Euro                        | 32,781            | 34,328            |
| British pound               | 5,067             | 5,450             |
| Japanese yen                | 4,310             | 3,038             |
| Canadian dollar             | 3,857             | 2,936             |
| Australian dollar           | 1,957             | 1,722             |
| Other                       | 1,600             | 1,194             |
| <b>Total long-term debt</b> | <b>\$ 240,856</b> | <b>\$ 229,392</b> |

Total long-term debt increased \$11.5 billion during 2019, primarily due to debt issuances and valuation adjustments, partially offset by maturities and redemptions. We may, from time to time, purchase outstanding debt instruments in various transactions, depending on market conditions, liquidity and other factors. Our other regulated entities may also make markets in our debt instruments to provide liquidity for investors.

During 2019, the Corporation issued \$52.5 billion of long-term debt consisting of \$29.3 billion of notes issued by Bank of America Corporation, substantially all of which was TLAC compliant, \$10.9 billion of notes issued by Bank of America, N.A. and \$12.3 billion of other debt, substantially all of which was structured liabilities. During 2018, the Corporation issued \$64.4 billion of long-term debt consisting of \$30.7 billion of notes issued by Bank of America Corporation, substantially all of which was TLAC compliant, \$18.7 billion of notes issued by Bank of America, N.A. and \$15.0 billion of other debt, substantially all of which was structured liabilities.

During 2019, the Corporation had total long-term debt maturities and redemptions in the aggregate of \$50.6 billion consisting of \$21.1 billion for Bank of America Corporation, \$19.9 billion for Bank of America, N.A. and \$9.6 billion of other debt. During 2018, the Corporation had total long-term debt maturities and redemptions in the aggregate of \$53.3 billion consisting of \$29.8 billion for Bank of America Corporation, \$11.2 billion for Bank of America, N.A. and \$12.3 billion of other debt.

At December 31, 2019, Bank of America Corporation's senior notes of \$159.8 billion included \$107.7 billion of outstanding notes that are both TLAC eligible and callable at least one year before their stated maturities. Of these senior notes, \$7.4 billion will be callable and become TLAC ineligible during 2020, and \$11.7

billion, \$14.8 billion, \$10.7 billion and \$9.2 billion will do so during each of 2021 through 2024, respectively, and \$53.9 billion thereafter.

We use derivative transactions to manage the duration, interest rate and currency risks of our borrowings, considering the characteristics of the assets they are funding. For more information on our ALM activities, see *Interest Rate Risk Management* for the Banking Book on page 95.

We may issue unsecured debt in the form of structured notes for client purposes, certain of which qualify as TLAC-eligible debt. During 2019, we issued \$9.6 billion of structured notes, which are debt obligations that pay investors returns linked to other debt or equity securities, indices, currencies or commodities. We typically hedge the returns we are obligated to pay on these liabilities with derivatives and/or investments in the underlying instruments, so that from a funding perspective, the cost is similar to our other unsecured long-term debt. We could be required to settle certain structured note obligations for cash or other securities prior to maturity under certain circumstances, which we consider for liquidity planning purposes. We believe, however, that a portion of such borrowings will remain outstanding beyond the earliest put or redemption date.

Substantially all of our senior and subordinated debt obligations contain no provisions that could trigger a requirement for an early repayment, require additional collateral support, result in changes to terms, accelerate maturity or create additional financial obligations upon an adverse change in our credit ratings, financial ratios, earnings, cash flows or stock price. For more information on long-term debt funding, including issuances and maturities and redemptions, see *Note 12 – Long-term Debt* to the Consolidated Financial Statements.

#### Contingency Planning

We maintain contingency funding plans that outline our potential responses to liquidity stress events at various levels of severity. These policies and plans are based on stress scenarios and include potential funding strategies and communication and notification procedures that we would implement in the event we experienced stressed liquidity conditions. We periodically review and test the contingency funding plans to validate efficacy and assess readiness.

Our U.S. bank subsidiaries can access contingency funding through the Federal Reserve Discount Window. Certain non-U.S. subsidiaries have access to central bank facilities in the jurisdictions in which they operate. While we do not rely on these sources in our liquidity modeling, we maintain the policies, procedures and governance processes that would enable us to access these sources if necessary.

#### Credit Ratings

Our borrowing costs and ability to raise funds are impacted by our credit ratings. In addition, credit ratings may be important to customers or counterparties when we compete in certain markets and when we seek to engage in certain transactions, including over-the-counter (OTC) derivatives. Thus, it is our objective to maintain high-quality credit ratings, and management maintains an active dialogue with the major rating agencies.

Credit ratings and outlooks are opinions expressed by rating agencies on our creditworthiness and that of our obligations or securities, including long-term debt, short-term borrowings, preferred stock and other securities, including asset securitizations. Our credit ratings are subject to ongoing review by the rating agencies, and they consider a number of factors, including our own financial strength, performance, prospects and operations as well as factors not under our control. The rating

obtained by borrowing against this pool of specifically-identified eligible assets was \$372 billion and \$344 billion at December 31, 2019 and 2018. We have established operational procedures to enable us to borrow against these assets, including regularly monitoring our total pool of eligible loans and securities collateral. Eligibility is defined in guidelines from the FHLBs and the Federal Reserve and is subject to change at their discretion. Due to regulatory restrictions, liquidity generated by the bank subsidiaries can generally be used only to fund obligations within the bank subsidiaries, and transfers to the parent company or nonbank subsidiaries may be subject to prior regulatory approval.

Liquidity held in other regulated entities, comprised primarily of broker-dealer subsidiaries, is primarily available to meet the obligations of that entity and transfers to the parent company or to any other subsidiary may be subject to prior regulatory approval due to regulatory restrictions and minimum requirements. Our other regulated entities also hold unencumbered investment-grade securities and equities that we believe could be used to generate additional liquidity.

Table 17 presents the composition of average GLS for the three months ended December 31, 2019 and 2018.

**Table 17 Average Global Liquidity Sources Composition**

| (Dollars in billions)                                 | Three Months Ended<br>December 31 |               |
|-------------------------------------------------------|-----------------------------------|---------------|
|                                                       | 2019                              | 2018          |
| Cash on deposit                                       | \$ 103                            | \$ 113        |
| U.S. Treasury securities                              | 98                                | 81            |
| U.S. agency securities and mortgage-backed securities | 358                               | 340           |
| Non-U.S. government securities                        | 17                                | 10            |
| <b>Total Average Global Liquidity Sources</b>         | <b>\$ 576</b>                     | <b>\$ 544</b> |

Our GLS are substantially the same in composition to what qualifies as High Quality Liquid Assets (HQLA) under the final U.S. Liquidity Coverage Ratio (LCR) rules. However, HQLA for purposes of calculating LCR is not reported at market value, but at a lower value that incorporates regulatory deductions and the exclusion of excess liquidity held at certain subsidiaries. The LCR is calculated as the amount of a financial institution's unencumbered HQLA relative to the estimated net cash outflows the institution could encounter over a 30-day period of significant liquidity stress, expressed as a percentage. Our average consolidated HQLA, on a net basis, was \$464 billion and \$446 billion for the three months ended December 31, 2019 and 2018. For the same periods, the average consolidated LCR was 116 percent and 118 percent. Our LCR fluctuates due to normal business flows from customer activity.

#### **Liquidity Stress Analysis**

We utilize liquidity stress analysis to assist us in determining the appropriate amounts of liquidity to maintain at the parent company and our subsidiaries to meet contractual and contingent cash outflows under a range of scenarios. The scenarios we consider and utilize incorporate market-wide and Corporation-specific events, including potential credit rating downgrades for the parent company and our subsidiaries, and more severe events including potential resolution scenarios. The scenarios are based on our historical experience, experience of distressed and failed financial institutions, regulatory guidance, and both expected and unexpected future events.

The types of potential contractual and contingent cash outflows we consider in our scenarios may include, but are not limited to, upcoming contractual maturities of unsecured debt and reductions in new debt issuance; diminished access to secured financing

markets; potential deposit withdrawals; increased draws on loan commitments, liquidity facilities and letters of credit; additional collateral that counterparties could call if our credit ratings were downgraded; collateral and margin requirements arising from market value changes; and potential liquidity required to maintain businesses and finance customer activities. Changes in certain market factors, including, but not limited to, credit rating downgrades, could negatively impact potential contractual and contingent outflows and the related financial instruments, and in some cases these impacts could be material to our financial results.

We consider all sources of funds that we could access during each stress scenario and focus particularly on matching available sources with corresponding liquidity requirements by legal entity. We also use the stress modeling results to manage our asset and liability profile and establish limits and guidelines on certain funding sources and businesses.

#### **Net Stable Funding Ratio**

U.S. banking regulators issued a proposal for a Net Stable Funding Ratio (NSFR) requirement applicable to U.S. financial institutions following the Basel Committee's final standard. The proposed U.S. NSFR would apply to the Corporation on a consolidated basis and to our insured depository institutions. While the final requirement remains pending and is subject to change, if finalized as proposed, we expect to be in compliance within the regulatory timeline. The standard is intended to reduce funding risk over a longer time horizon. The NSFR is designed to provide an appropriate amount of stable funding, generally capital and liabilities maturing beyond one year, given the mix of assets and off-balance sheet items.

#### **Diversified Funding Sources**

We fund our assets primarily with a mix of deposits, and secured and unsecured liabilities through a centralized, globally coordinated funding approach diversified across products, programs, markets, currencies and investor groups.

The primary benefits of our centralized funding approach include greater control, reduced funding costs, wider name recognition by investors and greater flexibility to meet the variable funding requirements of subsidiaries. Where regulations, time zone differences or other business considerations make parent company funding impractical, certain other subsidiaries may issue their own debt.

We fund a substantial portion of our lending activities through our deposits, which were \$1.43 trillion and \$1.38 trillion at December 31, 2019 and 2018. Deposits are primarily generated by our *Consumer Banking*, *GWIM* and *Global Banking* segments. These deposits are diversified by clients, product type and geography, and the majority of our U.S. deposits are insured by the FDIC. We consider a substantial portion of our deposits to be a stable, low-cost and consistent source of funding. We believe this deposit funding is generally less sensitive to interest rate changes, market volatility or changes in our credit ratings than wholesale funding sources. Our lending activities may also be financed through secured borrowings, including credit card securitizations and securitizations with government-sponsored enterprises (GSE), the FHA and private-label investors, as well as FHLB loans.

Our trading activities in other regulated entities are primarily funded on a secured basis through securities lending and repurchase agreements, and these amounts will vary based on customer activity and market conditions. We believe funding these activities in the secured financing markets is more cost-efficient and less sensitive to changes in our credit ratings than unsecured financing. Repurchase agreements are generally short-term and

### Single-Counterparty Credit Limits

The Federal Reserve established single-counterparty credit limits (SCCL) for BHCs with total consolidated assets of \$250 billion or more. The SCCL rule is designed to ensure that the maximum possible loss that a BHC could incur due to the default of a single counterparty or a group of connected counterparties would not endanger the BHC's survival, thereby reducing the probability of future financial crises. Beginning January 1, 2020, G-SIBs must calculate SCCL on a daily basis by dividing the aggregate net credit exposure to a given counterparty by the G-SIB's Tier 1 capital, ensuring that exposures to other G-SIBs and nonbank financial institutions regulated by the Federal Reserve do not breach 15 percent of Tier 1 capital and exposures to most other counterparties do not breach 25 percent of Tier 1 capital. Certain exposures, including exposures to the U.S. government, U.S. government-sponsored entities and qualifying central counterparties, are exempt from the credit limits.

## Liquidity Risk

### Funding and Liquidity Risk Management

Our primary liquidity risk management objective is to meet expected or unexpected cash flow and collateral needs while continuing to support our businesses and customers under a range of economic conditions. To achieve that objective, we analyze and monitor our liquidity risk under expected and stressed conditions, maintain liquidity and access to diverse funding sources, including our stable deposit base, and seek to align liquidity-related incentives and risks.

We define liquidity as readily available assets, limited to cash and high-quality, liquid, unencumbered securities that we can use to meet our contractual and contingent financial obligations as those obligations arise. We manage our liquidity position through line of business and ALM activities, as well as through our legal entity funding strategy, on both a forward and current (including intraday) basis under both expected and stressed conditions. We believe that a centralized approach to funding and liquidity management enhances our ability to monitor liquidity requirements, maximizes access to funding sources, minimizes borrowing costs and facilitates timely responses to liquidity events.

The Board approves our liquidity risk policy and the Financial Contingency and Recovery Plan. The ERC establishes our liquidity risk tolerance levels. The MRC is responsible for overseeing liquidity risks and directing management to maintain exposures within the established tolerance levels. The MRC reviews and monitors our liquidity position and stress testing results, approves certain liquidity risk limits and reviews the impact of strategic decisions on our liquidity. For more information, see Managing Risk on page 63. Under this governance framework, we have developed certain funding and liquidity risk management practices which include: maintaining liquidity at the parent company and selected subsidiaries, including our bank subsidiaries and other regulated entities; determining what amounts of liquidity are appropriate for these entities based on analysis of debt maturities and other potential cash outflows, including those that we may experience during stressed market conditions; diversifying funding sources, considering our asset profile and legal entity structure; and performing contingency planning.

### NB Holdings Corporation

We have intercompany arrangements with certain key subsidiaries under which we transferred certain assets of Bank of America Corporation, as the parent company, which is a separate and distinct legal entity from our banking and nonbank subsidiaries,

and agreed to transfer certain additional parent company assets not needed to satisfy anticipated near-term expenditures, to NB Holdings Corporation, a wholly-owned holding company subsidiary (NB Holdings). The parent company is expected to continue to have access to the same flow of dividends, interest and other amounts of cash necessary to service its debt, pay dividends and perform other obligations as it would have had if it had not entered into these arrangements and transferred any assets.

In consideration for the transfer of assets, NB Holdings issued a subordinated note to the parent company in a principal amount equal to the value of the transferred assets. The aggregate principal amount of the note will increase by the amount of any future asset transfers. NB Holdings also provided the parent company with a committed line of credit that allows the parent company to draw funds necessary to service near-term cash needs. These arrangements support our preferred single point of entry resolution strategy, under which only the parent company would be resolved under the U.S. Bankruptcy Code. These arrangements include provisions to terminate the line of credit, forgive the subordinated note and require the parent company to transfer its remaining financial assets to NB Holdings if our projected liquidity resources deteriorate so severely that resolution of the parent company becomes imminent.

### Global Liquidity Sources and Other Unencumbered Assets

We maintain liquidity available to the Corporation, including the parent company and selected subsidiaries, in the form of cash and high-quality, liquid, unencumbered securities. Our liquidity buffer, referred to as Global Liquidity Sources (GLS), is comprised of assets that are readily available to the parent company and selected subsidiaries, including holding company, bank and broker-dealer subsidiaries, even during stressed market conditions. Our cash is primarily on deposit with the Federal Reserve Bank and, to a lesser extent, central banks outside of the U.S. We limit the composition of high-quality, liquid, unencumbered securities to U.S. government securities, U.S. agency securities, U.S. agency MBS and a select group of non-U.S. government securities. We can quickly obtain cash for these securities, even in stressed conditions, through repurchase agreements or outright sales. We hold our GLS in legal entities that allow us to meet the liquidity requirements of our global businesses, and we consider the impact of potential regulatory, tax, legal and other restrictions that could limit the transferability of funds among entities.

Table 16 presents average GLS for the three months ended December 31, 2019 and 2018.

Table 16 Average Global Liquidity Sources

| (Dollars in billions)                         | Three Months Ended<br>December 31 |               |
|-----------------------------------------------|-----------------------------------|---------------|
|                                               | 2019                              | 2018          |
| Parent company and NB Holdings                | \$ 59                             | \$ 76         |
| Bank subsidiaries                             | 454                               | 420           |
| Other regulated entities                      | 63                                | 48            |
| <b>Total Average Global Liquidity Sources</b> | <b>\$ 576</b>                     | <b>\$ 544</b> |

Typically, parent company and NB Holdings liquidity is in the form of cash deposited with BANA.

Our bank subsidiaries' liquidity is primarily driven by deposit and lending activity, as well as securities valuation and net debt activity. Liquidity at bank subsidiaries excludes the cash deposited by the parent company and NB Holdings. Our bank subsidiaries can also generate incremental liquidity by pledging a range of unencumbered loans and securities to certain FHLBs and the Federal Reserve Discount Window. The cash we could have

**Table 15 Bank of America Corporation Total Loss-Absorbing Capacity and Long-Term Debt**

|                                                   | TLAC       | Regulatory Minimum <sup>(1)</sup> | Long-term Debt | Regulatory Minimum <sup>(2)</sup> |
|---------------------------------------------------|------------|-----------------------------------|----------------|-----------------------------------|
| (Dollars in millions)                             |            |                                   |                |                                   |
| Total eligible balance                            | \$ 367,449 |                                   | \$ 171,349     |                                   |
| Percentage of risk-weighted assets <sup>(3)</sup> | 24.6%      | 22.0%                             | 11.5%          | 8.5%                              |
| Percentage of SLR leverage exposure               | 12.5       | 9.5                               | 5.8            | 4.5                               |

<sup>(1)</sup> The TLAC risk-weighted assets regulatory minimum consists of 18.0 percent plus a TLAC risk-weighted assets buffer comprised of 2.5 percent plus the method 1 G-SIB surcharge of 1.5 percent. The countercyclical buffer is zero for this period. The TLAC SLR leverage exposure regulatory minimum consists of 7.5 percent plus a 2.0 percent TLAC leverage buffer. The TLAC risk-weighted assets and leverage buffers must be comprised solely of CET1 capital and Tier 1 capital, respectively.

<sup>(2)</sup> The long-term debt risk-weighted assets regulatory minimum is comprised of 6.0 percent plus an additional 2.5 percent requirement based on the Corporation's method 2 G-SIB surcharge. The long-term debt leverage exposure regulatory minimum is 4.5 percent.

<sup>(3)</sup> The approach that yields the higher risk-weighted assets is used to calculate TLAC and long-term debt ratios, which was the Standardized approach as of December 31, 2019.

## Regulatory Capital and Securities Regulation

The Corporation's principal U.S. broker-dealer subsidiaries are BofA Securities, Inc. (BofAS), Merrill Lynch Professional Clearing Corp. (MLPCC) and Merrill Lynch, Pierce, Fenner & Smith Incorporated (MLPF&S). BofAS was formed as a result of the reorganization of MLPF&S which was completed in May 2019. The Corporation's principal European broker-dealer subsidiaries are Merrill Lynch International (MLI) and BofA Securities Europe SA (BofASE).

The U.S. broker-dealer subsidiaries are subject to the net capital requirements of Rule 15c3-1 under the Exchange Act. BofAS computes its minimum capital requirements as an alternative net capital broker-dealer under Rule 15c3-1, and MLPCC and MLPF&S compute their minimum capital requirements in accordance with the alternative standard under Rule 15c3-1. BofAS and MLPCC are also registered as futures commission merchants and are subject to U.S. Commodity Futures Trading Commission (CFTC) Regulation 1.17.

BofAS provides institutional services, and in accordance with the alternative net capital requirements, is required to maintain tentative net capital in excess of \$1.0 billion and net capital in excess of the greater of \$500 million or a certain percentage of its reserve requirement. BofAS must also notify the Securities and Exchange Commission (SEC) in the event its tentative net capital is less than \$5.0 billion. BofAS is also required to hold a certain percentage of its risk-based margin in order to meet its CFTC minimum net capital requirement. At December 31, 2019, BofAS had tentative net capital of \$12.5 billion. BofAS also had regulatory net capital of \$10.4 billion which exceeded the minimum requirement of \$2.4 billion.

MLPCC is a fully-guaranteed subsidiary of BofAS and provides clearing and settlement services. At December 31, 2019, MLPCC's regulatory net capital of \$5.3 billion exceeded the minimum requirement of \$1.3 billion.

MLPF&S provides retail services. At December 31, 2019, MLPF&S' regulatory net capital was \$4.1 billion which exceeded the minimum requirement of \$102 million.

Our European broker-dealers are regulated by non-U.S. regulators. MLI, a U.K. investment firm, is regulated by the Prudential Regulation Authority and the FCA and is subject to certain regulatory capital requirements. At December 31, 2019, MLI's capital resources were \$34.8 billion, which exceeded the minimum Pillar 1 requirement of \$13.9 billion. BofASE, a French investment firm, is regulated by the Autorité de Contrôle Prudentiel et de Résolution and the Autorité des Marchés Financiers, and is subject to certain regulatory capital requirements. At December 31, 2019, BofASE's capital resources were \$5.5 billion which exceeded the minimum Pillar 1 requirement of \$1.3 billion.

## Regulatory Developments

### Revisions to Basel 3 to Address Current Expected Credit Loss Accounting

On January 1, 2020, the Corporation adopted the new accounting standard that requires the measurement of the allowance for credit losses to be based on management's best estimate of lifetime expected credit losses inherent in the Corporation's relevant financial assets. For more information, see Note 1 - *Summary of Significant Accounting Principles* to the Consolidated Financial Statements. Our adoption of the standard resulted in a decrease to the CET1 capital ratio of 17 bps, which will be phased in evenly, or approximately four bps per year, at the beginning of each year from January 1, 2020 through January 1, 2023 in accordance with transition provisions issued by the U.S. banking regulators.

### Security-Based Swap Dealer Capital, Margin and Segregation Requirements

On June 21, 2019, the SEC published a final rule establishing capital, margin and segregation requirements for security-based swap dealers (SBSDs). The final rule increases the minimum net capital requirements for broker-dealers authorized to use internal models to compute alternative net capital (ANC broker-dealers). For ANC broker-dealers, the minimum tentative net capital requirement increased from \$1.0 billion to \$5.0 billion, and the net capital requirement was raised to the greater of \$1.0 billion or two percent of the applicable risk-margin amount (initial margin maintained for cleared and non-cleared security-based swaps) plus two percent of certain customer-related assets. For stand-alone SBSDs that use models to calculate haircuts, the minimum tentative net capital requirement is \$100 million and the minimum net capital requirement is the greater of \$20 million or two percent of the risk-margin amount.

### Capital Requirements for Swap Dealers

On December 10, 2019, the CFTC re-opened the comment period on its 2016 proposal to establish capital requirements for swap dealers and major swap participants that are not subject to existing U.S. prudential regulation. Under the proposal, applicable subsidiaries of the Corporation would be permitted to elect one of two approaches to compute their regulatory capital. The first approach is a bank-based capital approach which requires that firms maintain CET1 capital greater than or equal to the larger of 8.0 percent of the entity's RWA as calculated under Basel 3, or 8.0 percent of the margin of the entity's cleared and uncleared swaps, security-based swaps, futures and foreign futures positions. The second approach is based on net liquid assets and requires that a firm maintain net capital greater than or equal to 8.0 percent of the margin as described above. The proposal also includes liquidity and reporting requirements.

Table 13 shows the components of risk-weighted assets as measured under Basel 3 at December 31, 2019 and 2018.

**Table 13 Risk-weighted Assets under Basel 3**

|                                               | Standardized Approach | Advanced Approaches | Standardized Approach | Advanced Approaches |
|-----------------------------------------------|-----------------------|---------------------|-----------------------|---------------------|
|                                               | December 31           |                     |                       |                     |
|                                               | 2019                  |                     | 2018                  |                     |
| (Dollars in billions)                         |                       |                     |                       |                     |
| Credit risk                                   | \$ 1,437              | \$ 858              | \$ 1,384              | \$ 827              |
| Market risk                                   | 56                    | 55                  | 53                    | 52                  |
| Operational risk                              | n/a                   | 500                 | n/a                   | 500                 |
| Risks related to credit valuation adjustments | n/a                   | 34                  | n/a                   | 30                  |
| <b>Total risk-weighted assets</b>             | <b>\$ 1,493</b>       | <b>\$ 1,447</b>     | <b>\$ 1,437</b>       | <b>\$ 1,409</b>     |

n/a = not applicable

**Bank of America, N.A. Regulatory Capital**

Table 14 presents regulatory capital information for BANA in accordance with Basel 3 Standardized and Advanced approaches as measured at December 31, 2019 and 2018. BANA met the definition of well capitalized under the PCA framework at both year ends.

**Table 14 Bank of America, N.A. Regulatory Capital under Basel 3**

|                                                                | Standardized Approach | Advanced Approaches | Regulatory Minimum <sup>(1)</sup> |
|----------------------------------------------------------------|-----------------------|---------------------|-----------------------------------|
|                                                                | December 31, 2019     |                     |                                   |
| (Dollars in millions, except as noted)                         |                       |                     |                                   |
| <b>Risk-based capital metrics</b>                              |                       |                     |                                   |
| Common equity tier 1 capital                                   | \$ 154,826            | \$ 154,826          |                                   |
| Tier 1 capital                                                 | 154,826               | 154,826             |                                   |
| Total capital <sup>(2)</sup>                                   | 166,567               | 158,665             |                                   |
| Risk-weighted assets (in billions)                             | 1,241                 | 991                 |                                   |
| Common equity tier 1 capital ratio                             | 12.5%                 | 15.6%               | 7.0%                              |
| Tier 1 capital ratio                                           | 12.5                  | 15.6                | 8.5                               |
| Total capital ratio                                            | 13.4                  | 16.0                | 10.5                              |
| <b>Leverage-based metrics:</b>                                 |                       |                     |                                   |
| Adjusted quarterly average assets (in billions) <sup>(3)</sup> | \$ 1,780              | \$ 1,780            |                                   |
| Tier 1 leverage ratio                                          | 8.7%                  | 8.7%                | 5.0                               |
| SLR leverage exposure (in billions)                            |                       | \$ 2,177            |                                   |
| SLR                                                            |                       | 7.1%                | 6.0                               |
|                                                                | December 31, 2018     |                     |                                   |
| <b>Risk-based capital metrics:</b>                             |                       |                     |                                   |
| Common equity tier 1 capital                                   | \$ 149,824            | \$ 149,824          |                                   |
| Tier 1 capital                                                 | 149,824               | 149,824             |                                   |
| Total capital <sup>(2)</sup>                                   | 161,760               | 153,627             |                                   |
| Risk-weighted assets (in billions)                             | 1,195                 | 959                 |                                   |
| Common equity tier 1 capital ratio                             | 12.5%                 | 15.6%               | 6.5%                              |
| Tier 1 capital ratio                                           | 12.5                  | 15.6                | 8.0                               |
| Total capital ratio                                            | 13.5                  | 16.0                | 10.0                              |
| <b>Leverage-based metrics:</b>                                 |                       |                     |                                   |
| Adjusted quarterly average assets (in billions) <sup>(3)</sup> | \$ 1,719              | \$ 1,719            |                                   |
| Tier 1 leverage ratio                                          | 8.7%                  | 8.7%                | 5.0                               |
| SLR leverage exposure (in billions)                            |                       | \$ 2,112            |                                   |
| SLR                                                            |                       | 7.1%                | 6.0                               |

<sup>(1)</sup> Risk-based capital regulatory minimums at December 31, 2019 are the minimum ratios under Basel 3 including a capital conservation buffer of 2.5 percent. The regulatory minimums for the leverage ratios as of both period ends and risk-based capital ratios as of December 31, 2018 are the percent required to be considered well capitalized under the PCA framework.

<sup>(2)</sup> Total capital under the Advanced approaches differs from the Standardized approach due to differences in the amount permitted in Tier 2 capital related to the qualifying allowance for credit losses.

<sup>(3)</sup> Reflects total average assets adjusted for certain Tier 1 capital deductions.

**Total Loss-Absorbing Capacity Requirements**

Effective January 1, 2019, the Corporation is subject to the Federal Reserve's final rule requiring G-SIBs to maintain minimum levels of total loss-absorbing capacity (TLAC) and long-term debt. TLAC consists of the Corporation's Tier 1 capital and eligible long-term debt issued directly by the Corporation. Eligible long-term debt for TLAC ratios is comprised of unsecured debt that has a remaining

maturity of at least one year and satisfies additional requirements as prescribed in the TLAC final rule. As with the risk-based capital ratios and SLR, the Corporation is required to maintain TLAC ratios in excess of minimum requirements plus applicable buffers to avoid restrictions on capital distributions and discretionary bonus payments. Table 15 presents the Corporation's TLAC and long-term debt ratios and related information as of December 31, 2019.

**Table 11 Bank of America Corporation Regulatory Capital under Basel 3**

|                                                                | Standardized Approach | Advanced Approaches | Regulatory Minimum <sup>(1)</sup> |
|----------------------------------------------------------------|-----------------------|---------------------|-----------------------------------|
| December 31, 2019                                              |                       |                     |                                   |
| <b>Risk-based capital metrics</b>                              |                       |                     |                                   |
| Common equity tier 1 capital                                   | \$ 166,760            | \$ 166,760          |                                   |
| Tier 1 capital                                                 | 188,492               | 188,492             |                                   |
| Total capital <sup>(2)</sup>                                   | 221,230               | 213,098             |                                   |
| Risk-weighted assets (in billions)                             | 1,493                 | 1,447               |                                   |
| Common equity tier 1 capital ratio                             | 11.2%                 | 11.5%               | 9.5%                              |
| Tier 1 capital ratio                                           | 12.6                  | 13.0                | 11.0                              |
| Total capital ratio                                            | 14.8                  | 14.7                | 13.0                              |
| <b>Leverage-based metrics:</b>                                 |                       |                     |                                   |
| Adjusted quarterly average assets (in billions) <sup>(3)</sup> | \$ 2,374              | \$ 2,374            |                                   |
| Tier 1 leverage ratio                                          | 7.9%                  | 7.9%                | 4.0                               |
| SLR leverage exposure (in billions)                            |                       | \$ 2,946            |                                   |
| SLR                                                            |                       | 6.4%                | 5.0                               |
| December 31, 2018                                              |                       |                     |                                   |
| <b>Risk-based capital metrics</b>                              |                       |                     |                                   |
| Common equity tier 1 capital                                   | \$ 167,272            | \$ 167,272          |                                   |
| Tier 1 capital                                                 | 189,038               | 189,038             |                                   |
| Total capital <sup>(2)</sup>                                   | 221,304               | 212,878             |                                   |
| Risk-weighted assets (in billions)                             | 1,437                 | 1,409               |                                   |
| Common equity tier 1 capital ratio                             | 11.6%                 | 11.9%               | 8.25%                             |
| Tier 1 capital ratio                                           | 13.2                  | 13.4                | 9.75                              |
| Total capital ratio                                            | 15.4                  | 15.1                | 11.75                             |
| <b>Leverage-based metrics:</b>                                 |                       |                     |                                   |
| Adjusted quarterly average assets (in billions) <sup>(3)</sup> | \$ 2,258              | \$ 2,258            |                                   |
| Tier 1 leverage ratio                                          | 8.4%                  | 8.4%                | 4.0                               |
| SLR leverage exposure (in billions)                            |                       | \$ 2,791            |                                   |
| SLR                                                            |                       | 6.8%                | 5.0                               |

<sup>(1)</sup> The capital conservation buffer and G-SIB surcharge were 2.5 percent at December 31, 2019 and 1.875 percent at December 31, 2018. The countercyclical capital buffer for both periods was zero. The SLR minimum includes a leverage buffer of 2.0 percent.

<sup>(2)</sup> Total capital under the Advanced approaches differs from the Standardized approach due to differences in the amount permitted in Tier 2 capital related to the qualifying allowance for credit losses.

<sup>(3)</sup> Reflects total average assets adjusted for certain Tier 1 capital deductions.

At December 31, 2019, CET1 capital and Total capital under the Advanced approaches were relatively unchanged compared to December 31, 2018. Risk-weighted assets under the Standardized approach, which yielded the lower CET1 capital ratio at December 31, 2019, increased \$56.3 billion during 2019 to \$1,493 billion

primarily due to loan growth and increased client activity in *Global Markets* and *Global Banking*.

Table 12 shows the capital composition at December 31, 2019 and 2018.

**Table 12 Capital Composition under Basel 3**

|                                                                                                         | December 31       |                   |
|---------------------------------------------------------------------------------------------------------|-------------------|-------------------|
|                                                                                                         | 2019              | 2018              |
| (Dollars in millions)                                                                                   |                   |                   |
| Total common shareholders' equity                                                                       | \$ 241,409        | \$ 242,999        |
| Goodwill, net of related deferred tax liabilities                                                       | (68,570)          | (68,572)          |
| Deferred tax assets arising from net operating loss and tax credit carryforwards                        | (5,193)           | (5,981)           |
| Intangibles, other than mortgage servicing rights and goodwill, net of related deferred tax liabilities | (1,328)           | (1,294)           |
| Other                                                                                                   | 442               | 120               |
| <b>Common equity tier 1 capital</b>                                                                     | <b>166,760</b>    | <b>167,272</b>    |
| Qualifying preferred stock, net of issuance cost                                                        | 22,329            | 22,326            |
| Other                                                                                                   | (597)             | (560)             |
| <b>Tier 1 capital</b>                                                                                   | <b>188,492</b>    | <b>189,038</b>    |
| Tier 2 capital instruments                                                                              | 22,538            | 21,887            |
| Eligible credit reserves included in Tier 2 capital                                                     | 2,097             | 1,972             |
| Other                                                                                                   | (29)              | (19)              |
| <b>Total capital under the Advanced approaches</b>                                                      | <b>\$ 213,098</b> | <b>\$ 212,878</b> |

market conditions, and may be suspended at any time. The repurchases may be effected through open market purchases or privately negotiated transactions, including repurchase plans that satisfy the conditions of Rule 10b5-1 of the Securities Exchange Act of 1934, as amended (Exchange Act).

### **Regulatory Capital**

As a financial services holding company, we are subject to regulatory capital rules, including Basel 3, issued by U.S. banking regulators. Basel 3 established minimum capital ratios and buffer requirements and outlined two methods of calculating risk-weighted assets, the Standardized approach and the Advanced approaches. The Standardized approach relies primarily on supervisory risk weights based on exposure type, and the Advanced approaches determine risk weights based on internal models.

The Corporation's depository institution subsidiaries are also subject to the Prompt Corrective Action (PCA) framework. The Corporation and its primary affiliated banking entity, BANA, are Advanced approaches institutions under Basel 3 and are required to report regulatory risk-based capital ratios and risk-weighted assets under both the Standardized and Advanced approaches. The approach that yields the lower ratio is used to assess capital adequacy including under the PCA framework. As of December 31, 2019, the Common equity tier 1 (CET1) and Tier 1 capital ratios for the Corporation were lower under the Standardized approach whereas the Advanced approaches yielded a lower Total capital ratio.

### **Minimum Capital Requirements**

Minimum capital requirements and related buffers were fully phased in as of January 1, 2019. The PCA framework established categories of capitalization, including well capitalized, based on

the Basel 3 regulatory ratio requirements. U.S. banking regulators are required to take certain mandatory actions depending on the category of capitalization, with no mandatory actions required for well-capitalized banking organizations.

In order to avoid restrictions on capital distributions and discretionary bonus payments, the Corporation must meet risk-based capital ratio requirements that include a capital conservation buffer greater than 2.5 percent, plus any applicable countercyclical capital buffer and a global systemically important bank (G-SIB) surcharge. The buffers and surcharge must be comprised solely of CET1 capital.

The Corporation is also required to maintain a minimum supplementary leverage ratio (SLR) of 3.0 percent plus a leverage buffer of 2.0 percent in order to avoid certain restrictions on capital distributions and discretionary bonus payments. Our insured depository institution subsidiaries are required to maintain a minimum 6.0 percent SLR to be considered well capitalized under the PCA framework. The numerator of the SLR is quarter-end Basel 3 Tier 1 capital. The denominator is total leverage exposure based on the daily average of the sum of on-balance sheet exposures less permitted Tier 1 deductions, as well as the simple average of certain off-balance sheet exposures, as of the end of each month in a quarter.

### **Capital Composition and Ratios**

Table 11 presents Bank of America Corporation's capital ratios and related information in accordance with Basel 3 Standardized and Advanced approaches as measured at December 31, 2019 and 2018. As of the periods presented herein, the Corporation met the definition of well capitalized under current regulatory requirements.

## Corporation-wide Stress Testing

Integral to our Capital Planning, Financial Planning and Strategic Planning processes, we conduct capital scenario management and stress forecasting on a periodic basis to better understand balance sheet, earnings and capital sensitivities to certain economic and business scenarios, including economic and market conditions that are more severe than anticipated. These stress forecasts provide an understanding of the potential impacts from our risk profile on the balance sheet, earnings and capital, and serve as a key component of our capital and risk management practices. The intent of stress testing is to develop a comprehensive understanding of potential impacts of on- and off-balance sheet risks at the Corporation and how they impact financial resiliency, which provides confidence to management, regulators and our investors.

## Contingency Planning

We have developed and maintain contingency plans that are designed to prepare us in advance to respond in the event of potential adverse economic, financial or market stress. These contingency plans include our Capital Contingency Plan and Financial Contingency and Recovery Plan, which provide monitoring, escalation, actions and routines designed to enable us to increase capital, access funding sources and reduce risk through consideration of potential options that include asset sales, business sales, capital or debt issuances, or other de-risking strategies. We also maintain a Resolution Plan to limit adverse systemic impacts that could be associated with a potential resolution of Bank of America.

## Strategic Risk Management

Strategic risk is embedded in every business and is one of the major risk categories along with credit, market, liquidity, compliance, operational and reputational risks. This risk results from incorrect assumptions about external or internal factors, inappropriate business plans, ineffective business strategy execution, or failure to respond in a timely manner to changes in the regulatory, macroeconomic or competitive environments, in the geographic locations in which we operate, such as competitor actions, changing customer preferences, product obsolescence and technology developments. Our strategic plan is consistent with our risk appetite, capital plan and liquidity requirements, and specifically addresses strategic risks.

On an annual basis, the Board reviews and approves the strategic plan, capital plan, financial operating plan and Risk Appetite Statement. With oversight by the Board, executive management directs the lines of business to execute our strategic plan consistent with our core operating principles and risk appetite. The executive management team monitors business performance throughout the year and provides the Board with regular progress reports on whether strategic objectives and timelines are being met, including reports on strategic risks and if additional or alternative actions need to be considered or implemented. The regular executive reviews focus on assessing forecasted earnings and returns on capital, the current risk profile, current capital and liquidity requirements, staffing levels and changes required to support the strategic plan, stress testing results, and other qualitative factors such as market growth rates and peer analysis.

Significant strategic actions, such as capital actions, material acquisitions or divestitures, and resolution plans are reviewed and approved by the Board. At the business level, processes are in place to discuss the strategic risk implications of new, expanded or modified businesses, products or services and other strategic initiatives, and to provide formal review and approval where required. With oversight by the Board and the ERC, executive

management performs similar analyses throughout the year, and evaluates changes to the financial forecast or the risk, capital or liquidity positions as deemed appropriate to balance and optimize achieving the targeted risk appetite, shareholder returns and maintaining the targeted financial strength. Proprietary models are used to measure the capital requirements for credit, country, market, operational and strategic risks. The allocated capital assigned to each business is based on its unique risk profile. With oversight by the Board, executive management assesses the risk-adjusted returns of each business in approving strategic and financial operating plans. The businesses use allocated capital to define business strategies, and price products and transactions.

## Capital Management

The Corporation manages its capital position so that its capital is more than adequate to support its business activities and aligns with risk, risk appetite and strategic planning. Additionally, we seek to maintain safety and soundness at all times, even under adverse scenarios, take advantage of organic growth opportunities, meet obligations to creditors and counterparties, maintain ready access to financial markets, continue to serve as a credit intermediary, remain a source of strength for our subsidiaries, and satisfy current and future regulatory capital requirements. Capital management is integrated into our risk and governance processes, as capital is a key consideration in the development of our strategic plan, risk appetite and risk limits.

We conduct an Internal Capital Adequacy Assessment Process (ICAAP) on a periodic basis. The ICAAP is a forward-looking assessment of our projected capital needs and resources, incorporating earnings, balance sheet and risk forecasts under baseline and adverse economic and market conditions. We utilize periodic stress tests to assess the potential impacts to our balance sheet, earnings, regulatory capital and liquidity under a variety of stress scenarios. We perform qualitative risk assessments to identify and assess material risks not fully captured in our forecasts or stress tests. We assess the potential capital impacts of proposed changes to regulatory capital requirements. Management assesses ICAAP results and provides documented quarterly assessments of the adequacy of our capital guidelines and capital position to the Board or its committees.

We periodically review capital allocated to our businesses and allocate capital annually during the strategic and capital planning processes. For more information, see Business Segment Operations on page 53.

## CCAR and Capital Planning

The Federal Reserve requires BHCs to submit a capital plan and requests for capital actions on an annual basis, consistent with the rules governing the Comprehensive Capital Analysis and Review (CCAR) capital plan.

On June 27, 2019, following the Federal Reserve's non-objection to our 2019 CCAR capital plan, the Board authorized the repurchase of approximately \$30.9 billion in common stock from July 1, 2019 through June 30, 2020, which includes approximately \$900 million to offset shares awarded under equity-based compensation plans during the same period. During 2019, pursuant to the Board's authorizations, including those related to our 2018 CCAR capital plan that expired June 30, 2019, we repurchased \$28.1 billion of common stock, which includes common stock repurchases to offset equity-based compensation awards. At December 31, 2019, our remaining stock repurchase authorization was \$15.6 billion.

Our stock repurchases are subject to various factors, including the Corporation's capital position, liquidity, financial performance and alternative uses of capital, stock trading price and general

### **Executive Officers**

Executive officers lead various functions representing the functional roles. Authority for functional roles may be delegated to executive officers from the Board, Board committees or management-level committees. Executive officers, in turn, may further delegate responsibilities, as appropriate, to management-level committees, management routines or individuals. Executive officers review our activities for consistency with our Risk Framework, Risk Appetite Statement and applicable strategic, capital and financial operating plans, as well as applicable policies, standards, procedures and processes. Executive officers and other employees make decisions individually on a day-to-day basis, consistent with the authority they have been delegated. Executive officers and other employees may also serve on committees and participate in committee decisions.

### **Front Line Units**

FLUs, which include the lines of business as well as the Global Technology and Operations Group, are responsible for appropriately assessing and effectively managing all of the risks associated with their activities.

Three organizational units that include FLU activities and control function activities, but are not part of IRM are first, the Chief Financial Officer (CFO) Group; second, Environmental, Social and Governance (ESG), Capital Deployment (CD) and Public Policy (PP); and third, the Chief Administrative Officer (CAO) Group.

### **Independent Risk Management**

IRM is part of our control functions and includes Global Risk Management. We have other control functions that are not part of IRM (other control functions may also provide oversight to FLU activities), including Legal, Global Human Resources and certain activities within the CFO Group; ESG, CD and PP; and CAO Group. IRM, led by the Chief Risk Officer (CRO), is responsible for independently assessing and overseeing risks within FLUs and other control functions. IRM establishes written enterprise policies and procedures that include concentration risk limits, where appropriate. Such policies and procedures outline how aggregate risks are identified, measured, monitored and controlled.

The CRO has the stature, authority and independence to develop and implement a meaningful risk management framework. The CRO has unrestricted access to the Board and reports directly to both the ERC and to the CEO. Global Risk Management is organized into horizontal risk teams that cover a specific risk area and vertical CRO teams that cover a particular front line unit or control function. These teams work collaboratively in executing their respective duties.

### **Corporate Audit**

Corporate Audit and the CAE maintain their independence from the FLUs, IRM and other control functions by reporting directly to the Audit Committee or the Board. The CAE administratively reports to the CEO. Corporate Audit provides independent assessment and validation through testing of key processes and controls across the Corporation. Corporate Audit includes Credit Review which periodically tests and examines credit portfolios and processes.

### **Risk Management Processes**

The Risk Framework requires that strong risk management practices are integrated in key strategic, capital and financial planning processes and in day-to-day business processes across the Corporation, with a goal of ensuring risks are appropriately considered, evaluated and responded to in a timely manner.

We employ our risk management process, referred to as Identify, Measure, Monitor and Control, as part of our daily activities.

**Identify** – To be effectively managed, risks must be clearly defined and proactively identified. Proper risk identification focuses on recognizing and understanding key risks inherent in our business activities or key risks that may arise from external factors. Each employee is expected to identify and escalate risks promptly. Risk identification is an ongoing process, incorporating input from FLUs and control functions, designed to be forward looking and capture relevant risk factors across all of our lines of business.

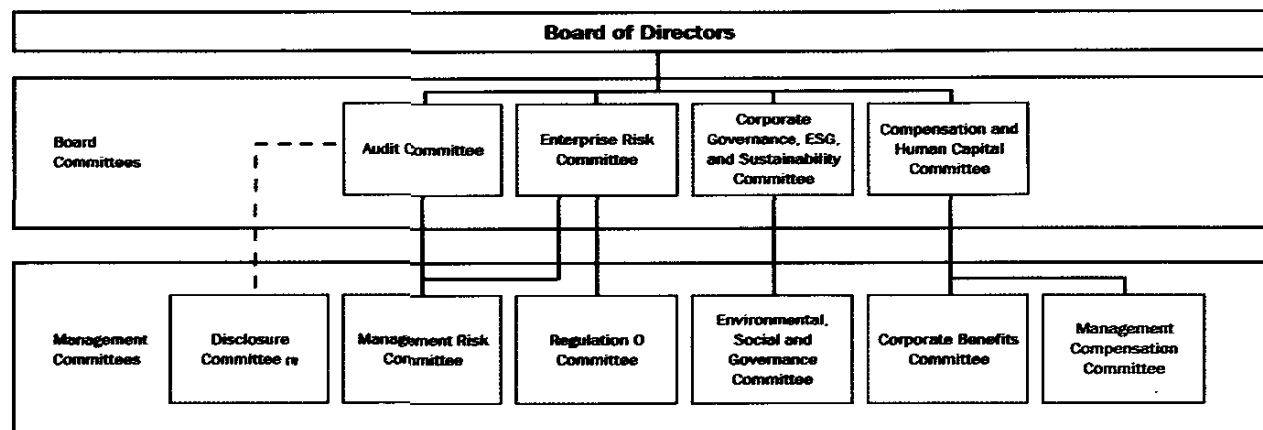
**Measure** – Once a risk is identified, it must be prioritized and accurately measured through a systematic risk quantification process including quantitative and qualitative components. Risk is measured at various levels including, but not limited to, risk type, FLU, legal entity and on an aggregate basis. This risk quantification process helps to capture changes in our risk profile due to changes in strategic direction, concentrations, portfolio quality and the overall economic environment. Senior management considers how risk exposures might evolve under a variety of stress scenarios.

**Monitor** – We monitor risk levels regularly to track adherence to risk appetite, policies, standards, procedures and processes. We also regularly update risk assessments and review risk exposures. Through our monitoring, we can determine our level of risk relative to limits and can take action in a timely manner. We also can determine when risk limits are breached and have processes to appropriately report and escalate exceptions. This includes requests for approval to managers and alerts to executive management, management-level committees or the Board (directly or through an appropriate committee).

**Control** – We establish and communicate risk limits and controls through policies, standards, procedures and processes that define the responsibilities and authority for risk-taking. The limits and controls can be adjusted by the Board or management when conditions or risk tolerances warrant. These limits may be absolute (e.g., loan amount, trading volume) or relative (e.g., percentage of loan book in higher-risk categories). Our lines of business are held accountable to perform within the established limits.

The formal processes used to manage risk represent a part of our overall risk management process. We instill a strong and comprehensive culture of managing risk well through communications, training, policies, procedures and organizational roles and responsibilities. Establishing a culture reflective of our purpose to help make our customers' financial lives better and delivering our responsible growth strategy is also critical to effective risk management. We understand that improper actions, behaviors or practices that are illegal, unethical or contrary to our core values could result in harm to the Corporation, our shareholders or our customers, damage the integrity of the financial markets, or negatively impact our reputation, and have established protocols and structures so that such conduct risk is governed and reported across the Corporation. Specifically, our Code of Conduct provides a framework for all of our employees to conduct themselves with the highest integrity. Additionally, we continue to strengthen the link between the employee performance management process and individual compensation to encourage employees to work toward enterprise-wide risk goals.

The chart below illustrates the inter-relationship among the Board, Board committees and management committees that have the majority of risk oversight responsibilities for the Corporation.



(1) Reports to the CEO and CFO with oversight by the Audit Committee

### Board of Directors and Board Committees

The Board is composed of 17 directors, all but one of whom are independent. The Board authorizes management to maintain an effective Risk Framework, and oversees compliance with safe and sound banking practices. In addition, the Board or its committees conduct inquiries of, and receive reports from management on risk-related matters to assess scope or resource limitations that could impede the ability of Independent Risk Management (IRM) and/or Corporate Audit to execute its responsibilities. The Board committees discussed below have the principal responsibility for enterprise-wide oversight of our risk management activities. Through these activities, the Board and applicable committees are provided with information on our risk profile and oversee executive management addressing key risks we face. Other Board committees, as described below, provide additional oversight of specific risks.

Each of the committees shown on the above chart regularly reports to the Board on risk-related matters within the committee's responsibilities, which is intended to collectively provide the Board with integrated insight about our management of enterprise-wide risks.

#### Audit Committee

The Audit Committee oversees the qualifications, performance and independence of the Independent Registered Public Accounting Firm, the performance of our corporate audit function, the integrity of our consolidated financial statements, our compliance with legal and regulatory requirements, and makes inquiries of management or the Chief Audit Executive (CAE) to determine whether there are scope or resource limitations that impede the ability of Corporate Audit to execute its responsibilities. The Audit Committee is also responsible for overseeing compliance risk pursuant to the New York Stock Exchange listing standards.

#### Enterprise Risk Committee

The ERC has primary responsibility for oversight of the Risk Framework and key risks we face and of the Corporation's overall risk appetite. It approves the Risk Framework and the Risk Appetite Statement and further recommends these documents to the Board for approval. The ERC oversees senior management's responsibilities for the identification, measurement, monitoring and control of key risks we face. The ERC may consult with other Board committees on risk-related matters.

### Other Board Committees

Our Corporate Governance, ESG, and Sustainability Committee oversees our Board's governance processes, identifies and reviews the qualifications of potential Board members, recommends nominees for election to our Board, recommends committee appointments for Board approval and reviews our Environmental, Social and Governance and stockholder engagement activities.

Our Compensation and Human Capital Committee oversees establishing, maintaining and administering our compensation programs and employee benefit plans, including approving and recommending our Chief Executive Officer's (CEO) compensation to our Board for further approval by all independent directors; reviewing and approving all of our executive officers' compensation, as well as compensation for non-management directors; and reviewing certain other human capital management topics.

### Management Committees

Management committees may receive their authority from the Board, a Board committee, another management committee or from one or more executive officers. Our primary management-level risk committee is the Management Risk Committee (MRC). Subject to Board oversight, the MRC is responsible for management oversight of key risks facing the Corporation. This includes providing management oversight of our compliance and operational risk programs, balance sheet and capital management, funding activities and other liquidity activities, stress testing, trading activities, recovery and resolution planning, model risk, subsidiary governance and activities between member banks and their nonbank affiliates pursuant to Federal Reserve rules and regulations, among other things.

### Lines of Defense

We have clear ownership and accountability across three lines of defense: Front Line Units (FLUs), IRM and Corporate Audit. We also have control functions outside of FLUs and IRM (e.g., Legal and Global Human Resources). The three lines of defense are integrated into our management-level governance structure. Each of these functional roles is described in more detail below.

## Representations and Warranties Obligations

For information on representations and warranties obligations in connection with the sale of mortgage loans, see *Note 13 – Commitments and Contingencies* to the Consolidated Financial Statements.

## Managing Risk

### Overview

Risk is inherent in all our business activities. Sound risk management enables us to serve our customers and deliver for our shareholders. If not managed well, risks can result in financial loss, regulatory sanctions and penalties, and damage to our reputation, each of which may adversely impact our ability to execute our business strategies. We take a comprehensive approach to risk management with a defined Risk Framework and an articulated Risk Appetite Statement which are approved annually by the Enterprise Risk Committee (ERC) and the Board.

The seven key types of risk faced by the Corporation are strategic, credit, market, liquidity, compliance, operational and reputational.

- Strategic risk is the risk resulting from incorrect assumptions about external or internal factors, inappropriate business plans, ineffective business strategy execution, or failure to respond in a timely manner to changes in the regulatory, macroeconomic or competitive environments in the geographic locations in which we operate.
- Credit risk is the risk of loss arising from the inability or failure of a borrower or counterparty to meet its obligations.
- Market risk is the risk that changes in market conditions may adversely impact the value of assets or liabilities, or otherwise negatively impact earnings.
- Liquidity risk is the inability to meet expected or unexpected cash flow and collateral needs while continuing to support our businesses and customers under a range of economic conditions.
- Compliance risk is the risk of legal or regulatory sanctions, material financial loss or damage to the reputation of the Corporation arising from the failure of the Corporation to comply with the requirements of applicable laws, rules and regulations and our internal policies and procedures.
- Operational risk is the risk of loss resulting from inadequate or failed processes, people and systems, or from external events.
- Reputational risk is the risk that negative perceptions of the Corporation's conduct or business practices may adversely impact its profitability or operations.

The following sections address in more detail the specific procedures, measures and analyses of the major categories of risk. This discussion of managing risk focuses on the current Risk Framework that, as part of its annual review process, was approved by the ERC and the Board.

As set forth in our Risk Framework, a culture of managing risk well is fundamental to fulfilling our purpose and our values and delivering responsible growth. It requires us to focus on risk in all activities and encourages the necessary mindset and behavior to enable effective risk management, and promotes sound risk-taking within our risk appetite. Sustaining a culture of managing risk well

throughout the organization is critical to our success and is a clear expectation of our executive management team and the Board.

Our Risk Framework serves as the foundation for the consistent and effective management of risks facing the Corporation. The Risk Framework sets forth clear roles, responsibilities and accountability for the management of risk and provides a blueprint for how the Board, through delegation of authority to committees and executive officers, establishes risk appetite and associated limits for our activities.

Executive management assesses, with Board oversight, the risk-adjusted returns of each business. Management reviews and approves the strategic and financial operating plans, as well as the capital plan and Risk Appetite Statement, and recommends them annually to the Board for approval. Our strategic plan takes into consideration return objectives and financial resources, which must align with risk capacity and risk appetite. Management sets financial objectives for each business by allocating capital and setting a target for return on capital for each business. Capital allocations and operating limits are regularly evaluated as part of our overall governance processes as the businesses and the economic environment in which we operate continue to evolve. For more information regarding capital allocations, see *Business Segment Operations* on page 53.

The Corporation's risk appetite indicates the amount of capital, earnings or liquidity we are willing to put at risk to achieve our strategic objectives and business plans, consistent with applicable regulatory requirements. Our risk appetite provides a common and comparable set of measures for senior management and the Board to clearly indicate our aggregate level of risk and to monitor whether the Corporation's risk profile remains in alignment with our strategic and capital plans. Our risk appetite is formally articulated in the Risk Appetite Statement, which includes both qualitative components and quantitative limits.

Our overall capacity to take risk is limited; therefore, we prioritize the risks we take in order to maintain a strong and flexible financial position so we can withstand challenging economic conditions and take advantage of organic growth opportunities. Therefore, we set objectives and targets for capital and liquidity that are intended to permit us to continue to operate in a safe and sound manner, including during periods of stress.

Our lines of business operate with risk limits (which may include credit, market and/or operational limits, as applicable) that align with the Corporation's risk appetite. Executive management is responsible for tracking and reporting performance measurements as well as any exceptions to guidelines or limits. The Board, and its committees when appropriate, oversee financial performance, execution of the strategic and financial operating plans, adherence to risk appetite limits and the adequacy of internal controls.

For a more detailed discussion of our risk management activities, see the discussion below and pages 66 through 98.

### Risk Management Governance

The Risk Framework describes delegations of authority whereby the Board and its committees may delegate authority to management-level committees or executive officers. Such delegations may authorize certain decision-making and approval functions, which may be evidenced in, for example, committee charters, job descriptions, meeting minutes and resolutions.

The net loss for All Other increased \$1.1 billion to a net loss of \$1.4 billion, primarily driven by the \$2.1 billion pretax impairment charge disclosed in Executive Summary – Recent Developments – Merchant Services Joint Venture, as well as lower revenue, partially offset by a higher benefit in the provision for credit losses.

Revenue decreased \$757 million due to lower net interest income and an increase in the loss in noninterest income. Net interest income decreased \$398 million due to the impact of non-core consumer real estate loan sales and portfolio run-off. The loss in noninterest income increased \$359 million primarily due to lower gains on sales of non-core consumer loans and higher partnership losses associated with an increase in tax-advantaged investments, partially offset by a \$729 million charge related to the redemption of certain trust preferred securities in 2018.

Noninterest expense increased \$1.8 billion to \$3.7 billion primarily due to the aforementioned \$2.1 billion pretax impairment charge.

The income tax benefit was \$4.1 billion compared to a benefit of \$2.8 billion in 2018. The increase in the tax benefit was primarily driven by the tax effect of the higher pretax loss, the positive impact from the resolution of various tax controversy matters and a higher level of income tax credits. Both years included income tax benefit adjustments to eliminate the FTE treatment of certain tax credits recorded in *Global Banking*.

## Off-Balance Sheet Arrangements and Contractual Obligations

We have contractual obligations to make future payments on debt and lease agreements. Additionally, in the normal course of business, we enter into contractual arrangements whereby we commit to future purchases of products or services from unaffiliated parties. Purchase obligations are defined as obligations that are legally binding agreements whereby we agree

to purchase products or services with a specific minimum quantity at a fixed, minimum or variable price over a specified period of time. Included in purchase obligations are vendor contracts, the most significant of which include communication services, processing services and software contracts. Debt, lease and other obligations are more fully discussed in *Note 12 – Long-term Debt* and *Note 13 – Commitments and Contingencies* to the Consolidated Financial Statements.

Other long-term liabilities include our contractual funding obligations related to the Non-U.S. Pension Plans and Nonqualified and Other Pension Plans (together, the Plans). Obligations to the Plans are based on the current and projected obligations of the Plans, performance of the Plans' assets, and any participant contributions, if applicable. During 2019 and 2018, we contributed \$135 million and \$156 million to the Plans, and we expect to make \$128 million of contributions during 2020. The Plans are more fully discussed in *Note 18 – Employee Benefit Plans* to the Consolidated Financial Statements.

We enter into commitments to extend credit such as loan commitments, standby letters of credit (SBLCs) and commercial letters of credit to meet the financing needs of our customers. For a summary of the total unfunded, or off-balance sheet, credit extension commitment amounts by expiration date, see *Credit Extension Commitments* in *Note 13 – Commitments and Contingencies* to the Consolidated Financial Statements.

We also utilize variable interest entities (VIEs) in the ordinary course of business to support our financing and investing needs as well as those of our customers. For more information on our involvement with unconsolidated VIEs, see *Note 7 – Securitizations and Other Variable Interest Entities* to the Consolidated Financial Statements.

Table 10 includes certain contractual obligations at December 31, 2019 and 2018.

**Table 10 Contractual Obligations**

|                                                                               | December 31, 2019       |                                        |                                          |                      | December 31, 2018 |                   |
|-------------------------------------------------------------------------------|-------------------------|----------------------------------------|------------------------------------------|----------------------|-------------------|-------------------|
|                                                                               | Due In One Year or Less | Due After One Year Through Three Years | Due After Three Years Through Five Years | Due After Five Years | Total             | Total             |
| (Dollars in millions)                                                         |                         |                                        |                                          |                      |                   |                   |
| Long-term debt                                                                | \$ 24,151               | \$ 46,049                              | \$ 47,096                                | \$ 123,560           | \$ 240,856        | \$ 229,392        |
| Operating lease obligations                                                   | 1,966                   | 3,265                                  | 2,338                                    | 4,225                | 11,794            | 15,770            |
| Purchase obligations                                                          | 1,272                   | 1,126                                  | 401                                      | 731                  | 3,530             | 4,048             |
| Time deposits                                                                 | 68,351                  | 4,612                                  | 1,463                                    | 247                  | 74,673            | 61,039            |
| Other long-term liabilities                                                   | 1,670                   | 1,056                                  | 714                                      | 659                  | 4,099             | 3,933             |
| Estimated interest expense on long-term debt and time deposits <sup>(1)</sup> | 5,571                   | 8,073                                  | 6,870                                    | 23,871               | 44,385            | 56,852            |
| <b>Total contractual obligations</b>                                          | <b>\$ 102,981</b>       | <b>\$ 64,181</b>                       | <b>\$ 58,882</b>                         | <b>\$ 153,293</b>    | <b>\$ 379,337</b> | <b>\$ 371,034</b> |

<sup>(1)</sup> Represents forecasted net interest expense on long-term debt and time deposits based on interest rates at December 31, 2019 and 2018. Forecasts are based on the contractual maturity dates of each liability, and are net of derivative hedges, where applicable.

capital allocated to the business segments, see Business Segment Operations on page 53.

### Sales and Trading Revenue

Sales and trading revenue includes unrealized and realized gains and losses on trading and other assets which are included in market making and similar activities, net interest income, and fees primarily from commissions on equity securities. Sales and trading revenue is segregated into fixed-income (government debt obligations, investment and non-investment grade corporate debt obligations, commercial MBS, residential mortgage-backed securities, collateralized loan obligations, interest rate and credit derivative contracts), currencies (interest rate and foreign exchange contracts), commodities (primarily futures, forwards, swaps and options) and equities (equity-linked derivatives and cash equity activity). The following table and related discussion present sales and trading revenue, substantially all of which is in *Global Markets*, with the remainder in *Global Banking*. In addition, the following table and related discussion present sales and trading revenue, excluding net DVA, which is a non-GAAP financial measure. For more information on net DVA, see Supplemental Financial Data on page 48.

### Sales and Trading Revenue (1, 2, 3)

| (Dollars in millions)                    | 2019             | 2018             |
|------------------------------------------|------------------|------------------|
| <b>Sales and trading revenue (2)</b>     |                  |                  |
| Fixed-income, currencies and commodities | \$ 8,188         | \$ 8,271         |
| Equities                                 | 4,491            | 4,900            |
| <b>Total sales and trading revenue</b>   | <b>\$ 12,679</b> | <b>\$ 13,171</b> |

|                                                           |                  |                  |
|-----------------------------------------------------------|------------------|------------------|
| <b>Sales and trading revenue, excluding net DVA (4)</b>   |                  |                  |
| Fixed-income, currencies and commodities                  | \$ 8,396         | \$ 8,413         |
| Equities                                                  | 4,505            | 4,920            |
| <b>Total sales and trading revenue, excluding net DVA</b> | <b>\$ 12,901</b> | <b>\$ 13,333</b> |

(1) For more information on sales and trading revenue, see Note 3 - Derivatives to the Consolidated Financial Statements.

(2) Includes FTE adjustments of \$189 million and \$248 million for 2019 and 2018.

(3) Includes *Global Banking* sales and trading revenue of \$533 million and \$421 million for 2019 and 2018.

(4) FICC and Equities sales and trading revenue, excluding net DVA, is a non-GAAP financial measure. FICC net DVA losses were \$208 million and \$142 million for 2019 and 2018. Equities net DVA losses were \$14 million and \$20 million for 2019 and 2018.

FICC revenue decreased \$17 million. Equities revenue decreased \$415 million driven by under performance in equity derivatives compared to a strong prior year which benefited from higher client activity and a more volatile market environment.

### All Other

| (Dollars in millions)                  | 2019              | 2018            | % Change |
|----------------------------------------|-------------------|-----------------|----------|
| Net interest income                    | \$ 234            | \$ 632          | (63)%    |
| Noninterest income (loss)              | (2,616)           | (2,257)         | 16       |
| Total revenue, net of interest expense | (2,382)           | (1,625)         | 47       |
| Provision for credit losses            | (669)             | (476)           | 41       |
| Noninterest expense                    | 3,720             | 1,887           | 97       |
| Loss before income taxes               | (5,433)           | (3,036)         | 79       |
| Income tax benefit                     | (4,055)           | (2,780)         | 46       |
| <b>Net loss</b>                        | <b>\$ (1,378)</b> | <b>\$ (256)</b> | n/m      |

### Balance Sheet

#### Average

|                        |           |           |       |
|------------------------|-----------|-----------|-------|
| Total loans and leases | \$ 42,933 | \$ 61,013 | (30)% |
| Total assets (1)       | 210,771   | 199,978   | 5     |
| Total deposits         | 21,434    | 21,966    | (2)   |

#### Year end

|                        |           |           |       |
|------------------------|-----------|-----------|-------|
| Total loans and leases | \$ 37,151 | \$ 48,061 | (23)% |
| Total assets (1)       | 224,466   | 195,466   | 15    |
| Total deposits         | 23,166    | 18,541    | 25    |

(1) In segments where the total of liabilities and equity exceeds assets, which are generally deposit-taking segments, we allocate assets from *All Other* to those segments to match liabilities (i.e., deposits) and allocated shareholders' equity. Average allocated assets were \$44.2 billion and \$51.0 billion for 2019 and 2018, and year-end allocated assets were \$56.3 billion and \$54.0 billion at December 31, 2019 and 2018.

n/m = not meaningful

*All Other* consists of ALM activities, equity investments, non-core mortgage loans and servicing activities, liquidating businesses and certain expenses not otherwise allocated to a business segment. ALM activities encompass certain residential mortgages, debt securities, and interest rate and foreign currency risk management activities. Substantially all of the results of ALM activities are allocated to our business segments. For more information on our ALM activities, see Note 24 - Business Segment Information to the Consolidated Financial Statements. Equity investments include our merchant services joint venture, as well as a portfolio of equity, real estate and other alternative investments. For information on our merchant services joint venture, see Note 13 - Commitments and Contingencies to the Consolidated Financial Statements.

Residential mortgage loans that are held for ALM purposes, including interest rate or liquidity risk management, are classified as core and are presented on the balance sheet of *All Other*. During 2019, residential mortgage loans held for ALM activities decreased \$3.2 billion to \$21.7 billion primarily as a result of payoffs and paydowns. Non-core residential mortgage and home equity loans, which are principally runoff portfolios, are also held in *All Other*. During 2019, total non-core loans decreased \$7.8 billion to \$15.7 billion due primarily to payoffs, paydowns and sales, as well as Federal Housing Administration (FHA) loan conveyances, partially offset by repurchases. For more information on the composition of the core and non-core portfolios, see Consumer Portfolio Credit Risk Management on page 75.

## Global Markets

| (Dollars in millions)                  | 2019       | 2018       | % Change |
|----------------------------------------|------------|------------|----------|
| Net interest income                    | \$ 3,915   | \$ 3,857   | 2%       |
| Noninterest income:                    |            |            |          |
| Investment and brokerage services      | 1,738      | 1,780      | (2)      |
| Investment banking fees                | 2,288      | 2,296      | —        |
| Market making and similar activities   | 7,065      | 7,260      | (3)      |
| All other income                       | 608        | 990        | (39)     |
| Total noninterest income               | 11,699     | 12,326     | (5)      |
| Total revenue, net of interest expense | 15,614     | 16,183     | (4)      |
| Provision for credit losses            | (9)        | —          | n/m      |
| Noninterest expense                    | 10,722     | 10,835     | (1)      |
| Income before income taxes             | 4,901      | 5,348      | (8)      |
| Income tax expense                     | 1,397      | 1,390      | 1        |
| Net income                             | \$ 3,504   | \$ 3,958   | (11)     |
| Effective tax rate                     | 28.5%      | 26.0%      |          |
| Return on average allocated capital    | 10         | 11         |          |
| Efficiency ratio                       | 68.67      | 66.96      |          |
| <b>Balance Sheet</b>                   |            |            |          |
| <b>Average</b>                         |            |            |          |
| Trading-related assets:                |            |            |          |
| Trading account securities             | \$ 246,335 | \$ 215,112 | 15%      |
| Reverse repurchases                    | 116,883    | 125,084    | (7)      |
| Securities borrowed                    | 83,216     | 78,889     | 5        |
| Derivative assets                      | 43,271     | 46,047     | (6)      |
| Total trading-related assets           | 489,705    | 465,132    | 5        |
| Total loans and leases                 | 71,334     | 72,651     | (2)      |
| Total earning assets                   | 476,225    | 473,383    | 1        |
| Total assets                           | 679,297    | 666,000    | 2        |
| Total deposits                         | 31,380     | 31,209     | 1        |
| Allocated capital                      | 35,000     | 35,000     | —        |
| <b>Year end</b>                        |            |            |          |
| Total trading-related assets           | \$ 452,496 | \$ 447,998 | 1%       |
| Total loans and leases                 | 72,993     | 73,928     | (1)      |
| Total earning assets                   | 471,701    | 457,224    | 3        |
| Total assets                           | 641,806    | 641,923    | —        |
| Total deposits                         | 34,676     | 37,841     | (8)      |

n/m = not meaningful

Global Markets offers sales and trading services and research services to institutional clients across fixed-income, credit, currency, commodity and equity businesses. Global Markets product coverage includes securities and derivative products in both the primary and secondary markets. Global Markets provides market-making, financing, securities clearing, settlement and custody services globally to our institutional investor clients in support of their investing and trading activities. We also work with our commercial and corporate clients to provide risk management products using interest rate, equity, credit, currency and commodity derivatives, foreign exchange, fixed-income and mortgage-related products. As a result of our market-making activities in these products, we may be required to manage risk in a broad range of financial products including government securities, equity and equity-linked securities, high-grade and high-yield corporate debt securities, syndicated loans, MBS, commodities and asset-backed securities. The economics of certain investment banking and underwriting activities are shared primarily between Global Markets and Global Banking under an internal revenue-sharing arrangement. Global Banking originates certain deal-related transactions with our corporate and commercial clients that are executed and distributed by Global Markets. For information on investment banking fees on a consolidated basis, see page 59.

The following explanations for year-over-year changes in results for Global Markets, including those disclosed under Sales and Trading Revenue, exclude net DVA, but the explanations would be the same if net DVA was included.

Net income for Global Markets decreased \$454 million to \$3.5 billion in 2019 compared to 2018. Net DVA losses were \$222 million compared to losses of \$162 million in 2018. Excluding net DVA, net income decreased \$408 million to \$3.7 billion. These decreases were primarily driven by a decrease in revenue, partially offset by lower noninterest expense.

Revenue declined \$569 million to \$15.6 billion as sales and trading revenue decreased \$492 million, and excluding net DVA, decreased \$432 million. These decreases were primarily driven by a decline in Equities revenue. Noninterest expense decreased \$113 million to \$10.7 billion, primarily driven by lower revenue-related expenses.

Average total assets increased \$13.3 billion to \$679.3 billion, primarily due to increased levels of inventory in fixed-income, currencies and commodities (FICC) to facilitate expected client demand. Year-end total assets were largely unchanged at \$641.8 billion.

The return on average allocated capital was 10 percent, down from 11 percent, reflecting lower net income. For information on

The table below and following discussion present a summary of the results, which exclude certain investment banking activities in *Global Banking*.

#### Global Corporate, Global Commercial and Business Banking

| (Dollars in millions)                         | Global Corporate Banking |                 | Global Commercial Banking |                 | Business Banking |                 | Total            |                  |
|-----------------------------------------------|--------------------------|-----------------|---------------------------|-----------------|------------------|-----------------|------------------|------------------|
|                                               | 2019                     | 2018            | 2019                      | 2018            | 2019             | 2018            | 2019             | 2018             |
| <b>Revenue</b>                                |                          |                 |                           |                 |                  |                 |                  |                  |
| Business Lending                              | \$ 3,994                 | \$ 3,904        | \$ 4,132                  | \$ 4,330        | \$ 363           | \$ 431          | \$ 8,489         | \$ 8,665         |
| Global Transaction Services                   | 3,994                    | 3,832           | 3,499                     | 3,346           | 1,064            | 987             | 8,557            | 8,165            |
| <b>Total revenue, net of interest expense</b> | <b>\$ 7,988</b>          | <b>\$ 7,736</b> | <b>\$ 7,631</b>           | <b>\$ 7,676</b> | <b>\$ 1,427</b>  | <b>\$ 1,418</b> | <b>\$ 17,046</b> | <b>\$ 16,830</b> |

#### Balance Sheet

|                        |            |            |            |            |           |           |            |            |
|------------------------|------------|------------|------------|------------|-----------|-----------|------------|------------|
| <b>Average</b>         |            |            |            |            |           |           |            |            |
| Total loans and leases | \$ 177,713 | \$ 163,516 | \$ 181,485 | \$ 174,279 | \$ 15,058 | \$ 16,432 | \$ 374,256 | \$ 354,227 |
| Total deposits         | 177,924    | 163,559    | 144,620    | 135,337    | 40,196    | 37,462    | 362,740    | 336,358    |
| <b>Year end</b>        |            |            |            |            |           |           |            |            |
| Total loans and leases | \$ 181,409 | \$ 174,378 | \$ 182,727 | \$ 175,937 | \$ 15,152 | \$ 15,402 | \$ 379,288 | \$ 365,717 |
| Total deposits         | 185,352    | 173,183    | 157,322    | 149,118    | 40,504    | 37,973    | 383,178    | 360,274    |

Business Lending revenue decreased \$176 million in 2019 compared to 2018. The decrease was primarily driven by the allocation of ALM results, partly offset by higher leasing-related revenue.

Global Transaction Services revenue increased \$392 million in 2019 compared to 2018 driven by the impact of higher deposit balances.

Average loans and leases increased six percent in 2019 compared to 2018 driven by growth in the commercial and industrial portfolio. Average deposits increased eight percent due to growth in domestic and international interest-bearing balances.

#### Global Investment Banking

Client teams and product specialists underwrite and distribute debt, equity and loan products, and provide advisory services and tailored risk management solutions. The economics of certain investment banking and underwriting activities are shared primarily between *Global Banking* and *Global Markets* under an internal revenue-sharing arrangement. *Global Banking* originates certain deal-related transactions with our corporate and commercial clients that are executed and distributed by *Global Markets*. To provide a complete discussion of our consolidated investment

banking fees, the following table presents total Corporation investment banking fees and the portion attributable to *Global Banking*.

#### Investment Banking Fees

| (Dollars in millions)                | Global Banking  |                 | Total Corporation |                 |
|--------------------------------------|-----------------|-----------------|-------------------|-----------------|
|                                      | 2019            | 2018            | 2019              | 2018            |
| <b>Products</b>                      |                 |                 |                   |                 |
| Advisory                             | \$ 1,336        | \$ 1,153        | \$ 1,460          | \$ 1,258        |
| Debt issuance                        | 1,348           | 1,326           | 3,107             | 3,084           |
| Equity issuance                      | 453             | 412             | 1,259             | 1,183           |
| <b>Gross investment banking fees</b> | <b>3,137</b>    | <b>2,891</b>    | <b>5,826</b>      | <b>5,525</b>    |
| Self-led deals                       | (62)            | (68)            | (184)             | (198)           |
| <b>Total investment banking fees</b> | <b>\$ 3,075</b> | <b>\$ 2,823</b> | <b>\$ 5,642</b>   | <b>\$ 5,327</b> |

Total Corporation investment banking fees, excluding self-led deals, of \$5.6 billion, which are primarily included within *Global Banking* and *Global Markets*, increased six percent due to increases in advisory fees as well as higher equity issuance fees.

## Global Banking

| (Dollars in millions)                  | 2019       | 2018       | % Change |
|----------------------------------------|------------|------------|----------|
| Net interest income                    | \$ 10,675  | \$ 10,993  | (3)%     |
| Noninterest income*                    |            |            |          |
| Service charges                        | 3,015      | 3,027      | —        |
| Investment banking fees                | 3,137      | 2,891      | 9        |
| All other income                       | 3,656      | 3,090      | 18       |
| Total noninterest income               | 9,808      | 9,008      | 9        |
| Total revenue, net of interest expense | 20,483     | 20,001     | 2        |
| Provision for credit losses            | 414        | 8          | n/m      |
| Noninterest expense                    | 9,017      | 8,745      | 3        |
| Income before income taxes             | 11,052     | 11,248     | (2)      |
| Income tax expense                     | 2,984      | 2,923      | 2        |
| Net income                             | \$ 8,068   | \$ 8,325   | (3)      |
| Effective tax rate                     | 27.0%      | 26.0%      |          |
| Net interest yield                     | 2.75       | 3.01       |          |
| Return on average allocated capital    | 20         | 20         |          |
| Efficiency ratio                       | 44.02      | 43.72      |          |
| <b>Balance Sheet</b>                   |            |            |          |
| <b>Average</b>                         |            |            |          |
| Total loans and leases                 | \$ 374,304 | \$ 354,236 | 6 %      |
| Total earning assets                   | 388,152    | 364,748    | 6        |
| Total assets                           | 443,083    | 425,675    | 4        |
| Total deposits                         | 362,731    | 336,337    | 8        |
| Allocated capital                      | 41,000     | 41,000     | —        |
| <b>Year end</b>                        |            |            |          |
| Total loans and leases                 | \$ 379,268 | \$ 365,717 | 4 %      |
| Total earning assets                   | 407,180    | 377,812    | 8        |
| Total assets                           | 464,032    | 442,330    | 5        |
| Total deposits                         | 383,180    | 360,248    | 6        |

n/m = not meaningful

*Global Banking*, which includes Global Corporate Banking, Global Commercial Banking, Business Banking and Global Investment Banking, provides a wide range of lending-related products and services, integrated working capital management and treasury solutions, and underwriting and advisory services through our network of offices and client relationship teams. Our lending products and services include commercial loans, leases, commitment facilities, trade finance, commercial real estate lending and asset-based lending. Our treasury solutions business includes treasury management, foreign exchange and short-term investing options. We also provide investment banking products to our clients such as debt and equity underwriting and distribution, and merger-related and other advisory services. Underwriting debt and equity issuances, fixed-income and equity research, and certain market-based activities are executed through our global broker-dealer affiliates, which are our primary dealers in several countries. Within *Global Banking*, Global Commercial Banking clients generally include middle-market companies, commercial real estate firms and not-for-profit companies. Global Corporate Banking clients generally include large global corporations, financial institutions and leasing clients. Business Banking clients include mid-sized U.S.-based businesses requiring customized and integrated financial advice and solutions.

Net income for *Global Banking* decreased \$257 million to \$8.1 billion in 2019 compared to 2018 primarily driven by higher provision for credit losses and noninterest expense partially offset by higher revenue.

Revenue increased \$482 million to \$20.5 billion driven by higher noninterest income, partially offset by lower net interest income. Net interest income decreased \$318 million to \$10.7 billion primarily due to the allocation of ALM results and credit spread compression, partly offset by growth in loan and deposit balances.

Noninterest income increased \$800 million to \$9.8 billion primarily due to higher leasing-related revenue and investment banking fees. The provision for credit losses increased \$406 million to \$414 million primarily driven by reserve releases in 2018 primarily from energy exposures. Noninterest expense increased \$272 million primarily due to continued investment in the business partially offset by lower FDIC expense.

The return on average allocated capital was 20 percent in 2019 and 2018. For information on capital allocated to the business segments, see Business Segment Operations on page 53.

### Global Corporate, Global Commercial and Business Banking

Global Corporate, Global Commercial and Business Banking each include Business Lending and Global Transaction Services activities. Business Lending includes various lending-related products and services, and related hedging activities, including commercial loans, leases, commitment facilities, trade finance, real estate lending and asset-based lending. Global Transaction Services includes deposits, treasury management, credit card, foreign exchange and short-term investment products.

## Key Indicators and Metrics

(Dollars in millions, except as noted)

|                                                                                     | 2019                | 2018                |
|-------------------------------------------------------------------------------------|---------------------|---------------------|
| <b>Revenue by Business</b>                                                          |                     |                     |
| Merrill Lynch Global Wealth Management                                              | \$ 16,111           | \$ 15,998           |
| Bank of America Private Bank                                                        | 3,426               | 3,455               |
| <b>Total revenue, net of interest expense</b>                                       | <b>\$ 19,537</b>    | <b>\$ 19,453</b>    |
| <b>Client Balances by Business, at year end</b>                                     |                     |                     |
| Merrill Lynch Global Wealth Management                                              | \$ 2,558,102        | \$ 2,193,562        |
| Bank of America Private Bank                                                        | 489,690             | 427,294             |
| <b>Total client balances</b>                                                        | <b>\$ 3,047,792</b> | <b>\$ 2,620,856</b> |
| <b>Client Balances by Type, at year end</b>                                         |                     |                     |
| Assets under management                                                             | \$ 1,275,555        | \$ 1,072,234        |
| Brokerage and other assets                                                          | 1,372,733           | 1,162,997           |
| Deposits                                                                            | 263,103             | 268,700             |
| Loans and leases <sup>(1)</sup>                                                     | 179,296             | 167,938             |
| Less: Managed deposits in assets under management                                   | (42,895)            | (51,013)            |
| <b>Total client balances</b>                                                        | <b>\$ 3,047,792</b> | <b>\$ 2,620,856</b> |
| <b>Assets Under Management Rollforward</b>                                          |                     |                     |
| Assets under management, beginning of year                                          | \$ 1,072,234        | \$ 1,121,383        |
| Net client flows                                                                    | 24,865              | 44,607              |
| Market valuation/other                                                              | 178,456             | (93,756)            |
| <b>Total assets under management, end of year</b>                                   | <b>\$ 1,275,555</b> | <b>\$ 1,072,234</b> |
| <b>Associates, at year end</b>                                                      |                     |                     |
| Number of financial advisors                                                        | 17,458              | 17,518              |
| Total wealth advisors, including financial advisors                                 | 19,440              | 19,459              |
| Total primary sales professionals, including financial advisors and wealth advisors | 20,586              | 20,586              |
| <b>Merrill Lynch Global Wealth Management Metric</b>                                |                     |                     |
| Financial advisor productivity (in thousands)                                       | \$ 1,082            | \$ 1,034            |
| <b>Bank of America Private Bank Metric, at year end</b>                             |                     |                     |
| Primary sales professionals                                                         | 1,766               | 1,748               |

<sup>(1)</sup> Includes margin receivables which are classified in customer and other receivables on the Consolidated Balance Sheet

## Client Balances

Client balances managed under advisory and/or discretion of GWIM are AUM and are typically held in diversified portfolios. Fees earned on AUM are calculated as a percentage of clients' AUM balances. The asset management fees charged to clients per year depend on various factors, but are commonly driven by the breadth of the client's relationship. The net client AUM flows represent the

net change in clients' AUM balances over a specified period of time, excluding market appreciation/depreciation and other adjustments.

Client balances increased \$426.9 billion, or 16 percent, to \$3.0 trillion at December 31, 2019 compared to December 31, 2018. The increase in client balances was primarily due to higher market valuations and positive net flows over the last year.

## Global Wealth & Investment Management

| (Dollars in millions)                  | 2019       | 2018       | % Change |
|----------------------------------------|------------|------------|----------|
| Net interest income                    | \$ 6,504   | \$ 6,265   | 4%       |
| Noninterest income:                    |            |            |          |
| Investment and brokerage services      | 11,870     | 11,959     | (1)      |
| All other income                       | 1,163      | 1,229      | (5)      |
| Total noninterest income               | 13,033     | 13,188     | (1)      |
| Total revenue, net of interest expense | 19,537     | 19,453     | —        |
| Provision for credit losses            | 82         | 86         | (5)      |
| Noninterest expense                    | 13,823     | 14,015     | (1)      |
| Income before income taxes             | 5,632      | 5,352      | 5        |
| Income tax expense                     | 1,380      | 1,364      | 1        |
| Net income                             | \$ 4,252   | \$ 3,988   | 7        |
| Effective tax rate                     | 24.5%      | 25.5%      |          |
| Net interest yield                     | 2.33       | 2.41       |          |
| Return on average allocated capital    | 29         | 28         |          |
| Efficiency ratio                       | 70.75      | 72.04      |          |
| <b>Balance Sheet</b>                   |            |            |          |
| <b>Average</b>                         |            |            |          |
| Total loans and leases                 | \$ 168,910 | \$ 161,342 | 5%       |
| Total earning assets                   | 279,684    | 259,808    | 8        |
| Total assets                           | 292,003    | 277,220    | 5        |
| Total deposits                         | 256,505    | 241,256    | 6        |
| Allocated capital                      | 14,500     | 14,500     | —        |
| <b>Year end</b>                        |            |            |          |
| Total loans and leases                 | \$ 176,600 | \$ 164,854 | 7%       |
| Total earning assets                   | 287,212    | 287,199    | —        |
| Total assets                           | 299,756    | 305,907    | (2)      |
| Total deposits                         | 263,103    | 268,700    | (2)      |

GWIM consists of two primary businesses: Merrill Lynch Global Wealth Management (MLGWM) and Bank of America Private Bank.

MLGWM's advisory business provides a high-touch client experience through a network of financial advisors focused on clients with over \$250,000 in total investable assets. MLGWM provides tailored solutions to meet clients' needs through a full set of investment management, brokerage, banking and retirement products.

Bank of America Private Bank, together with MLGWM's Private Wealth Management business, provides comprehensive wealth management solutions targeted to high net worth and ultra high net worth clients, as well as customized solutions to meet clients' wealth structuring, investment management, trust and banking needs, including specialty asset management services.

Net income for GWIM increased \$264 million to \$4.3 billion due to lower noninterest expense and higher revenue. The operating margin was 29 percent compared to 28 percent in 2018.

Net interest income increased \$239 million to \$6.5 billion due to the impact of growth in deposits and loans.

Noninterest income, which primarily includes investment and brokerage services income, decreased \$155 million to \$13.0 billion. The decrease was primarily driven by declines in AUM pricing and transactional revenue, partially offset by the impact of positive AUM flows and higher market valuations.

Noninterest expense decreased \$192 million to \$13.8 billion, as investments for business growth were more than offset by lower amortization of intangibles and FDIC expense.

The return on average allocated capital was 29 percent, up from 28 percent, due to higher net income.

MLGWM revenue of \$16.1 billion increased one percent primarily driven by higher net interest income and the impact of positive AUM flows and higher market valuations, partially offset by lower transactional volumes and AUM pricing.

Bank of America Private Bank revenue of \$3.4 billion decreased one percent primarily due to lower net interest income.

Net income for Deposits increased \$746 million to \$8.3 billion driven by higher net interest income. Net interest income increased \$965 million to \$16.9 billion primarily due to growth in deposits and pricing discipline. Noninterest income decreased \$11 million to \$5.0 billion primarily driven by lower service charges, largely offset by higher results from ALM activities.

The provision for credit losses increased \$74 million to \$269 million in 2019. Noninterest expense increased \$25 million to \$10.7 billion driven by continued investment in the business, partially offset by lower FDIC expense and operating efficiencies.

Average deposits increased \$24.3 billion to \$702.9 billion in 2019 driven by strong organic growth. Growth in checking and time deposits of \$27.0 billion was partially offset by a decline in traditional savings and money market savings of \$2.5 billion.

### Key Statistics – Deposits

|                                                                   | 2019      | 2018      |
|-------------------------------------------------------------------|-----------|-----------|
| Total deposit spreads (excludes noninterest costs) <sup>(1)</sup> | 2.34%     | 2.14%     |
| <b>Year end</b>                                                   |           |           |
| Consumer investment assets (in millions) <sup>(2)</sup>           | \$240,132 | \$185,881 |
| Active digital banking users (units in thousands) <sup>(3)</sup>  | 38,266    | 36,264    |
| Active mobile banking users (units in thousands)                  | 29,174    | 26,433    |
| Financial centers                                                 | 4,300     | 4,341     |
| ATMs                                                              | 16,788    | 16,255    |

<sup>(1)</sup> Includes deposits held in Consumer Lending.

<sup>(2)</sup> Includes client brokerage assets, deposit sweep balances and AUM in Consumer Banking.

<sup>(3)</sup> Active digital banking users represents mobile and/or online users

Consumer investment assets increased \$54 billion in 2019 driven by strong market performance and client flows. Active mobile banking users increased 3 million reflecting continuing changes in our customers' banking preferences. The number of financial centers declined by a net 41 reflecting changes in customer preferences to self-service options as we continue to optimize our consumer banking network and improve our cost to serve.

### Consumer Lending

Consumer Lending offers products to consumers and small businesses across the U.S. The products offered include credit and debit cards, residential mortgages and home equity loans, and direct and indirect loans such as automotive, recreational vehicle and consumer personal loans. In addition to earning net interest spread revenue on its lending activities, Consumer Lending generates interchange revenue from credit and debit card transactions, late fees, cash advance fees, annual credit card fees, mortgage banking fee income and other miscellaneous fees. Consumer Lending products are available to our customers through our retail network, direct telephone, and online and mobile channels. Consumer Lending results also include the impact of servicing residential mortgages and home equity loans in the core portfolio, including loans held on the balance sheet of Consumer Lending and loans serviced for others.

Net income for Consumer Lending increased \$106 million to \$4.7 billion driven by higher net interest income and lower noninterest expense, partially offset by lower noninterest income. Net interest income increased \$168 million to \$11.3 billion driven by loan growth. Noninterest income decreased \$153 million to \$5.4 billion primarily driven by lower mortgage banking income and lower card income.

The provision for credit losses increased \$34 million to \$3.5 billion primarily driven by portfolio seasoning in the credit card portfolio. Noninterest expense decreased \$79 million to \$6.9 billion primarily driven by operating efficiencies.

Average loans increased \$17.0 billion to \$295.6 billion primarily driven by increases in residential mortgages and credit card, partially offset by lower home equity loans.

### Key Statistics – Consumer Lending

| (Dollars in millions)                   | 2019             | 2018             |
|-----------------------------------------|------------------|------------------|
| <b>Total credit card</b> <sup>(1)</sup> |                  |                  |
| Gross interest yield                    | 10.76%           | 10.12%           |
| Risk-adjusted margin                    | 8.28             | 8.25             |
| New accounts (in thousands)             | 4,320            | 4,544            |
| Purchase volumes                        | \$277,852        | \$264,706        |
| <b>Debit card purchase volumes</b>      | <b>\$360,672</b> | <b>\$338,810</b> |

<sup>(1)</sup> Includes GWIM's credit card portfolio

During 2019, the total credit card risk-adjusted margin increased 3 bps compared to 2018, primarily driven by a portfolio shift away from promotional-rate loans. Total credit card purchase volumes increased \$13.1 billion to \$277.9 billion, and debit card purchase volumes increased \$21.9 billion to \$360.7 billion, reflecting higher levels of consumer spending.

### Key Statistics – Loan Production <sup>(1)</sup>

| (Dollars in millions)       | 2019      | 2018      |
|-----------------------------|-----------|-----------|
| <b>Total</b> <sup>(2)</sup> |           |           |
| First mortgage              | \$ 72,467 | \$ 41,195 |
| Home equity                 | 11,131    | 14,869    |
| <b>Consumer Banking:</b>    |           |           |
| First mortgage              | \$ 49,179 | \$ 27,280 |
| Home equity                 | 9,755     | 13,251    |

<sup>(1)</sup> The loan production amounts represent the unpaid principal balance of loans and, in the case of home equity, the principal amount of the total line of credit

<sup>(2)</sup> In addition to loan production in Consumer Banking, there is also first mortgage and home equity loan production in GWIM.

First mortgage loan originations in Consumer Banking and for the total Corporation increased \$21.9 billion and \$31.3 billion in 2019 primarily driven by a lower interest rate environment driving higher first-lien mortgage refinances.

Home equity production in Consumer Banking and for the total Corporation decreased \$3.5 billion and \$3.7 billion in 2019 primarily driven by lower demand.

## Consumer Banking

| (Dollars in millions)                  | Deposits  |           | Consumer Lending |            | Total Consumer Banking |            | % Change |
|----------------------------------------|-----------|-----------|------------------|------------|------------------------|------------|----------|
|                                        | 2019      | 2018      | 2019             | 2018       | 2019                   | 2018       |          |
| Net interest income                    | \$ 16,904 | \$ 15,939 | \$ 11,254        | \$ 11,086  | \$ 28,158              | \$ 27,025  | 4%       |
| Noninterest income:                    |           |           |                  |            |                        |            |          |
| Card income                            | (33)      | (33)      | 5,117            | 5,135      | 5,084                  | 5,102      | —        |
| Service charges                        | 4,217     | 4,298     | 2                | 2          | 4,219                  | 4,300      | (2)      |
| All other income                       | 832       | 762       | 294              | 429        | 1,126                  | 1,191      | (5)      |
| Total noninterest income               | 5,016     | 5,027     | 5,413            | 5,566      | 10,429                 | 10,593     | (2)      |
| Total revenue, net of interest expense | 21,920    | 20,966    | 16,667           | 16,652     | 38,587                 | 37,618     | 3        |
| Provision for credit losses            | 269       | 195       | 3,503            | 3,469      | 3,772                  | 3,664      | 3        |
| Noninterest expense                    | 10,682    | 10,657    | 6,936            | 7,015      | 17,618                 | 17,672     | —        |
| Income before income taxes             | 10,969    | 10,114    | 6,228            | 6,168      | 17,197                 | 16,282     | 6        |
| Income tax expense                     | 2,687     | 2,578     | 1,526            | 1,572      | 4,213                  | 4,150      | 2        |
| Net income                             | \$ 8,282  | \$ 7,536  | \$ 4,702         | \$ 4,596   | \$ 12,984              | \$ 12,132  | 7        |
| Effective tax rate <sup>(1)</sup>      |           |           |                  |            | 24.5%                  | 25.5%      |          |
| Net interest yield                     | 2.40%     | 2.34%     | 3.80%            | 3.97%      | 3.81                   | 3.77       |          |
| Return on average allocated capital    | 69        | 63        | 19               | 18         | 35                     | 33         |          |
| Efficiency ratio                       | 48.73     | 50.83     | 41.61            | 42.12      | 45.66                  | 46.98      |          |
| <b>Balance Sheet</b>                   |           |           |                  |            |                        |            |          |
| <b>Average</b>                         |           |           |                  |            |                        |            |          |
| Total loans and leases                 | \$ 5,373  | \$ 5,233  | \$ 295,562       | \$ 278,574 | \$ 300,935             | \$ 283,807 | 6%       |
| Total earning assets <sup>(2)</sup>    | 703,444   | 682,592   | 296,051          | 279,217    | 738,770                | 717,189    | 3        |
| Total assets <sup>(2)</sup>            | 735,232   | 710,925   | 306,169          | 290,068    | 780,676                | 756,373    | 3        |
| Total deposits                         | 702,908   | 678,640   | 5,368            | 5,533      | 708,276                | 684,173    | 4        |
| Allocated capital                      | 12,000    | 12,000    | 25,000           | 25,000     | 37,000                 | 37,000     | —        |
| <b>Year end</b>                        |           |           |                  |            |                        |            |          |
| Total loans and leases                 | \$ 5,472  | \$ 5,470  | \$ 311,942       | \$ 288,865 | \$ 317,414             | \$ 294,335 | 8%       |
| Total earning assets <sup>(2)</sup>    | 724,536   | 694,672   | 312,684          | 289,249    | 760,137                | 728,813    | 4        |
| Total assets <sup>(2)</sup>            | 758,385   | 724,019   | 322,717          | 299,970    | 804,019                | 768,881    | 5        |
| Total deposits                         | 725,598   | 691,666   | 5,080            | 4,480      | 730,678                | 696,146    | 5        |

<sup>(1)</sup> Estimated at the segment level only

<sup>(2)</sup> In segments and businesses where the total of liabilities and equity exceeds assets, we allocate assets from All Other to match the segments' and businesses' liabilities and allocated shareholders equity. As a result, total earning assets and total assets of the businesses may not equal total Consumer Banking.

Consumer Banking, which is comprised of Deposits and Consumer Lending, offers a diversified range of credit, banking and investment products and services to consumers and small businesses. Deposits and Consumer Lending include the net impact of migrating customers and their related deposit, brokerage asset and loan balances between Deposits, Consumer Lending and GWIM, as well as other client-managed businesses. Our customers and clients have access to a coast to coast network including financial centers in 38 states and the District of Columbia. Our network includes approximately 4,300 financial centers, approximately 16,800 ATMs, nationwide call centers, and leading digital banking platforms with more than 38 million active users, including over 29 million active mobile users.

### Consumer Banking Results

Net income for Consumer Banking increased \$852 million to \$13.0 billion in 2019 compared to 2018 primarily driven by higher net interest income and lower noninterest expense, partially offset by lower noninterest income. Net interest income increased \$1.1 billion to \$28.2 billion primarily due to growth in deposits and loans. Noninterest income decreased \$164 million to \$10.4 billion driven by lower service charges and lower mortgage banking income, largely offset by higher results from ALM activities.

The provision for credit losses increased \$108 million to \$3.8 billion driven by overdrafts and portfolio seasoning in the credit card portfolio. Noninterest expense decreased \$54 million to

\$17.6 billion primarily driven by lower FDIC expense and operating efficiencies, partially offset by continued investment in the business.

The return on average allocated capital was 35 percent, up from 33 percent, driven by higher net income. For information on capital allocated to the business segments, see Business Segment Operations on page 53.

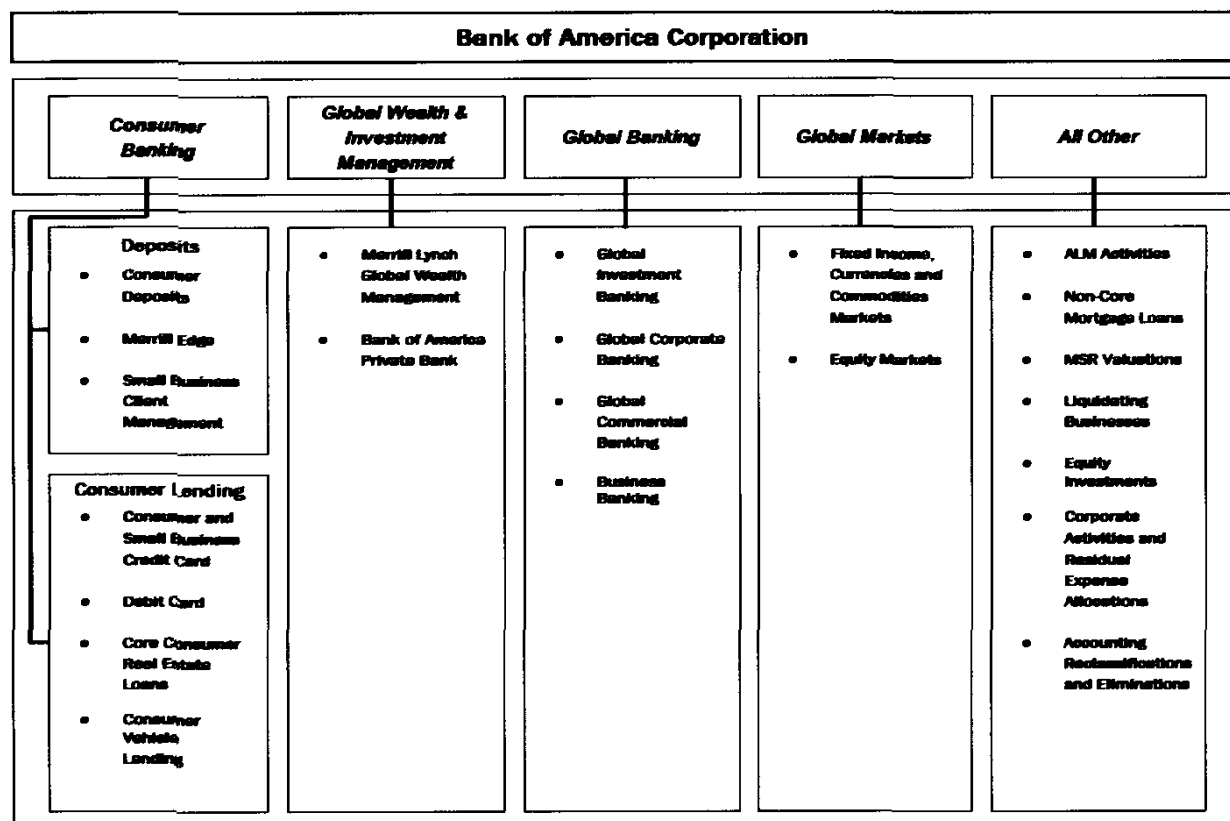
### Deposits

Deposits includes the results of consumer deposit activities which consist of a comprehensive range of products provided to consumers and small businesses. Our deposit products include traditional savings accounts, money market savings accounts, CDs and IRAs, and noninterest- and interest-bearing checking accounts, as well as investment accounts and products. Net interest income is allocated to the deposit products using our funds transfer pricing process that matches assets and liabilities with similar interest rate sensitivity and maturity characteristics. Deposits generates fees such as account service fees, non-sufficient funds fees, overdraft charges and ATM fees, as well as investment and brokerage fees from Merrill Edge accounts. Merrill Edge is an integrated investing and banking service targeted at customers with less than \$250,000 in investable assets. Merrill Edge provides investment advice and guidance, client brokerage asset services, a self-directed online investing platform and key banking capabilities including access to the Corporation's network of financial centers and ATMs.

## Business Segment Operations

### Segment Description and Basis of Presentation

We report our results of operations through the following four business segments: *Consumer Banking*, *GWIM*, *Global Banking* and *Global Markets*, with the remaining operations recorded in *All Other*. We manage our segments and report their results on an FTE basis. The primary activities, products and businesses of the business segments and *All Other* are shown below.



We periodically review capital allocated to our businesses and allocate capital annually during the strategic and capital planning processes. We utilize a methodology that considers the effect of regulatory capital requirements in addition to internal risk-based capital models. Our internal risk-based capital models use a risk-adjusted methodology incorporating each segment's credit, market, interest rate, business and operational risk components. For more information on the nature of these risks, see Managing Risk on page 63. The capital allocated to the business segments is referred to as allocated capital. Allocated equity in the reporting

units is comprised of allocated capital plus capital for the portion of goodwill and intangibles specifically assigned to the reporting unit. For more information, including the definition of a reporting unit, see *Note 8 - Goodwill and Intangible Assets* to the Consolidated Financial Statements.

For more information on our presentation of financial information on an FTE basis, see Supplemental Financial Data on page 48, and for reconciliations to consolidated total revenue, net income and year-end total assets, see *Note 24 - Business Segment Information* to the Consolidated Financial Statements.

**Table 9 Analysis of Changes in Net Interest Income - FTE Basis**

|                                                                                                                                                 | Due to Change in <sup>(1)</sup> |       |            | Due to Change in <sup>(1)</sup> |        |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------|------------|---------------------------------|--------|------------|
|                                                                                                                                                 | Volume                          | Rate  | Net Change | Volume                          | Rate   | Net Change |
|                                                                                                                                                 | From 2018 to 2019               |       |            | From 2017 to 2018               |        |            |
| (Dollars in millions)                                                                                                                           |                                 |       |            |                                 |        |            |
| <b>Increase (decrease) in interest income</b>                                                                                                   |                                 |       |            |                                 |        |            |
| Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks                                                      | \$ (193)                        | \$ 90 | \$ (103)   | \$ 109                          | \$ 695 | \$ 804     |
| Time deposits placed and other short-term investments                                                                                           | —                               | (9)   | (9)        | (53)                            | 28     | (25)       |
| Federal funds sold and securities borrowed or purchased under agreements to resell                                                              | 347                             | 1,320 | 1,667      | 230                             | 1,140  | 1,370      |
| Trading account assets                                                                                                                          | 563                             | (195) | 368        | 134                             | 149    | 283        |
| Debt securities                                                                                                                                 | 135                             | (55)  | 80         | 44                              | 1,167  | 1,211      |
| Loans and leases:                                                                                                                               |                                 |       |            |                                 |        |            |
| Residential mortgage                                                                                                                            | 447                             | (90)  | 357        | 329                             | 134    | 463        |
| Home equity                                                                                                                                     | (446)                           | 67    | (379)      | (350)                           | 315    | (35)       |
| Credit card                                                                                                                                     | (17)                            | 604   | 587        | 339                             | 449    | 788        |
| Non-U.S. credit card <sup>(2)</sup>                                                                                                             | —                               | —     | —          | (358)                           | —      | (358)      |
| Direct/Indirect and other consumer                                                                                                              | (76)                            | 233   | 157        | (82)                            | 452    | 370        |
| Total consumer                                                                                                                                  |                                 |       | 722        |                                 |        | 1,228      |
| U.S. commercial                                                                                                                                 | 665                             | 414   | 1,079      | 402                             | 1,770  | 2,172      |
| Non-U.S. commercial                                                                                                                             | 209                             | 118   | 327        | 71                              | 583    | 654        |
| Commercial real estate                                                                                                                          | 75                              | 48    | 123        | 70                              | 432    | 502        |
| Commercial lease financing                                                                                                                      | (28)                            | 48    | 20         | (5)                             | (3)    | (8)        |
| Total commercial                                                                                                                                |                                 |       | 1,549      |                                 |        | 3,320      |
| Total loans and leases                                                                                                                          |                                 |       | 2,271      |                                 |        | 4,548      |
| Other earning assets                                                                                                                            | (417)                           | 595   | 178        | (18)                            | 1,094  | 1,076      |
| Total interest income                                                                                                                           |                                 |       | \$ 4,452   |                                 |        | \$ 9,267   |
| <b>Increase (decrease) in interest expense</b>                                                                                                  |                                 |       |            |                                 |        |            |
| U.S. interest-bearing deposits:                                                                                                                 |                                 |       |            |                                 |        |            |
| Savings                                                                                                                                         | \$ (1)                          | \$ —  | \$ (1)     | \$ —                            | \$ 1   | \$ 1       |
| NOW and money market deposit accounts                                                                                                           | 254                             | 1,581 | 1,835      | 74                              | 1,689  | 1,763      |
| Consumer CDs and IRAs                                                                                                                           | 29                              | 285   | 314        | (13)                            | 49     | 36         |
| Negotiable CDs, public funds and other deposits                                                                                                 | 320                             | 96    | 416        | 132                             | 505    | 637        |
| Total U.S. interest-bearing deposits                                                                                                            |                                 |       | 2,564      |                                 |        | 2,437      |
| Non-U.S. interest-bearing deposits:                                                                                                             |                                 |       |            |                                 |        |            |
| Banks located in non-U.S. countries                                                                                                             | (6)                             | (13)  | (19)       | (1)                             | 19     | 18         |
| Governments and official institutions                                                                                                           | —                               | —     | —          | (2)                             | (8)    | (10)       |
| Time, savings and other                                                                                                                         | 41                              | 107   | 148        | 26                              | 93     | 119        |
| Total non-U.S. interest-bearing deposits                                                                                                        |                                 |       | 129        |                                 |        | 127        |
| Total interest-bearing deposits                                                                                                                 |                                 |       | 2,693      |                                 |        | 2,564      |
| Federal funds purchased, securities loaned or sold under agreements to repurchase, short-term borrowings and other interest-bearing liabilities | 160                             | 1,209 | 1,369      | (71)                            | 2,764  | 2,693      |
| Trading account liabilities                                                                                                                     | (145)                           | 36    | (109)      | 140                             | 14     | 154        |
| Long-term debt                                                                                                                                  | 41                              | (256) | (215)      | 165                             | 1,083  | 1,248      |
| Total interest expense                                                                                                                          |                                 |       | 3,738      |                                 |        | 6,659      |
| Net increase in net interest income <sup>(3)</sup>                                                                                              |                                 |       | \$ 714     |                                 |        | \$ 2,608   |

<sup>(1)</sup> The changes for each category of interest income and expense are divided between the portion of change attributable to the variance in volume and the portion of change attributable to the variance in rate for that category. The unallocated change in rate or volume variance is allocated between the rate and volume variances.

<sup>(2)</sup> The Corporation sold its non-U.S. credit card business in the second quarter of 2017.

<sup>(3)</sup> Includes decreases in FTE basis adjustments of \$15 million from 2018 to 2019 and \$315 million from 2017 to 2018.

Table 8 Average Balances and Interest Rates - FTE Basis

|                                                                                                                                                 | Average<br>Balance | Interest<br>Income/<br>Expense <sup>(1)</sup> | Yield/<br>Rate | Average<br>Balance | Interest<br>Income/<br>Expense <sup>(1)</sup> | Yield/<br>Rate | Average<br>Balance | Interest<br>Income/<br>Expense <sup>(1)</sup> | Yield/<br>Rate |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------|----------------|--------------------|-----------------------------------------------|----------------|--------------------|-----------------------------------------------|----------------|
| (Dollars in millions)                                                                                                                           | 2019               |                                               |                | 2018               |                                               |                | 2017               |                                               |                |
| <b>Earning assets</b>                                                                                                                           |                    |                                               |                |                    |                                               |                |                    |                                               |                |
| Interest-bearing deposits with the Federal Reserve, non-U.S. central banks and other banks                                                      | \$ 125,555         | \$ 1,823                                      | 1.45%          | \$ 139,848         | \$ 1,926                                      | 1.38%          | \$ 127,431         | \$ 1,122                                      | 0.88%          |
| Time deposits placed and other short-term investments                                                                                           | 9,427              | 207                                           | 2.19           | 9,446              | 216                                           | 2.29           | 12,112             | 241                                           | 1.99           |
| Federal funds sold and securities borrowed or purchased under agreements to resell                                                              | 279,610            | 4,843                                         | 1.73           | 251,328            | 3,176                                         | 1.26           | 222,818            | 1,806                                         | 0.81           |
| Trading account assets                                                                                                                          | 148,076            | 5,269                                         | 3.56           | 132,724            | 4,901                                         | 3.69           | 129,007            | 4,618                                         | 3.58           |
| Debt securities                                                                                                                                 | 450,090            | 11,917                                        | 2.65           | 437,312            | 11,837                                        | 2.66           | 435,005            | 10,626                                        | 2.44           |
| <b>Loans and leases <sup>(2)</sup></b>                                                                                                          |                    |                                               |                |                    |                                               |                |                    |                                               |                |
| Residential mortgage                                                                                                                            | 220,552            | 7,651                                         | 3.47           | 207,523            | 7,294                                         | 3.51           | 197,766            | 6,831                                         | 3.45           |
| Home equity                                                                                                                                     | 44,600             | 2,194                                         | 4.92           | 53,886             | 2,573                                         | 4.77           | 62,260             | 2,608                                         | 4.19           |
| Credit card                                                                                                                                     | 94,488             | 10,166                                        | 10.76          | 94,612             | 9,579                                         | 10.12          | 91,068             | 8,791                                         | 9.65           |
| Non-U.S. credit card <sup>(3)</sup>                                                                                                             | —                  | —                                             | —              | —                  | —                                             | —              | 3,929              | 358                                           | 9.12           |
| Direct/indirect and other consumer <sup>(4)</sup>                                                                                               | 90,656             | 3,261                                         | 3.60           | 93,036             | 3,104                                         | 3.34           | 96,002             | 2,734                                         | 2.85           |
| Total consumer                                                                                                                                  | 450,296            | 23,272                                        | 5.17           | 449,057            | 22,550                                        | 5.02           | 451,025            | 21,322                                        | 4.73           |
| U.S. commercial                                                                                                                                 | 321,467            | 13,016                                        | 4.05           | 304,387            | 11,937                                        | 3.92           | 292,452            | 9,765                                         | 3.34           |
| Non-U.S. commercial                                                                                                                             | 103,918            | 3,547                                         | 3.41           | 97,664             | 3,220                                         | 3.30           | 95,005             | 2,566                                         | 2.70           |
| Commercial real estate <sup>(5)</sup>                                                                                                           | 62,044             | 2,741                                         | 4.42           | 60,384             | 2,618                                         | 4.34           | 58,502             | 2,116                                         | 3.62           |
| Commercial lease financing                                                                                                                      | 20,691             | 718                                           | 3.47           | 21,557             | 698                                           | 3.24           | 21,747             | 706                                           | 3.25           |
| Total commercial                                                                                                                                | 508,120            | 20,022                                        | 3.94           | 483,992            | 18,473                                        | 3.82           | 467,706            | 15,153                                        | 3.24           |
| Total loans and leases <sup>(2)</sup>                                                                                                           | 958,416            | 43,294                                        | 4.52           | 933,049            | 41,023                                        | 4.40           | 918,731            | 36,475                                        | 3.97           |
| Other earning assets                                                                                                                            | 69,089             | 4,478                                         | 6.48           | 76,524             | 4,300                                         | 5.62           | 76,957             | 3,224                                         | 4.19           |
| Total earning assets                                                                                                                            | 2,040,263          | 71,831                                        | 3.52           | 1,980,231          | 67,379                                        | 3.40           | 1,922,061          | 58,112                                        | 3.02           |
| Cash and due from banks                                                                                                                         | 26,193             |                                               |                | 25,830             |                                               |                | 27,995             |                                               |                |
| Other assets, less allowance for loan and lease losses                                                                                          | 339,374            |                                               |                | 319,185            |                                               |                | 318,577            |                                               |                |
| Total assets                                                                                                                                    | \$ 2,405,830       |                                               |                | \$ 2,325,246       |                                               |                | \$ 2,268,633       |                                               |                |
| <b>Interest-bearing liabilities</b>                                                                                                             |                    |                                               |                |                    |                                               |                |                    |                                               |                |
| <b>U.S. interest-bearing deposits.</b>                                                                                                          |                    |                                               |                |                    |                                               |                |                    |                                               |                |
| Savings                                                                                                                                         | \$ 52,020          | \$ 5                                          | 0.01%          | \$ 54,226          | \$ 6                                          | 0.01%          | \$ 53,783          | \$ 5                                          | 0.01%          |
| NOW and money market deposit accounts                                                                                                           | 741,126            | 4,471                                         | 0.60           | 676,382            | 2,636                                         | 0.39           | 628,647            | 873                                           | 0.14           |
| Consumer CDs and IRAs                                                                                                                           | 47,577             | 471                                           | 0.99           | 39,823             | 157                                           | 0.39           | 44,794             | 121                                           | 0.27           |
| Negotiable CDs, public funds and other deposits                                                                                                 | 66,866             | 1,407                                         | 2.11           | 50,593             | 991                                           | 1.96           | 36,782             | 354                                           | 0.96           |
| Total U.S. interest-bearing deposits                                                                                                            | 907,589            | 6,354                                         | 0.70           | 821,024            | 3,790                                         | 0.46           | 764,006            | 1,353                                         | 0.18           |
| <b>Non-U.S. interest-bearing deposits</b>                                                                                                       |                    |                                               |                |                    |                                               |                |                    |                                               |                |
| Banks located in non-U.S. countries                                                                                                             | 1,936              | 20                                            | 1.04           | 2,312              | 39                                            | 1.69           | 2,442              | 21                                            | 0.85           |
| Governments and official institutions                                                                                                           | 181                | —                                             | 0.05           | 810                | —                                             | 0.01           | 1,006              | 10                                            | 0.95           |
| Time, savings and other                                                                                                                         | 69,351             | 814                                           | 1.17           | 65,097             | 666                                           | 1.02           | 62,386             | 547                                           | 0.88           |
| Total non-U.S. interest-bearing deposits                                                                                                        | 71,468             | 834                                           | 1.17           | 68,219             | 705                                           | 1.03           | 65,834             | 578                                           | 0.88           |
| Total interest-bearing deposits                                                                                                                 | 979,057            | 7,188                                         | 0.73           | 889,243            | 4,495                                         | 0.51           | 829,840            | 1,931                                         | 0.23           |
| Federal funds purchased, securities loaned or sold under agreements to repurchase, short-term borrowings and other interest-bearing liabilities | 276,432            | 7,208                                         | 2.61           | 269,748            | 5,839                                         | 2.17           | 274,975            | 3,146                                         | 1.14           |
| Trading account liabilities                                                                                                                     | 46,449             | 1,249                                         | 2.75           | 50,928             | 1,358                                         | 2.67           | 45,518             | 1,204                                         | 2.64           |
| Long-term debt                                                                                                                                  | 201,623            | 6,700                                         | 3.32           | 200,399            | 6,915                                         | 3.45           | 194,882            | 5,667                                         | 2.91           |
| Total interest-bearing liabilities                                                                                                              | 1,502,561          | 22,345                                        | 1.49           | 1,410,318          | 18,607                                        | 1.32           | 1,345,215          | 11,948                                        | 0.89           |
| <b>Noninterest-bearing sources</b>                                                                                                              |                    |                                               |                |                    |                                               |                |                    |                                               |                |
| Noninterest-bearing deposits                                                                                                                    | 401,269            |                                               |                | 425,698            |                                               |                | 439,956            |                                               |                |
| Other liabilities <sup>(6)</sup>                                                                                                                | 234,111            |                                               |                | 224,482            |                                               |                | 212,173            |                                               |                |
| Shareholders' equity                                                                                                                            | 267,889            |                                               |                | 264,748            |                                               |                | 271,289            |                                               |                |
| Total liabilities and shareholders' equity                                                                                                      | \$ 2,405,830       |                                               |                | \$ 2,325,246       |                                               |                | \$ 2,268,633       |                                               |                |
| Net interest spread                                                                                                                             |                    |                                               | 2.03%          |                    |                                               | 2.08%          |                    |                                               | 2.13%          |
| Impact of noninterest-bearing sources                                                                                                           |                    |                                               | 0.40           |                    |                                               | 0.37           |                    |                                               | 0.27           |
| Net interest income/yield on earning assets <sup>(7)</sup>                                                                                      |                    | \$ 49,486                                     | 2.43%          |                    | \$ 48,772                                     | 2.45%          |                    | \$ 46,164                                     | 2.40%          |

<sup>(1)</sup> Includes the impact of interest rate risk management contracts. For more information, see Interest Rate Risk Management for the Banking Book on page 95.

<sup>(2)</sup> Nonperforming loans are included in the respective average loan balances. Income on these nonperforming loans is generally recognized on a cost recovery basis.

<sup>(3)</sup> Includes assets of the Corporation's non-U.S. consumer credit card business, which was sold during the second quarter of 2017.

<sup>(4)</sup> Includes non-U.S. consumer loans of \$2.9 billion, \$2.8 billion and \$2.9 billion for 2019, 2018 and 2017, respectively.

<sup>(5)</sup> Includes U.S. commercial real estate loans of \$57.3 billion, \$56.4 billion and \$55.0 billion, and non-U.S. commercial real estate loans of \$4.7 billion, \$4.0 billion and \$3.5 billion for 2019, 2018 and 2017, respectively.

<sup>(6)</sup> Includes \$35.5 billion, \$30.4 billion and \$30.3 billion of structured notes and liabilities for 2019, 2018 and 2017, respectively.

<sup>(7)</sup> Net interest income includes FTE adjustments of \$595 million, \$610 million and \$925 million for 2019, 2018 and 2017, respectively.

Table 7 Selected Quarterly Financial Data

| (In millions, except per share information)                                                                | 2019 Quarters |            |            |            | 2018 Quarters |            |            |            |
|------------------------------------------------------------------------------------------------------------|---------------|------------|------------|------------|---------------|------------|------------|------------|
|                                                                                                            | Fourth        | Third      | Second     | First      | Fourth        | Third      | Second     | First      |
| <b>Income statement</b>                                                                                    |               |            |            |            |               |            |            |            |
| Net interest income                                                                                        | \$ 12,140     | \$ 12,187  | \$ 12,189  | \$ 12,375  | \$ 12,504     | \$ 12,061  | \$ 11,828  | \$ 11,769  |
| Noninterest income                                                                                         | 10,209        | 10,620     | 10,895     | 10,629     | 10,173        | 10,663     | 10,721     | 11,301     |
| Total revenue, net of interest expense                                                                     | 22,349        | 22,807     | 23,084     | 23,004     | 22,677        | 22,724     | 22,549     | 23,070     |
| Provision for credit losses                                                                                | 941           | 779        | 857        | 1,013      | 905           | 716        | 827        | 834        |
| Noninterest expense                                                                                        | 13,239        | 15,169     | 13,268     | 13,224     | 13,074        | 13,014     | 13,224     | 13,842     |
| Income before income taxes                                                                                 | 8,169         | 6,859      | 8,959      | 8,767      | 8,698         | 8,994      | 8,498      | 8,394      |
| Income tax expense                                                                                         | 1,175         | 1,082      | 1,611      | 1,456      | 1,420         | 1,827      | 1,714      | 1,476      |
| Net income                                                                                                 | 6,994         | 5,777      | 7,348      | 7,311      | 7,278         | 7,167      | 6,784      | 6,918      |
| Net income applicable to common shareholders                                                               | 6,748         | 5,272      | 7,109      | 6,869      | 7,039         | 6,701      | 6,466      | 6,490      |
| Average common shares issued and outstanding                                                               | 9,017.1       | 9,303.6    | 9,523.2    | 9,725.9    | 9,855.8       | 10,031.6   | 10,181.7   | 10,322.4   |
| Average diluted common shares issued and outstanding                                                       | 9,079.5       | 9,353.0    | 9,559.6    | 9,787.3    | 9,996.0       | 10,170.8   | 10,309.4   | 10,472.7   |
| <b>Performance ratios</b>                                                                                  |               |            |            |            |               |            |            |            |
| Return on average assets                                                                                   | 1.13%         | 0.95%      | 1.23%      | 1.26%      | 1.24%         | 1.23%      | 1.17%      | 1.21%      |
| Four-quarter trailing return on average assets <sup>(1)</sup>                                              | 1.14          | 1.17       | 1.24       | 1.22       | 1.21          | 1.00       | 0.93       | 0.86       |
| Return on average common shareholders' equity                                                              | 11.00         | 8.48       | 11.62      | 11.42      | 11.57         | 10.99      | 10.75      | 10.85      |
| Return on average tangible common shareholders' equity <sup>(2)</sup>                                      | 15.43         | 11.84      | 16.24      | 16.01      | 16.29         | 15.48      | 15.15      | 15.26      |
| Return on average shareholders' equity                                                                     | 10.40         | 8.48       | 11.00      | 11.14      | 10.95         | 10.74      | 10.26      | 10.57      |
| Return on average tangible shareholders' equity <sup>(2)</sup>                                             | 14.09         | 11.43      | 14.88      | 15.10      | 14.90         | 14.61      | 13.95      | 14.37      |
| Total ending equity to total ending assets                                                                 | 10.88         | 11.06      | 11.33      | 11.23      | 11.27         | 11.21      | 11.53      | 11.43      |
| Total average equity to total average assets                                                               | 10.89         | 11.21      | 11.17      | 11.28      | 11.30         | 11.42      | 11.42      | 11.41      |
| Dividend payout                                                                                            | 23.90         | 31.48      | 19.95      | 21.20      | 20.90         | 22.35      | 18.83      | 19.06      |
| <b>Per common share data</b>                                                                               |               |            |            |            |               |            |            |            |
| Earnings                                                                                                   | \$ 0.75       | \$ 0.57    | \$ 0.75    | \$ 0.71    | \$ 0.71       | \$ 0.67    | \$ 0.64    | \$ 0.63    |
| Diluted earnings                                                                                           | 0.74          | 0.56       | 0.74       | 0.70       | 0.70          | 0.66       | 0.63       | 0.62       |
| Dividends paid                                                                                             | 0.18          | 0.18       | 0.15       | 0.15       | 0.15          | 0.15       | 0.12       | 0.12       |
| Book value                                                                                                 | 27.32         | 26.96      | 26.41      | 25.57      | 25.13         | 24.33      | 24.07      | 23.74      |
| Tangible book value <sup>(2)</sup>                                                                         | 19.41         | 19.26      | 18.92      | 18.26      | 17.91         | 17.23      | 17.07      | 16.84      |
| Market capitalization                                                                                      | \$ 311,209    | \$ 264,842 | \$ 270,935 | \$ 263,992 | \$ 238,251    | \$ 290,424 | \$ 282,259 | \$ 305,176 |
| <b>Average balance sheet</b>                                                                               |               |            |            |            |               |            |            |            |
| Total loans and leases                                                                                     | \$ 973,986    | \$ 964,733 | \$ 950,525 | \$ 944,020 | \$ 934,721    | \$ 930,736 | \$ 934,818 | \$ 931,915 |
| Total assets                                                                                               | 2,450,005     | 2,412,223  | 2,399,051  | 2,360,992  | 2,334,586     | 2,317,829  | 2,322,678  | 2,325,878  |
| Total deposits                                                                                             | 1,410,439     | 1,375,052  | 1,375,450  | 1,359,864  | 1,344,951     | 1,316,345  | 1,300,659  | 1,297,268  |
| Long-term debt                                                                                             | 206,026       | 202,620    | 201,007    | 196,726    | 201,056       | 203,239    | 199,448    | 197,787    |
| Common shareholders' equity                                                                                | 243,439       | 246,630    | 245,438    | 243,891    | 241,372       | 241,812    | 241,313    | 242,713    |
| Total shareholders' equity                                                                                 | 266,900       | 270,430    | 267,975    | 266,217    | 263,698       | 264,653    | 265,181    | 265,480    |
| <b>Asset quality</b>                                                                                       |               |            |            |            |               |            |            |            |
| Allowance for credit losses <sup>(3)</sup>                                                                 | \$ 10,229     | \$ 10,242  | \$ 10,333  | \$ 10,379  | \$ 10,398     | \$ 10,526  | \$ 10,837  | \$ 11,042  |
| Nonperforming loans, leases and foreclosed properties <sup>(4)</sup>                                       | 3,837         | 3,723      | 4,452      | 5,145      | 5,244         | 5,449      | 6,181      | 6,694      |
| Allowance for loan and lease losses as a percentage of total loans and leases outstanding <sup>(4)</sup>   | 0.97%         | 0.98%      | 1.00%      | 1.02%      | 1.02%         | 1.05%      | 1.08%      | 1.11%      |
| Allowance for loan and lease losses as a percentage of total nonperforming loans and leases <sup>(4)</sup> | 265           | 271        | 228        | 197        | 194           | 189        | 170        | 161        |
| Net charge-offs                                                                                            | \$ 959        | \$ 811     | \$ 887     | \$ 991     | \$ 924        | \$ 932     | \$ 996     | \$ 911     |
| Annualized net charge-offs as a percentage of average loans and leases outstanding <sup>(4)</sup>          | 0.39%         | 0.34%      | 0.38%      | 0.43%      | 0.39%         | 0.40%      | 0.43%      | 0.40%      |
| <b>Capital ratios at period end</b>                                                                        |               |            |            |            |               |            |            |            |
| Common equity tier 1 capital                                                                               | 11.2%         | 11.4%      | 11.7%      | 11.6%      | 11.6%         | 11.4%      | 11.4%      | 11.3%      |
| Tier 1 capital                                                                                             | 12.6          | 12.9       | 13.3       | 13.1       | 13.2          | 12.9       | 13.0       | 13.0       |
| Total capital                                                                                              | 14.7          | 15.1       | 15.4       | 15.2       | 15.1          | 14.7       | 14.8       | 14.8       |
| Tier 1 leverage                                                                                            | 7.9           | 8.2        | 8.4        | 8.4        | 8.4           | 8.3        | 8.4        | 8.4        |
| Supplementary leverage ratio                                                                               | 6.4           | 6.6        | 6.8        | 6.8        | 6.8           | 6.7        | 6.7        | 6.8        |
| Tangible equity <sup>(2)</sup>                                                                             | 8.2           | 8.4        | 8.7        | 8.5        | 8.6           | 8.5        | 8.7        | 8.7        |
| Tangible common equity <sup>(2)</sup>                                                                      | 7.3           | 7.4        | 7.6        | 7.6        | 7.6           | 7.5        | 7.7        | 7.6        |
| <b>Total loss-absorbing capacity and long-term debt metrics <sup>(5)</sup></b>                             |               |            |            |            |               |            |            |            |
| Total loss-absorbing capacity to risk-weighted assets                                                      | 24.6%         | 24.8%      | 25.5%      | 24.8%      |               |            |            |            |
| Total loss-absorbing capacity to supplementary leverage exposure                                           | 12.5          | 12.7       | 13.0       | 12.8       |               |            |            |            |
| Eligible long-term debt to risk-weighted assets                                                            | 11.5          | 11.4       | 11.8       | 11.4       |               |            |            |            |
| Eligible long-term debt to supplementary leverage                                                          | 5.8           | 5.8        | 6.0        | 5.9        |               |            |            |            |

<sup>(1)</sup> Calculated as total net income for four consecutive quarters divided by annualized average assets for four consecutive quarters.

<sup>(2)</sup> Tangible equity ratios and tangible book value per share of common stock are non-GAAP financial measures. For more information on these ratios and corresponding reconciliations to GAAP financial measures, see Supplemental Financial Data on page 48 and Non-GAAP Reconciliations on page 101.

<sup>(3)</sup> Includes the allowance for loan and lease losses and the reserve for unfunded lending commitments.

<sup>(4)</sup> Balances and ratios do not include loans accounted for under the fair value option. For additional exclusions from nonperforming loans, leases and foreclosed properties, see Consumer Portfolio Credit Risk Management - Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity on page 80 and corresponding Table 29 and Commercial Portfolio Credit Risk Management - Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity on page 84 and corresponding Table 36.

<sup>(5)</sup> Effective January 1, 2019, we became subject to minimum total loss-absorbing capacity and long-term debt requirements. For more information, see Capital Management on page 66.

**Table 6 Five-year Summary of Selected Financial Data**

(In millions, except per share information)

|                                                                                                            | 2019       | 2018       | 2017       | 2016       | 2015       |
|------------------------------------------------------------------------------------------------------------|------------|------------|------------|------------|------------|
| <b>Income statement</b>                                                                                    |            |            |            |            |            |
| Net interest income                                                                                        | \$ 48,891  | \$ 48,162  | \$ 45,239  | \$ 41,486  | \$ 38,958  |
| Noninterest income                                                                                         | 42,353     | 42,858     | 41,887     | 42,012     | 44,007     |
| Total revenue, net of interest expense                                                                     | 91,244     | 91,020     | 87,126     | 83,498     | 82,965     |
| Provision for credit losses                                                                                | 3,590      | 3,282      | 3,396      | 3,597      | 3,161      |
| Noninterest expense                                                                                        | 54,900     | 53,154     | 54,517     | 54,880     | 57,617     |
| Income before income taxes                                                                                 | 32,754     | 34,584     | 29,213     | 25,021     | 22,187     |
| Income tax expense                                                                                         | 5,324      | 6,437      | 10,981     | 7,199      | 6,277      |
| Net income                                                                                                 | 27,430     | 28,147     | 18,232     | 17,822     | 15,910     |
| Net income applicable to common shareholders                                                               | 25,998     | 26,696     | 16,618     | 16,140     | 14,427     |
| Average common shares issued and outstanding                                                               | 9,390.5    | 10,096.5   | 10,195.6   | 10,248.1   | 10,462.3   |
| Average diluted common shares issued and outstanding                                                       | 9,442.9    | 10,236.9   | 10,778.4   | 11,046.8   | 11,236.2   |
| <b>Performance ratios</b>                                                                                  |            |            |            |            |            |
| Return on average assets                                                                                   | 1.14%      | 1.21%      | 0.80%      | 0.81%      | 0.74%      |
| Return on average common shareholders' equity                                                              | 10.62      | 11.04      | 6.72       | 6.69       | 6.28       |
| Return on average tangible common shareholders' equity <sup>(1)</sup>                                      | 14.86      | 15.55      | 9.41       | 9.51       | 9.16       |
| Return on average shareholders' equity                                                                     | 10.24      | 10.63      | 6.72       | 6.70       | 6.33       |
| Return on average tangible shareholders' equity <sup>(1)</sup>                                             | 13.85      | 14.46      | 9.08       | 9.17       | 8.88       |
| Total ending equity to total ending assets                                                                 | 10.88      | 11.27      | 11.71      | 12.17      | 11.92      |
| Total average equity to total average assets                                                               | 11.14      | 11.39      | 11.96      | 12.14      | 11.64      |
| Dividend payout                                                                                            | 23.65      | 20.31      | 24.24      | 15.94      | 14.49      |
| <b>Per common share data</b>                                                                               |            |            |            |            |            |
| Earnings                                                                                                   | \$ 2.77    | \$ 2.64    | \$ 1.63    | \$ 1.57    | \$ 1.38    |
| Diluted earnings                                                                                           | 2.75       | 2.61       | 1.56       | 1.49       | 1.31       |
| Dividends paid                                                                                             | 0.66       | 0.54       | 0.39       | 0.25       | 0.20       |
| Book value                                                                                                 | 27.32      | 25.13      | 23.80      | 23.97      | 22.48      |
| Tangible book value <sup>(1)</sup>                                                                         | 19.41      | 17.91      | 16.96      | 16.89      | 15.56      |
| <b>Market capitalization</b>                                                                               |            |            |            |            |            |
|                                                                                                            | \$ 311,209 | \$ 238,251 | \$ 303,681 | \$ 222,163 | \$ 174,700 |
| <b>Average balance sheet</b>                                                                               |            |            |            |            |            |
| Total loans and leases                                                                                     | \$ 958,416 | \$ 933,049 | \$ 918,731 | \$ 900,433 | \$ 876,787 |
| Total assets                                                                                               | 2,405,830  | 2,325,246  | 2,268,633  | 2,190,218  | 2,160,536  |
| Total deposits                                                                                             | 1,380,326  | 1,314,941  | 1,269,796  | 1,222,561  | 1,155,860  |
| Long-term debt                                                                                             | 201,623    | 200,399    | 194,882    | 204,826    | 240,059    |
| Common shareholders' equity                                                                                | 244,853    | 241,799    | 247,101    | 241,187    | 229,576    |
| Total shareholders' equity                                                                                 | 267,889    | 264,748    | 271,289    | 265,843    | 251,384    |
| <b>Asset quality <sup>(2)</sup></b>                                                                        |            |            |            |            |            |
| Allowance for credit losses <sup>(3)</sup>                                                                 | \$ 10,229  | \$ 10,398  | \$ 11,170  | \$ 11,999  | \$ 12,880  |
| Nonperforming loans, leases and foreclosed properties <sup>(4)</sup>                                       | 3,837      | 5,244      | 6,758      | 8,084      | 9,836      |
| Allowance for loan and lease losses as a percentage of total loans and leases outstanding <sup>(4)</sup>   | 0.97%      | 1.02%      | 1.12%      | 1.26%      | 1.37%      |
| Allowance for loan and lease losses as a percentage of total nonperforming loans and leases <sup>(4)</sup> | 265        | 194        | 161        | 149        | 130        |
| Net charge-offs                                                                                            | \$ 3,648   | \$ 3,763   | \$ 3,979   | \$ 3,821   | \$ 4,338   |
| Net charge-offs as a percentage of average loans and leases outstanding <sup>(4)</sup>                     | 0.38%      | 0.41%      | 0.44%      | 0.43%      | 0.50%      |
| <b>Capital ratios at year end <sup>(5)</sup></b>                                                           |            |            |            |            |            |
| Common equity tier 1 capital                                                                               | 11.2%      | 11.6%      | 11.5%      | 10.8%      | 9.8%       |
| Tier 1 capital                                                                                             | 12.6       | 13.2       | 13.0       | 12.4       | 11.2       |
| Total capital                                                                                              | 14.7       | 15.1       | 14.8       | 14.2       | 12.8       |
| Tier 1 leverage                                                                                            | 7.9        | 8.4        | 8.6        | 8.8        | 8.4        |
| Supplementary leverage ratio                                                                               | 6.4        | 6.8        | n/a        | n/a        | n/a        |
| Tangible equity <sup>(1)</sup>                                                                             | 8.2        | 8.6        | 8.9        | 9.2        | 8.9        |
| Tangible common equity <sup>(1)</sup>                                                                      | 7.3        | 7.6        | 7.9        | 8.0        | 7.8        |

<sup>(1)</sup> Tangible equity ratios and tangible book value per share of common stock are non-GAAP financial measures. For more information on these ratios and corresponding reconciliations to GAAP financial measures, see Supplemental Financial Data on page 48 and Non-GAAP Reconciliations on page 101.

<sup>(2)</sup> Asset quality metrics include \$75 million of non-U.S. consumer credit card net charge-offs in 2017 and \$243 million of non-U.S. consumer credit card allowance for loan and lease losses, \$9.2 billion of non-U.S. consumer credit card loans and \$175 million of non-U.S. consumer credit card net charge-offs in 2016. The non-U.S. consumer credit card business was sold in 2017.

<sup>(3)</sup> Includes the allowance for loan and lease losses and the reserve for unfunded lending commitments.

<sup>(4)</sup> Balances and ratios do not include loans accounted for under the fair value option. For additional exclusions from nonperforming loans, leases and foreclosed properties, see Consumer Portfolio Credit Risk Management – Nonperforming Consumer Loans, Leases and Foreclosed Properties Activity on page 80 and corresponding Table 29 and Commercial Portfolio Credit Risk Management – Nonperforming Commercial Loans, Leases and Foreclosed Properties Activity on page 84 and corresponding Table 36.

<sup>(5)</sup> Basel 3 transition provisions for regulatory capital adjustments and deductions were fully phased-in as of January 1, 2018. Prior periods are presented on a fully phased-in basis. For more information, including which approach is used to assess capital adequacy, see Capital Management on page 66.

n/a = not applicable

## Supplemental Financial Data

In this Form 10-K, we present certain non-GAAP financial measures. Non-GAAP financial measures exclude certain items or otherwise include components that differ from the most directly comparable measures calculated in accordance with accounting principles generally accepted in the United States of America (GAAP). Non-GAAP financial measures are provided as additional useful information to assess our financial condition, results of operations (including period-to-period operating performance) or compliance with prospective regulatory requirements. These non-GAAP financial measures are not intended as a substitute for GAAP financial measures and may not be defined or calculated the same way as non-GAAP financial measures used by other companies.

We view net interest income and related ratios and analyses on an FTE basis, which when presented on a consolidated basis are non-GAAP financial measures. To derive the FTE basis, net interest income is adjusted to reflect tax-exempt income on an equivalent before-tax basis with a corresponding increase in income tax expense. For purposes of this calculation, we use the federal statutory tax rate of 21 percent for 2019 and 2018 (35 percent for 2017) and a representative state tax rate. Net interest yield, which measures the basis points we earn over the cost of funds, utilizes net interest income on an FTE basis. We believe that presentation of these items on an FTE basis allows for comparison of amounts from both taxable and tax-exempt sources and is consistent with industry practices.

We may present certain key performance indicators and ratios excluding certain items (e.g., debit valuation adjustment (DVA) gains (losses)) which result in non-GAAP financial measures. We believe that the presentation of measures that exclude these items is useful because such measures provide additional information to assess the underlying operational performance and trends of our businesses and to allow better comparison of period-to-period operating performance.

We also evaluate our business based on certain ratios that utilize tangible equity, a non-GAAP financial measure. Tangible equity represents shareholders' equity or common shareholders'

equity reduced by goodwill and intangible assets (excluding mortgage servicing rights (MSRs)), net of related deferred tax liabilities ("adjusted" shareholders' equity or common shareholders' equity). These measures are used to evaluate our use of equity. In addition, profitability, relationship and investment models use both return on average tangible common shareholders' equity and return on average tangible shareholders' equity as key measures to support our overall growth goals. These ratios are as follows:

- Return on average tangible common shareholders' equity measures our net income applicable to common shareholders as a percentage of adjusted average common shareholders' equity. The tangible common equity ratio represents adjusted ending common shareholders' equity divided by total tangible assets.
- Return on average tangible shareholders' equity measures our net income as a percentage of adjusted average total shareholders' equity. The tangible equity ratio represents adjusted ending shareholders' equity divided by total tangible assets.
- Tangible book value per common share represents adjusted ending common shareholders' equity divided by ending common shares outstanding.

We believe that the use of ratios that utilize tangible equity provides additional useful information because they present measures of those assets that can generate income. Tangible book value per common share provides additional useful information about the level of tangible assets in relation to outstanding shares of common stock.

The aforementioned supplemental data and performance measures are presented in Tables 6 and 7.

For more information on the reconciliation of these non-GAAP financial measures to the corresponding GAAP financial measures, see Non-GAAP Reconciliations on page 101.

### **Trading Account Assets**

Trading account assets consist primarily of long positions in equity and fixed-income securities including U.S. government and agency securities, corporate securities and non-U.S. sovereign debt. Trading account assets increased \$15.5 billion primarily driven by additional inventory in *Global Markets* to facilitate client demand.

### **Debt Securities**

Debt securities primarily include U.S. Treasury and agency securities, mortgage-backed securities (MBS), principally agency MBS, non-U.S. bonds, corporate bonds and municipal debt. We use the debt securities portfolio primarily to manage interest rate and liquidity risk and to take advantage of market conditions that create economically attractive returns on these investments. Debt securities increased \$30.4 billion primarily driven by the deployment of deposit inflows. For more information on debt securities, see *Note 4 – Securities* to the Consolidated Financial Statements.

### **Loans and Leases**

Loans and leases increased \$36.5 billion primarily due to net loan growth driven by client demand for commercial loans and increases in residential mortgage. For more information on the loan portfolio, see *Credit Risk Management* on page 74.

### **Allowance for Loan and Lease Losses**

The allowance for loan and lease losses decreased \$185 million primarily due to the impact of improvements in credit quality from a stronger economy and continued runoff and sales in the non-core consumer real estate portfolio. For more information, see *Allowance for Credit Losses* on page 89.

### **Liabilities**

At December 31, 2019, total liabilities were approximately \$2.2 trillion, up \$80.1 billion from December 31, 2018, primarily due to deposit growth.

### **Deposits**

Deposits increased \$53.3 billion primarily due to increases in both retail and wholesale deposits.

### **Federal Funds Purchased and Securities Loaned or Sold Under Agreements to Repurchase**

Federal funds transactions involve borrowing reserve balances on a short-term basis. Securities loaned or sold under agreements to repurchase are collateralized borrowing transactions utilized to accommodate customer transactions, earn interest rate spreads and finance assets on the balance sheet. Federal funds purchased and securities loaned or sold under agreements to repurchase decreased \$21.9 billion primarily driven by balance sheet efficiencies within *Global Markets*.

### **Trading Account Liabilities**

Trading account liabilities consist primarily of short positions in equity and fixed-income securities including U.S. Treasury and agency securities, corporate securities and non-U.S. sovereign debt. Trading account liabilities increased \$15.1 billion primarily due to higher levels of short positions in government and corporate bonds driven by client demand within *Global Markets*.

### **Short-term Borrowings**

Short-term borrowings provide an additional funding source and primarily consist of Federal Home Loan Bank (FHLB) short-term borrowings, notes payable and various other borrowings that generally have maturities of one year or less. Short-term borrowings increased \$4.0 billion primarily due to an increase in short-term FHLB advances to manage liquidity needs. For more information on short-term borrowings, see *Note 11 – Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash* to the Consolidated Financial Statements.

### **Long-term Debt**

Long-term debt increased \$11.5 billion primarily driven by debt issuances and valuation adjustments, partially offset by maturities and redemptions. For more information on long-term debt, see *Note 12 – Long-term Debt* to the Consolidated Financial Statements.

### **All Other Liabilities**

All other liabilities increased \$18.1 billion primarily driven by an increase in broker-dealer payables within *Global Markets* due to timing of unsettled trades and an increase in lease liabilities due to implementation of the new lease accounting standard.

### **Shareholders' Equity**

Shareholders' equity decreased \$515 million driven by returns of capital to shareholders through share repurchases, common and preferred stock dividends of \$35.7 billion, as well as redemption of preferred stock, largely offset by earnings, market value increases on debt securities and issuances of preferred stock.

### **Cash Flows Overview**

The Corporation's operating assets and liabilities support our global markets and lending activities. We believe that cash flows from operations, available cash balances and our ability to generate cash through short- and long-term debt are sufficient to fund our operating liquidity needs. Our investing activities primarily include the debt securities portfolio and loans and leases. Our financing activities reflect cash flows primarily related to customer deposits, securities financing agreements and long-term debt. For more information on liquidity, see *Liquidity Risk* on page 71.

## Provision for Credit Losses

The provision for credit losses increased \$308 million to \$3.6 billion in 2019 compared to 2018. The increase was primarily due to the energy reserve releases in the commercial portfolio in 2018, partially offset by the impact of recoveries recorded in connection with sales of previously charged-off non-core consumer real estate loans. For more information on the provision for credit losses, see Provision for Credit Losses on page 89.

## Noninterest Expense

**Table 3 Noninterest Expense**

| (Dollars in millions)                     | 2019             | 2018             |
|-------------------------------------------|------------------|------------------|
| Compensation and benefits                 | \$ 31,977        | \$ 31,880        |
| Occupancy and equipment                   | 6,588            | 6,380            |
| Information processing and communications | 4,646            | 4,555            |
| Product delivery and transaction related  | 2,762            | 2,857            |
| Marketing                                 | 1,934            | 1,674            |
| Professional fees                         | 1,597            | 1,699            |
| Other general operating                   | 5,396            | 4,109            |
| <b>Total noninterest expense</b>          | <b>\$ 54,900</b> | <b>\$ 53,154</b> |

Noninterest expense increased \$1.7 billion to \$54.9 billion in 2019 compared to 2018. The increase was primarily due to the

## Balance Sheet Overview

**Table 5 Selected Balance Sheet Data**

| (Dollars in millions)                                                                | December 31         |                     | % Change |
|--------------------------------------------------------------------------------------|---------------------|---------------------|----------|
|                                                                                      | 2019                | 2018                |          |
| <b>Assets</b>                                                                        |                     |                     |          |
| Cash and cash equivalents                                                            | \$ 161,560          | \$ 177,404          | (9)%     |
| Federal funds sold and securities borrowed or purchased under agreements to resell   | 274,597             | 261,131             | 5        |
| Trading account assets                                                               | 229,826             | 214,348             | 7        |
| Debt securities                                                                      | 472,197             | 441,753             | 7        |
| Loans and leases                                                                     | 983,426             | 946,895             | 4        |
| Allowance for loan and lease losses                                                  | (9,416)             | (9,601)             | (2)      |
| All other assets                                                                     | 321,889             | 322,577             | —        |
| <b>Total assets</b>                                                                  | <b>\$ 2,434,079</b> | <b>\$ 2,354,507</b> | <b>3</b> |
| <b>Liabilities</b>                                                                   |                     |                     |          |
| Deposits                                                                             | \$ 1,434,803        | \$ 1,381,476        | 4        |
| Federal funds purchased and securities loaned or sold under agreements to repurchase | 165,109             | 186,988             | (12)     |
| Trading account liabilities                                                          | 83,270              | 68,220              | 22       |
| Short-term borrowings                                                                | 24,204              | 20,189              | 20       |
| Long-term debt                                                                       | 240,856             | 229,392             | 5        |
| All other liabilities                                                                | 221,027             | 202,917             | 9        |
| <b>Total liabilities</b>                                                             | <b>2,169,269</b>    | <b>2,089,182</b>    | <b>4</b> |
| <b>Shareholders' equity</b>                                                          | <b>264,810</b>      | <b>265,325</b>      | <b>—</b> |
| <b>Total liabilities and shareholders' equity</b>                                    | <b>\$ 2,434,079</b> | <b>\$ 2,354,507</b> | <b>3</b> |

## Assets

At December 31, 2019, total assets were approximately \$2.4 trillion, up \$79.6 billion from December 31, 2018. The increase in assets was primarily due to higher loans and leases and debt securities primarily funded by deposit growth.

### Cash and Cash Equivalents

Cash and cash equivalents decreased \$15.8 billion driven by investment of short-term excess cash into securities purchased under agreements to resell, debt securities and growth in loans and leases

forementioned impairment charge related to our merchant services joint venture of \$2.1 billion as well as increased costs associated with investment in the businesses, including brand-related marketing costs, and higher litigation expense. These were partially offset by efficiency savings, lower Federal Deposit Insurance Corporation (FDIC) expense and lower amortization of intangibles expense.

## Income Tax Expense

**Table 4 Income Tax Expense**

| (Dollars in millions)      | 2019         | 2018         |
|----------------------------|--------------|--------------|
| Income before income taxes | \$ 32,754    | \$ 34,584    |
| Income tax expense         | 5,324        | 6,437        |
| <b>Effective tax rate</b>  | <b>16.3%</b> | <b>18.6%</b> |

The effective tax rates for 2019 and 2018 reflect the impact of our recurring tax preference benefits. The 2019 effective rate also included net tax benefits primarily related to the resolution of various tax controversy matters.

We expect the effective tax rate for 2020 to be approximately 18 percent, absent unusual items.

### Federal Funds Sold and Securities Borrowed or Purchased Under Agreements to Resell

Federal funds transactions involve lending reserve balances on a short-term basis. Securities borrowed or purchased under agreements to resell are collateralized lending transactions utilized to accommodate customer transactions, earn interest rate spreads, and obtain securities for settlement and for collateral. Federal funds sold and securities borrowed or purchased under agreements to resell increased \$13.5 billion due to investment of excess cash levels.

## Financial Highlights

In the Consolidated Statement of Income, amounts related to certain asset and liability management (ALM) activities have been reclassified from other income to market making and similar activities, which was previously referred to as trading account income. All prior periods presented reflect this change, which has no impact on the Corporation's total noninterest income or net income, and has no impact on business segment results. For more information, see Note 1 – Summary of Significant Accounting Principles to the Consolidated Financial Statements.

**Table 1 Summary Income Statement and Selected Financial Data**

| (Dollars in millions, except per share information)                   | 2019             | 2018             |
|-----------------------------------------------------------------------|------------------|------------------|
| <b>Income statement</b>                                               |                  |                  |
| Net interest income                                                   | \$ 48,891        | \$ 48,162        |
| Noninterest income                                                    | 42,353           | 42,858           |
| <b>Total revenue, net of interest expense</b>                         | <b>91,244</b>    | <b>91,020</b>    |
| Provision for credit losses                                           | 3,590            | 3,282            |
| Noninterest expense                                                   | 54,900           | 53,154           |
| <b>Income before income taxes</b>                                     | <b>32,754</b>    | <b>34,584</b>    |
| Income tax expense                                                    | 5,324            | 6,437            |
| <b>Net income</b>                                                     | <b>27,430</b>    | <b>28,147</b>    |
| Preferred stock dividends                                             | 1,432            | 1,451            |
| <b>Net income applicable to common shareholders</b>                   | <b>\$ 25,998</b> | <b>\$ 26,696</b> |
| <b>Per common share information</b>                                   |                  |                  |
| Earnings                                                              | \$ 2.77          | \$ 2.64          |
| Diluted earnings                                                      | 2.75             | 2.61             |
| Dividends paid                                                        | 0.66             | 0.54             |
| <b>Performance ratios</b>                                             |                  |                  |
| Return on average assets                                              | 1.14%            | 1.21%            |
| Return on average common shareholders' equity                         | 10.62            | 11.04            |
| Return on average tangible common shareholders' equity <sup>(1)</sup> | 14.86            | 15.55            |
| Efficiency ratio                                                      | 60.17            | 58.40            |
| <b>Balance sheet at year end</b>                                      |                  |                  |
| Total loans and leases                                                | \$ 983,426       | \$ 946,895       |
| Total assets                                                          | 2,434,079        | 2,354,507        |
| Total deposits                                                        | 1,434,803        | 1,381,476        |
| Total liabilities                                                     | 2,169,269        | 2,089,182        |
| Total common shareholders' equity                                     | 241,409          | 242,999          |
| Total shareholders' equity                                            | 264,810          | 265,325          |

<sup>(1)</sup> Return on average tangible common shareholders' equity is a non-GAAP financial measure. For more information and a corresponding reconciliation to the most closely related financial measures defined by accounting principles generally accepted in the United States of America, see Non-GAAP Reconciliations on page 101.

Net income was \$27.4 billion or \$2.75 per diluted share in 2019 compared to \$28.1 billion, or \$2.61 per diluted share in 2018. The decrease in net income was primarily driven by an increase in noninterest expense as a result of the \$2.1 billion pretax impairment charge related to the notice of termination of the merchant services joint venture at the conclusion of its current term. Also contributing to the decrease in net income were higher provision for credit losses and lower noninterest income, partially offset by an increase in net interest income.

For discussion and analysis of our consolidated and business segment results of operations for 2018 compared to 2017, see

the Financial Highlights and Business Segment Operations sections in the MD&A of the Corporation's 2018 Annual Report on Form 10-K.

## Net Interest Income

Net interest income increased \$729 million to \$48.9 billion in 2019 compared 2018. Net interest yield on a fully taxable-equivalent (FTE) basis decreased two basis points (bps) to 2.43 percent for 2019. The increase in net interest income was primarily driven by loan and deposit growth, partially offset by lower long-end rates. Assuming a stable economic and interest rate environment compared to December 31, 2019, we expect quarterly net interest income for the first two quarters of 2020 to be lower compared to the fourth quarter of 2019 driven by the impact of rates and one fewer day of interest accruals. Quarterly net interest income is expected to rise modestly in the second half of 2020 due to one additional day of interest accruals and expected loan and deposit growth. For more information on net interest yield and the FTE basis, see Supplemental Financial Data on page 48, and for more information on interest rate risk management, see Interest Rate Risk Management for the Banking Book on page 95.

## Noninterest Income

**Table 2 Noninterest Income**

| (Dollars in millions)                | 2019             | 2018             |
|--------------------------------------|------------------|------------------|
| <b>Fees and commissions:</b>         |                  |                  |
| Card income                          | \$ 5,797         | \$ 5,824         |
| Service charges                      | 7,674            | 7,767            |
| Investment and brokerage services    | 13,902           | 14,160           |
| Investment banking fees              | 5,642            | 5,327            |
| <b>Total fees and commissions</b>    | <b>33,015</b>    | <b>33,078</b>    |
| Market making and similar activities | 9,034            | 9,008            |
| Other income                         | 304              | 772              |
| <b>Total noninterest income</b>      | <b>\$ 42,353</b> | <b>\$ 42,858</b> |

Noninterest income decreased \$505 million to \$42.4 billion in 2019 compared to 2018. The following highlights the significant changes.

- Service charges decreased \$93 million primarily driven by lower fees due to policy changes in 2018 and lower ATM volume in Consumer Banking.
- Investment and brokerage services income decreased \$258 million primarily due to lower transactional revenue and a decrease in assets under management (AUM) pricing, partially offset by the positive impact of AUM flows and higher market valuations.
- Investment banking fees increased \$315 million due to increases in advisory fees and equity and debt underwriting fees.
- Other income decreased \$468 million primarily due to lower gains on sales of non-core consumer loans and higher partnership losses associated with an increase in tax-advantaged investments, partially offset by higher gains on sales of debt securities.

three million small business owners. Our wealth management businesses, with client balances of \$3.0 trillion, provide tailored solutions to meet client needs through a full set of investment management, brokerage, banking, trust and retirement products. We are a global leader in corporate and investment banking and trading across a broad range of asset classes serving corporations, governments, institutions and individuals around the world.

## Recent Developments

### Capital Management

During 2019, we repurchased \$28.1 billion of common stock pursuant to the Corporation's Board of Directors' (the Board) repurchase authorizations. For more information, see Capital Management on page 66.

### Merchant Services Joint Venture

A significant portion of our merchant processing activity is performed by a joint venture, formed in 2009, in which we own a 49 percent ownership interest. The joint venture is accounted for as an equity method investment. As previously disclosed in the Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, we gave notice on July 29, 2019 to the joint venture partner of the termination of the joint venture upon the conclusion of its current term, after which we expect to pursue our own merchant services strategy. In addition, the Corporation and the joint venture partner have an agreement to provide uninterrupted delivery of products and services to the joint venture merchants through at least June 2023. As a result of the above actions, we incurred a non-cash, pretax impairment charge of \$2.1 billion included in other general operating expense in the three months ended September 30, 2019. As stated above, the Corporation expects to pursue its own merchant services strategy, which is expected to begin in the third quarter of 2020. Under this strategy, we will begin to record the revenues and expenses from those operations in the Consolidated Statement of Income instead of recognizing our proportionate share of the joint venture's income under the equity method. For more information, see Note 13 – Commitments and Contingencies to the Consolidated Financial Statements.

### U.K. Exit from the EU

On January 31, 2020, the U.K. formally exited the European Union (EU). Upon exit, a transition period began during which time the U.K. and the EU expect to negotiate a trade agreement and other terms associated with their future relationship. The transition period is scheduled to end on December 31, 2020.

We conduct business in Europe, the Middle East and Africa primarily through our subsidiaries in the U.K., Ireland and France. For information on the changes we have implemented to enable us to continue to operate in the region, including establishing a bank and broker-dealer in the EU, see the Corporation's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019. While we have taken measures to minimize operational disruption and prepare for various potential outcomes of the U.K.'s withdrawal from the EU, the preparedness of our counterparties and the relevant financial markets infrastructure remain outside our control. The global economic impact of the U.K.'s withdrawal from the EU remains uncertain and could result in regional and global

financial market disruptions. We continue to assess potential risks, including operational, regulatory and legal risks.

### LIBOR and Other Benchmark Rates

Following the 2017 announcement by the U.K.'s Financial Conduct Authority (FCA) that it will no longer persuade or require participating banks to submit rates for the London Interbank Offered Rate (LIBOR) after 2021, central banks and regulators around the world have commissioned working groups to find suitable replacements for Interbank Offered Rates (IBOR), including LIBOR, and other benchmark rates and to implement financial benchmark reforms more generally. The future discontinuance of IBORs is a complex process that has resulted in significant uncertainty regarding the transition to suitable alternative reference rates (ARRs) and could cause disruptions in a variety of global financial markets, as well as adversely impact our business, operations and financial results.

IBORs, including LIBOR, are used in many of the Corporation's products and contracts, including mortgages, consumer, commercial and corporate loans, derivatives, floating-rate notes and other adjustable-rate products and financial instruments. The aggregate notional amount of these products and contracts is material to our business. As previously disclosed, to facilitate an orderly transition from IBORs and other benchmark rates to ARRs, the Corporation has established an enterprise-wide initiative led by senior management. As part of this initiative, the Corporation continues to identify, assess and monitor risks associated with the expected discontinuation or unavailability of LIBOR and other benchmarks and evaluate and address documentation and contractual mechanics of outstanding IBOR-based products and contracts that mature after 2021 and new and potential future ARR-based products and contracts to achieve operational readiness. Additionally, the Corporation is continuing to evaluate potential regulatory, tax and accounting impacts of the transition, including guidance published and/or proposed by the Internal Revenue Service and Financial Accounting Standards Board, engage impacted clients in connection with the transition to ARRs and work actively with global regulators, industry working groups and trade associations to develop strategies for an effective transition to ARRs.

The Corporation is also modifying its operational models, systems, procedures and internal infrastructure to transition to ARRs. In 2019, the Corporation launched capabilities to support issuance and trading in products indexed to the new Secured Overnight Financing Rate (SOFR), which is the alternative benchmark rate to U.S. dollar LIBOR recommended by the Alternative Reference Rates Committee, a group of private-market participants and official-sector entities convened by the Board of Governors of the Federal Reserve System (Federal Reserve) and the Federal Reserve Bank of New York, and a broad measure of the cost of borrowing cash overnight collateralized by U.S. Treasury securities. Also, in 2019, the Corporation issued debt linked to SOFR, and the Corporation co-arranged one of the first credit facilities linked to SOFR and has implemented fallback provisions into certain new IBOR-based products and contracts. The Corporation continues to monitor the development and usage of ARRs, including SOFR. For more information on the expected replacement of LIBOR and other benchmark rates, see Item 1A. Risk Factors of our 2019 Annual Report on Form 10-K.

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

Bank of America Corporation (the "Corporation") and its management may make certain statements that constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements can be identified by the fact that they do not relate strictly to historical or current facts. Forward-looking statements often use words such as "anticipates," "targets," "expects," "hopes," "estimates," "intends," "plans," "goals," "believes," "continue" and other similar expressions or future or conditional verbs such as "will," "may," "might," "should," "would" and "could." Forward-looking statements represent the Corporation's current expectations, plans or forecasts of its future results, revenues, expenses, efficiency ratio, capital measures, strategy and future business and economic conditions more generally, and other future matters. These statements are not guarantees of future results or performance and involve certain known and unknown risks, uncertainties and assumptions that are difficult to predict and are often beyond the Corporation's control. Actual outcomes and results may differ materially from those expressed in, or implied by, any of these forward-looking statements.

You should not place undue reliance on any forward-looking statement and should consider the following uncertainties and risks, as well as the risks and uncertainties more fully discussed under Item 1A. Risk Factors of our 2019 Annual Report on Form 10-K: the Corporation's potential claims, damages, penalties, fines and reputational damage resulting from pending or future litigation, regulatory proceedings and enforcement actions; the possibility that the Corporation's future liabilities may be in excess of its recorded liability and estimated range of possible loss for litigation, regulatory and representations and warranties exposures; the possibility that the Corporation could face increased servicing, fraud, indemnity, contribution or other claims from one or more counterparties, including trustees, purchasers of loans, underwriters, issuers, monolines, private-label and other investors, or other parties involved in securitizations; the Corporation's ability to resolve representations and warranties repurchase and related claims, including claims brought by investors or trustees seeking to avoid the statute of limitations for repurchase claims; the risks related to the discontinuation of the London Interbank Offered Rate and other reference rates, including increased expenses and litigation and the effectiveness of hedging strategies; uncertainties about the financial stability and growth rates of non-U.S. jurisdictions, the risk that those jurisdictions may face difficulties servicing their sovereign debt, and related stresses on financial markets, currencies and trade, and the Corporation's exposures to such risks, including direct, indirect and operational; the impact of U.S. and global interest rates, inflation, currency exchange rates, economic conditions, trade policies and tensions, including tariffs, and potential geopolitical instability; the impact of the interest rate environment on the Corporation's business, financial condition and results of operations; the possibility that future credit losses may be higher than currently expected due to changes in economic assumptions, customer behavior, adverse developments with respect to U.S. or global economic conditions and other uncertainties; the Corporation's ability to achieve its expense targets and expectations regarding net interest income, provision for credit losses, net charge-offs, effective tax rate, loan growth or other projections; adverse changes to the Corporation's credit ratings from the major credit rating agencies; an inability to access capital markets or maintain deposits or borrowing costs; estimates of the fair value and other accounting values, subject to impairment assessments, of certain of the Corporation's assets and liabilities; the estimated or actual impact of changes in accounting standards or assumptions in applying those standards; uncertainty regarding the content, timing and

impact of regulatory capital and liquidity requirements; the impact of adverse changes to total loss-absorbing capacity requirements and/or global systemically important bank surcharges; the potential impact of actions of the Board of Governors of the Federal Reserve System on the Corporation's capital plans; the effect of regulations, other guidance or additional information on the impact from the Tax Cuts and Jobs Act; the impact of implementation and compliance with U.S. and international laws, regulations and regulatory interpretations, including, but not limited to, recovery and resolution planning requirements, Federal Deposit Insurance Corporation assessments, the Volcker Rule, fiduciary standards and derivatives regulations; a failure or disruption in or breach of the Corporation's operational or security systems or infrastructure, or those of third parties, including as a result of cyber attacks or campaigns; the impact on the Corporation's business, financial condition and results of operations from the United Kingdom's exit from the European Union; the impact of any future federal government shutdown and uncertainty regarding the federal government's debt limit; the impact of natural disasters, the emergence of widespread health emergencies or pandemics, military conflict, terrorism or other geopolitical events; and other matters.

Forward-looking statements speak only as of the date they are made, and the Corporation undertakes no obligation to update any forward-looking statement to reflect the impact of circumstances or events that arise after the date the forward-looking statement was made.

Notes to the Consolidated Financial Statements referred to in the Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) are incorporated by reference into the MD&A. Certain prior-year amounts have been reclassified to conform to current-year presentation. Throughout the MD&A, the Corporation uses certain acronyms and abbreviations which are defined in the Glossary.

### Executive Summary

#### Business Overview

The Corporation is a Delaware corporation, a bank holding company (BHC) and a financial holding company. When used in this report, "the Corporation," "we," "us" and "our" may refer to Bank of America Corporation individually, Bank of America Corporation and its subsidiaries, or certain of Bank of America Corporation's subsidiaries or affiliates. Our principal executive offices are located in Charlotte, North Carolina. Through our banking and various nonbank subsidiaries throughout the U.S. and in international markets, we provide a diversified range of banking and nonbank financial services and products through four business segments: *Consumer Banking*, *Global Wealth & Investment Management (GWIM)*, *Global Banking* and *Global Markets*, with the remaining operations recorded in *All Other*. We operate our banking activities primarily under the Bank of America, National Association (Bank of America, N.A. or BANA) charter. At December 31, 2019, the Corporation had \$2.4 trillion in assets and a headcount of approximately 208,000 employees.

As of December 31, 2019, we served clients through operations across the U.S., its territories and approximately 35 countries. Our retail banking footprint covers approximately 90 percent of the U.S. population, and we serve approximately 66 million consumer and small business clients with approximately 4,300 retail financial centers, approximately 16,800 ATMs, and leading digital banking platforms ([www.bankofamerica.com](http://www.bankofamerica.com)) with more than 38 million active users, including over 29 million active mobile users. We offer industry-leading support to approximately

## Financial Review

### Table of Contents

|                                                            | Page |
|------------------------------------------------------------|------|
| Executive Summary                                          | 43   |
| Recent Developments                                        | 44   |
| Financial Highlights                                       | 45   |
| Balance Sheet Overview                                     | 46   |
| Supplemental Financial Data                                | 48   |
| Business Segment Operations                                | 53   |
| Consumer Banking                                           | 54   |
| Global Wealth & Investment Management                      | 56   |
| Global Banking                                             | 58   |
| Global Markets                                             | 60   |
| All Other                                                  | 61   |
| Off-Balance Sheet Arrangements and Contractual Obligations | 62   |
| Managing Risk                                              | 63   |
| Strategic Risk Management                                  | 66   |
| Capital Management                                         | 66   |
| Liquidity Risk                                             | 71   |
| Credit Risk Management                                     | 74   |
| Consumer Portfolio Credit Risk Management                  | 75   |
| Commercial Portfolio Credit Risk Management                | 81   |
| Non-U.S. Portfolio                                         | 87   |
| Provision for Credit Losses                                | 89   |
| Allowance for Credit Losses                                | 89   |
| Market Risk Management                                     | 92   |
| Trading Risk Management                                    | 93   |
| Interest Rate Risk Management for the Banking Book         | 95   |
| Mortgage Banking Risk Management                           | 97   |
| Compliance and Operational Risk Management                 | 97   |
| Reputational Risk Management                               | 98   |
| Complex Accounting Estimates                               | 98   |
| Non-GAAP Reconciliations                                   | 101  |
| Statistical Tables                                         | 102  |

# 2019 Financial Review

## Bank of America Corporation — Financial highlights

Bank of America Corporation (NYSE: BAC) is headquartered in Charlotte, North Carolina. As of December 31, 2019, we operated across the United States, its territories and more than 35 countries. Through our banking and various nonbank subsidiaries throughout the United States and in international markets, we provide a diversified range of banking and nonbank financial services and products through four business segments: Consumer Banking, Global Wealth and Investment Management, Global Banking and Global Markets.

### Financial highlights (\$ in millions, except per share information)

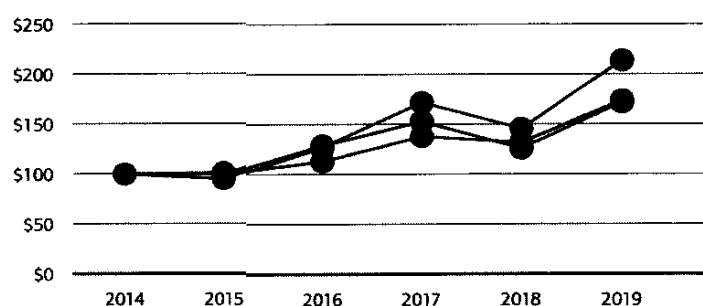
| For the year                                                        | 2019      | 2018      | 2017      |
|---------------------------------------------------------------------|-----------|-----------|-----------|
| Revenue, net of interest expense                                    | \$ 91,244 | \$ 91,020 | \$ 87,126 |
| Net income                                                          | 27,430    | 28,147    | 18,232    |
| Earnings per common share                                           | 2.77      | 2.64      | 1.63      |
| Diluted earnings per common share                                   | 2.75      | 2.61      | 1.56      |
| Dividends paid per common share                                     | 0.66      | 0.54      | 0.39      |
| Return on average assets                                            | 1.14%     | 1.21%     | 0.80%     |
| Return on average tangible common shareholders' equity <sup>1</sup> | 14.86     | 15.55     | 9.41      |
| Efficiency ratio                                                    | 60.17     | 58.40     | 62.57     |
| Average diluted common shares issued and outstanding                | 9,443     | 10,237    | 10,778    |

| At year-end                                       | 2019       | 2018       | 2017       |
|---------------------------------------------------|------------|------------|------------|
| Total loans and leases                            | \$ 983,426 | \$ 946,895 | \$ 936,749 |
| Total assets                                      | 2,434,079  | 2,354,507  | 2,281,234  |
| Total deposits                                    | 1,434,803  | 1,381,476  | 1,309,545  |
| Total shareholders' equity                        | 264,810    | 265,325    | 267,146    |
| Book value per common share                       | 27.32      | 25.13      | 23.80      |
| Tangible book value per common share <sup>1</sup> | 19.41      | 17.91      | 16.96      |
| Market price per common share                     | 35.22      | 24.64      | 29.52      |
| Common shares issued and outstanding              | 8,836      | 9,669      | 10,287     |
| Tangible common equity ratio <sup>1</sup>         | 7.3        | 7.6        | 7.9        |

<sup>1</sup>Represents a non-GAAP financial measure. For more information on these measures and ratios, and a corresponding reconciliation to GAAP financial measures, see Supplemental Financial Data on page 48 and Non-GAAP Reconciliations on page 101 of the 2019 Financial Review section.

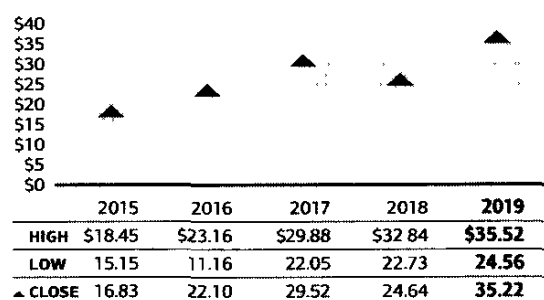
### Total Cumulative Shareholder Return<sup>2</sup>



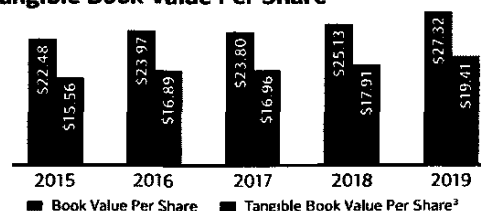
| December 31                 | 2014  | 2015 | 2016  | 2017  | 2018  | 2019  |
|-----------------------------|-------|------|-------|-------|-------|-------|
| Bank of America Corporation | \$100 | \$95 | \$127 | \$172 | \$146 | \$214 |
| S&P 500                     | 100   | 101  | 113   | 138   | 132   | 174   |
| KBW Bank Sector Index       | 100   | 100  | 129   | 153   | 126   | 172   |

<sup>2</sup>This graph compares the yearly change in the Corporation's total cumulative shareholder return on its common stock with (i) the Standard & Poor's 500 Index and (ii) the KBW Bank Index for the years ended December 31, 2014 through 2019. The graph assumes an initial investment of \$100 at the end of 2014 and the reinvestment of all dividends during the years indicated.

### BAC Five-Year Stock Performance



### Book Value Per Share/ Tangible Book Value Per Share



<sup>3</sup>Tangible book value per share is a non-GAAP financial measure.



### Community Development Financial Institutions (CDFI) lending

We originated more than **\$325 million** in loans as part of our more than **\$1.5 billion** investment in 255 CDFIs to finance affordable housing, economic development projects, small businesses, health care centers, charter schools, and other community facilities and services.



### Bank of America Art Conservation Project

Since 2010, the Bank of America Art Conservation Project has provided grants to fund **170 conservation projects** in **33 countries** to conserve paintings, sculptures, and art and cultural treasures that are important to cultural heritage. We are a leader in helping the arts flourish across the globe, supporting more than **2,000 nonprofit cultural institutions** each year.



### Small business lending

We provide advice, tools, solutions and dedicated support to meet the unique needs of our **12 million small business owners**. We are a top lender in the Small Business Administration's (SBA's) 504 and 7(a) programs, and according to the FDIC, we are the top small business lender with **\$37.6 billion** total outstanding small business loan balances as of third quarter 2019. More than half (57%) of all small business loans booked in 2019 were LMI loans for a total amount of **\$6.3 billion**.



### ESG client balances

We have **\$25.11 billion** in assets in our wealth management business with a clearly defined ESG investment approach as of Dec. 31, 2019.



### Women's economic empowerment

In 2019, we doubled our investment in the Tory Burch Foundation Capital Program, committing **\$100 million** in capital to connect women small business owners to affordable loans. Since the program's launch five years ago, more than 3,200 women entrepreneurs have received **\$54 million** in loans through CDFIs to help them grow and refine their businesses.

After launching the Bank of America Institute for Women's Entrepreneurship at Cornell in 2018, we announced in 2019 that we are doubling our commitment and will provide access for 20,000 women entrepreneurs to participate in the only online Ivy League, certificate program for women business owners in the world. Representing over 65 countries including Bangladesh, Egypt, Ghana, Uruguay and the United States, more than 15,700 women are currently enrolled.



### Philanthropic giving

We have delivered **\$2 billion** in philanthropic investments since 2009. In 2019, we delivered approximately **\$250 million** in philanthropic investments to drive economic mobility and social progress in the communities we serve.



### Employee giving and volunteering

Last year, employees volunteered **2 million hours** and directed **\$77 million** to communities through individual giving and the bank's matching gifts program.



### Pathways

We are helping individuals of all socioeconomic backgrounds find meaningful employment, including through Pathways, our community hiring and development program that provides entry-level jobs and career training in Consumer & Small Business for individuals from LMI neighborhoods. To date, the bank has hired **more than 8,000 employees** from these communities, putting the company at over 80% of its five-year **10,000 hiring goal** in just two years.



### Better Money Habits®

Since launching the Better Money Habits program, we've reached consumers over **2.7 billion times**.

**1 in 4** users of Better Money Habits content and tools grew their savings by 20% or more.<sup>1</sup>

In 2019, visitors to Better Money Habits home loans content were **37 times more** likely to obtain a home loan within 30 days.<sup>1</sup>

**71%** of active Better Money Habits users have used the Spending & Budgeting tool.

<sup>1</sup> Represents Bank of America Consumer households for entire 12-months under study who used the Saving and Budgeting Tool during March 2017. Analysis based on average balances for the 6 months prior to March 2017 ("pre" period) and the 6 months after March 2017 ("post" period)

## 2019 ESG highlights

At Bank of America, we are driving Responsible Growth with a strong focus on environmental, social and governance (ESG) leadership. This helps us to serve clients, deliver attractive returns for our shareholders and address some of society's greatest challenges.



### Sustainable finance

Each year, we mobilize, conservatively, more than **\$50 billion** that impacts a key subset of the SDGs.



### Environmental business commitment

Our Environmental Business Initiative will direct an additional **\$300 billion** to low-carbon, sustainable business activities over the next **10 years**. Since 2007 when it was launched, we have already deployed **\$158 billion** to these efforts across the globe.



### Tax equity for renewables

We have been the top tax equity investor in the U.S. since 2015. Our portfolio at the end of 2019 was approximately **\$9.4 billion** of Tax Equity renewable energy investment.



### Carbon neutrality

We achieved carbon neutrality by reducing Scope 1 and 2 emissions from our facilities, purchasing **100% renewable** electricity and buying carbon offsets for our remaining unavoidable emissions.



### Green bonds

We have been a leader in green bond underwriting globally since 2007. BofA Securities has underwritten more than **\$49 billion** on behalf of 100+ clients, supporting more than **288 deals** and providing critical funding to environmental projects, since 2007.

We are the first U.S. financial institution to issue five corporate green bonds. These five corporate green bonds raised a total of **\$6.35 billion** for renewable energy projects since 2013.



### Climate risk and ESG disclosure

We understand climate change presents risks to the business community, and it is important for companies to articulate how these risks are being managed. We will be issuing our Task Force on Climate-related Financial Disclosures (TCFD) report in 2020 to ensure our shareholders, clients and communities are aware of the financial risks of climate change to our business and how we are managing those risks. We also continue to focus on transparency and driving data with organizations like the World Economic Forum, Sustainability Accounting Standards Board, the Global Reporting Initiative and others, and how best to align those metrics to the U.N. Sustainable Development Goals.



### Blended Finance Catalyst Pool

In 2018, we launched our Blended Finance Catalyst Pool to mobilize additional private capital to help address the U.N. Sustainable Development Goals. This financing initiative provides **\$60 million** of capital for Affordable and Clean Energy (SDG7), Sustainable Cities and Communities (SDG11), Clean Water and Sanitation (SDG6), and Climate Action (SDG13), among others.



### Affordable homeownership

In April 2019, we announced our new **\$5 billion** Bank of America Community Homeownership Commitment™ to benefit low- and moderate-income (LMI) homebuyers and communities across the country over the next five years.



### Community Development Banking

Bank of America Community Development Banking (CDB) provided a record **\$4.88 billion** in loans, tax credit equity investments and other real estate development solutions.

CDB deployed **\$3.1 billion** in debt commitments and **\$1.78 billion** in investments to help build strong, sustainable communities by financing affordable housing, charter schools and economic development across the country.

Between 2005 and 2019, Bank of America financed **202,800** affordable housing units.

## Funding the power to dream

In 2019, we asked employees from across the globe “What would you like the power to do?” and how they would put a financial grant to work in their communities. We responded with nearly \$1 million in funding for 42 employee ideas that focused on economic mobility, the environment, and arts and culture. These ideas were selected to receive a \$50,000 or \$10,000 grant and support from within the bank, in partnership with an eligible local nonprofit.

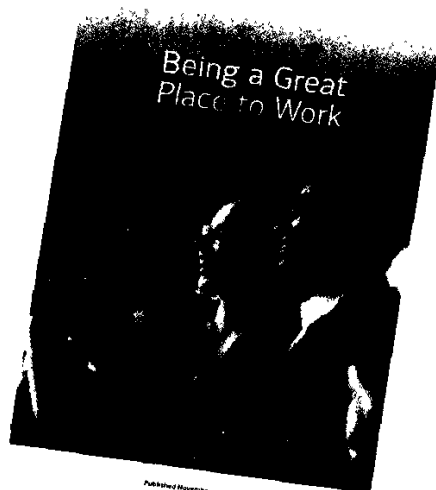
Among those selected was Ashton Ngwena, an employee in Investment Banking. Ashton knows firsthand that a quality education is not affordable or accessible for everyone. His journey from a small farming village in Zimbabwe inspired his desire to assist other children who are in a similar position. His idea will help build a community school for Education Matters Africa in Zimbabwe. “Getting accepted into Education Matters Africa was a key turning point in my life. I am grateful to Bank of America for helping this organization to further their impact through this opportunity for the students to learn, to hope and to dream of a brighter future for their communities,” said Ashton.

Similarly, Merrill Lynch Wealth Management Advisor Sue Harmon was inspired to help young adults with developmental disabilities achieve their dreams by ensuring they have transportation to get to work. She is tackling this common problem by partnering with The Arc of Greater Williamsburg in Virginia to launch Wheels4Work, a transportation and employment project.

This program is just one way we are building on our progress to support our teammates, their families and the communities where we work and live.



Photo courtesy of Education Matters Africa



## 2019 Human Capital Management Report

We are committed to being a great place to work and investing in the people who serve our clients and live and work in our communities. In 2019, we published our first human capital management report detailing all we do to support our more than 200,000 teammates and their families. The importance our stakeholders place on transparency and how we engage our employees on key issues—such as talent management, employee engagement and diversity—is an increasingly common theme. To provide additional clarity on our company’s actions, the 2019 Human Capital Management Report—available on our Investor Relations website—illustrates how we promote a diverse and inclusive workforce, recognize and reward performance, attract and develop talent, and support our teammates’ physical, emotional and financial wellness. Going forward, we will continue to report on these items and the progress we’re making as part of our focus on making this the best place for our employees to work.

## Total rewards

We listen and learn from our teammates about what matters most as we continue to deliver on our commitment to be a great place to work. Our teammates emphasize that they want the opportunity to have rewarding, long-term careers; to be supported in physical, emotional and financial wellness; and to make a difference in our local communities.

To support our employees with their personal and professional goals, we pay our teammates competitively and provide broad and diverse benefits to meet their needs both today and in the future.

In the first quarter of 2020, we are increasing our minimum hourly wage for U.S. teammates to \$20. As a result of this change, our yearly minimum rate of pay for a full-time employee will increase to more than \$41,000. In addition to this yearly wage, we provide a variety of health care and wellness benefits, which are significant, additional components of the total rewards that all employees receive.

As an example, an employee making just over our minimum hourly wage with a base salary of \$45,572 who also receives company contributions for retirement, health and insurance coverage and childcare, would have total

annual pay and benefits of over \$77,000 per year. And this number could increase further depending on the other benefits an employee may choose to use — such as tuition assistance, free confidential counseling through our Employee Assistance Program, company-provided matching gifts for charitable donations and more.

Each year, eligible U.S. employees have the opportunity to review a summary of what they earned, what they saved and how much the company contributed to their benefits for the prior year — all part of our approach to total rewards and investing in our teammates.

Company contributions to 401(k) would be **\$3,190**

Company-provided child care reimbursements would be **\$3,595**

Assuming an employee with a base salary of **\$45,572\***

Company contributions to family health and insurance coverage would be **\$25,133**

Company contributions would bring total annual pay and benefits to **\$77,490**

\*Example based on a full-time employee with a base salary of \$45,572 and benefits profile, living in one of our markets in the U.S., who is enrolled in a 401(k) plan and enrolled in our America employee benefit programs (including 401(k) plan, medical, dental, disability, life insurance, and child care reimbursement). For the 401(k), it assumes the employee has at least 1 year of service. Annual Company Contribution is 6% Company Match based on a contribution rate of at least 5%.



## Partnering to end AIDS

Since 2014, we have partnered with (RED)<sup>®</sup> to achieve an AIDS-free generation. As of December 31, 2019, our partnership has generated nearly \$19 million in contributions to the Global Fund to Fight AIDS. In October 2019, we extended our commitment to pledge more than \$35 million by 2025.

In partnership with brands worldwide, (RED) raises money and awareness in the fight against AIDS. Its partners contribute to Global Fund grants that provide treatment, testing and preventative care and counseling services, with a focus on ending mother-to-child HIV transmission in eight sub-Saharan African countries.

Currently, 38 million people are living with HIV globally, with 26 million in sub-Saharan Africa. Thanks in large part to (RED) and the Global Fund, more than 24.5 million people now have access to life-saving treatment. Additionally, AIDS-related illnesses have decreased by more than half since peaking in 2004.

Our work with (RED) is an example of how we are partnering to help address local, national and global social priorities—including Good Health and Wellbeing (SDG3)—to deliver Responsible Growth. By furthering our commitment and working together, we will help end AIDS.

## Courageous conversations

Our commitment to being a great place to work is rooted in celebrating diversity and inclusion (D&I). Women make up 50% of our workforce, and over 45% of our U.S. workforce are people of color. Over the past few years, we have developed a new forum for bringing us all together, called courageous conversations. These candid dialogues, focused on topics like race and gender equality, social justice, emotional wellness and domestic violence, engage teammates and drive inclusivity. More than 60,000 teammates have participated in these sessions.

We have incorporated courageous conversations into our broad D&I learning, including our "Let's Get Real" program, a quarterly series sponsored by the Global Diversity & Inclusion Council.

Due to the positive feedback we received about these internal discussions, we began hosting conversations with our clients and communities, including a recent Boston-based session on substance misuse disorders and ways to support those in recovery.



# 60,000+

Teammates  
have participated  
in courageous  
conversations

## Supporting teammates in moments that matter

Part of being a great place to work is supporting our employees in the moments that matter most. This includes helping our teammates navigate significant life events—connecting them to internal and external resources, benefits, counseling and other support options. In 2014, we established our Life Event Services (LES) group—an internal and highly specialized team that has provided more than 100,000 team members with empathetic and personalized support for needs related to terminal illness, taking a leave of absence, the death of a loved one, domestic violence, medical accommodations, transgender and gender identity, retirement and military service.

Additionally, when disasters occur, LES provides support for employees who are affected by an event, such as a natural disaster, violence or house fire. This can include providing paid time off to handle the impacts of the event, temporary housing and referrals to community organizations, or arranging emotional support for the teammate and family members.

Chief Human Resources Officer Sheri Bronstein said, “Being a great place to work means having a culture of caring. By supporting our teammates through difficult moments, we help them to be their best both at work and at home so they can deliver for their families, our clients and our communities.”

LES was there for Alison Harding, an employee in Global Technology & Operations, when a hurricane threatened her home in Charleston, South Carolina. The area was under mandatory evacuation; however, Alison’s family did not have a vehicle large enough to accommodate her special-needs child, his medical equipment, nurse and the family. LES took action to help and within 20 minutes, secured a large vehicle to meet their needs enabling the family to safely evacuate. “I felt instant relief, followed by how proud I was to work for a company that helped me in a time of need,” said Alison. “With a special-needs child, we have to consider and worry about so many things and this obstacle was removed so we could focus on caring for our family.”

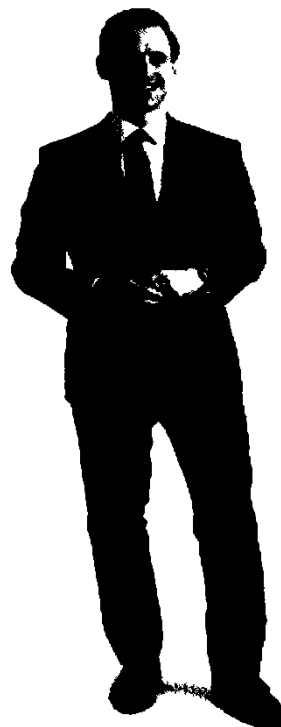
# 100,000+

Employees supported during the moments they and their families needed it the most



## JUDY RETANA *(Below)*

Judy Retana started her career as an intern with Bank of America through long-time bank partner Year Up® before becoming a full-time teammate through our Pathways program. Through Pathways, we work with nonprofit partners like Year Up to provide skills training and career pathways to Consumer & Small Business teammates from low- and moderate-income communities. "Year Up provided me with the tools to help me create a professional brand to advance my corporate career. Its mission is to close the opportunity divide between those who have a college education and work experience, and those who don't but who have high potential," Judy explained. Today she's thriving in her role as a Merrill ongoing support specialist. "Our business is constantly changing, with a lot of new opportunities. There are many talented people who deserve the same chance in life I've had. Programs like Year Up and Pathways enable people to start their careers."



## DANIEL BURTON-MORGAN *(Above)*

London-based Daniel Burton-Morgan was in his final year at university when he was offered his first full-time job with our company as a UK mergers and acquisitions analyst. Fourteen years later, he's a managing director in Global Corporate & Investment Banking with deep experience serving our global clients across Europe, the Middle East and Africa. According to Daniel, the opportunity to move into new roles across business units and in different locations is one of many reasons that Bank of America is such a great place to work and build a long-term career. Another is our commitment to developing employees. Daniel is an alumnus of our Emerging Leaders Program, which brings together leaders to enhance their effectiveness. "It was a fantastic opportunity to meet teammates across the company and exchange ideas around growing our business," he said. "Professional development is critically important because it keeps work interesting and rewarding," Daniel added. "Even more, clients expect us to grow with them, and they want financial advice and solutions delivered through a global lens."

## Creating opportunities through employee development

*"A key element of sustainable growth is being a great place to work for our more than 200,000 employees. That means creating opportunities for our teammates to grow and develop so they can deliver great service to our clients while having a rewarding career at our company."*

**Sheri Bronstein**, Chief Human Resources Officer

### **CORDELL JACKSON** *(Right)*

Cordell Jackson started in the Consumer Banking call center and has grown professionally over the years thanks to his talent, support from managers and teammates, and our career resources. As part of his career progression, Cordell recently transitioned roles, from a risk analysis senior manager to a strategic consumer product analyst. "If you aren't learning, you aren't growing," Cordell explains, and the bank has been with him every step of the way. To help Cordell further develop his skills, he was nominated to participate in our Diverse Leader Sponsorship Program, a highly selective 10-month development program that pairs candidates with more senior executive sponsors who will help them build skills, gain exposure and broaden their network. In addition, our tuition reimbursement program helped Cordell finance his master's certificate. Through our online Learning Hub platform, he can access an extensive library of career development resources, including white papers, videos and articles from industry experts. Now, Cordell continues to develop his skills, grow his professional network and mentor other employees as co-chair of the bank's Black Professional Group chapter in Delaware.



whom serve on our National Community Advisory Council, a group that helps inform our approach to serving our clients and communities. We use our voice to advocate for progress on societal challenges that disproportionately affect diverse communities. For example, we signed the CEO Action Pledge for Diversity & Inclusion, continuing our leadership role in making our sector more diverse and inclusive, expanding unconscious bias education and sharing best practices. In 2019, we became the first financial services organization to sign the Hispanic Promise, pledging our commitment to hire, promote, retain and celebrate Hispanic-Latino individuals in the workplace. And last year, we renewed our commitment to Unlocked Futures, which invests in social entrepreneurs who have been impacted by the criminal justice system.

Helping break barriers to economic mobility and drive progress on social issues for diverse populations is important to our employees, our clients, our investors and our communities, and we will continue driving this work.

### Employee Networks

Our 11 Employee Networks, which include more than 300 chapters and 160,000 memberships worldwide, help teammates develop leadership skills, build ties with local communities and advance diversity recruitment.

#### Our Employee Networks include:

- Asian Leadership Network
- Black Professional Group
- Disability Advocacy Network
- Hispanic/Latino Organization for Leadership and Advancement (HOLA)
- Inter-Generational Employee Network
- Leadership, Education, Advocacy and Development (LEAD) for Women
- Lesbian, Gay, Bisexual and Transgender (LGBT+) Pride
- Military Support and Assistance Group
- Multicultural Leadership Network
- Native American Professional Network
- Parents and Caregivers Network

200+

Number of external organizations we're partnering with to identify diverse talent

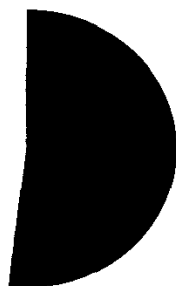
\$55M+

Amount invested in 2019 to advance issues of economic mobility and social justice affecting Blacks/ African Americans and Hispanic-Latino individuals

160,000+

Memberships in our 11 Employee Networks

Our diversity makes us stronger, and the value we deliver as a company is strengthened when we bring broad perspectives together to meet the needs of our diverse stakeholders.



over 50%  
of our management team are women or people of color



over 50%  
of our global workforce are women



over 45%  
of our U.S.-based workforce are people of color



## Diversity at work and in our communities

Diversity — in thought, style, age, sexual orientation, gender identity, race, ethnicity, culture and experience — makes us stronger and is essential to our ability to serve our clients, fulfill our purpose and drive Responsible Growth. We have a longstanding commitment to invest in diverse communities, including supporting strong diversity in representation across our company, reflecting the clients and communities we serve. We're proud of the progress we've made, particularly our efforts in support of Black/African American and Hispanic-Latino communities, which we feature below. A broad discussion of our diversity commitment, how we execute on it and our results are discussed in detail throughout our 2019 Human Capital Report, which is available on our Investor Relations website.

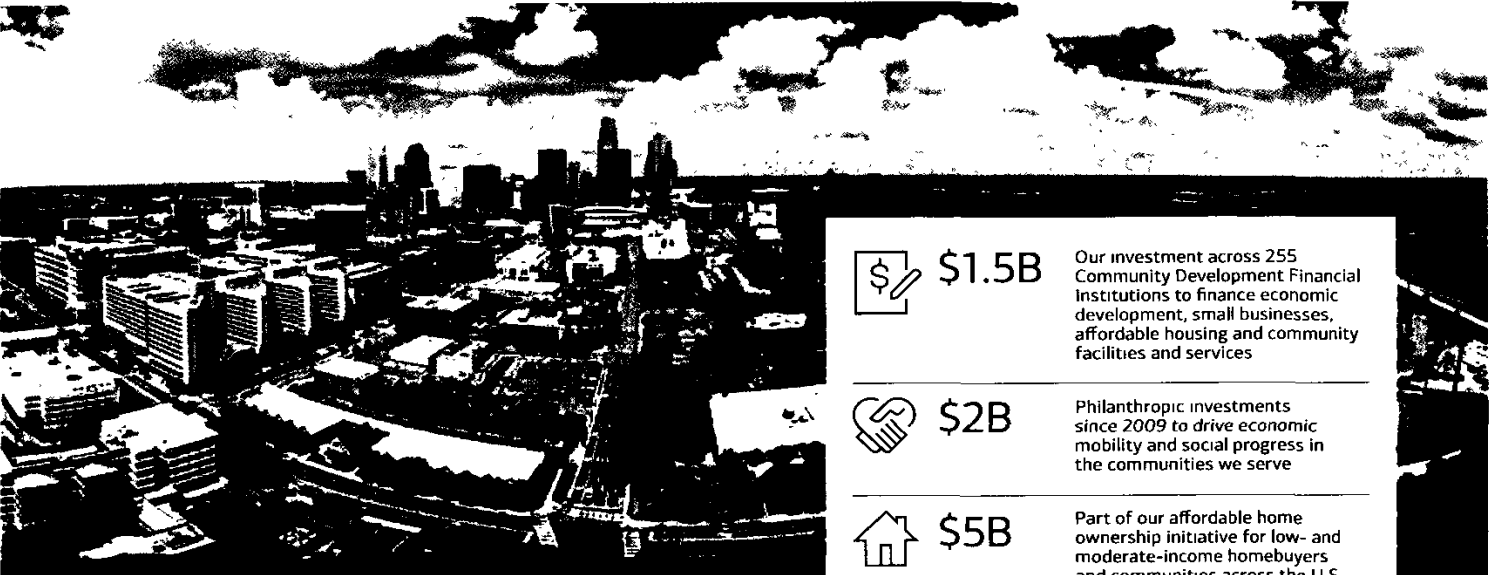
We are sharply focused on building a diverse workforce, which is currently 13% Black/African American and 18% Hispanic-Latino, exceeding EEOC financial services and Department of Labor benchmarks; and last year, the number of executive and senior-level officials and managers drawn from these populations increased more than 14%.

In our efforts to further increase our diverse representation, we're partnering with more than 200 external organizations to identify diverse talent. And, we have networking groups to provide professional development, mentoring and leadership

opportunities. Employee Networks such as our Hispanic-Latino Organization for Leadership & Advancement (HOLA) and Black Professional Group (BPG) have more than 14,500 memberships each.

We're committed to making the financial lives of our clients better. Approximately 1 in every 3 checking accounts opened at Bank of America is by Hispanic-Latino clients, and 15% of checking accounts opened at Bank of America are by Black/African American clients. We deliver a full spectrum of products and services for these clients, whether they are looking to invest or just starting their financial journey. We offer Spanish-language capabilities across multiple products and services including our free Better Money Habits® website, which helps people build their financial know-how. In 2020, we celebrate 30 years of our corporate Supplier Diversity & Development Program, which supports minority-, women- and other diverse-owned suppliers, spending nearly \$2 billion with diverse suppliers each year.

Partnerships and programs are helping to drive our focus on economic mobility. In 2019 alone, we invested more than \$55 million to advance issues of economic mobility and social justice affecting Blacks/African Americans and Hispanic-Latino individuals. We partner with change-making organizations like the NAACP, National Urban League and UnidosUS, all of



Economic inequality is one of the fundamental challenges of our time. Bank of America has a responsibility to use our resources—including capital, ideas, and the talent and passion of our team members—to help create solutions to this challenge.

Our approach starts with a basic fact: Economic opportunity often depends on where a person lives. Some neighborhoods offer a path to a quality education, a decent home, a good job and financial security; but others do not.

In our headquarters city, Charlotte, North Carolina, we joined with other business leaders, government agencies and nonprofit organizations to address this disparity and improve economic mobility for our fellow citizens. Local corporations and academic institutions came together in 2015 to form the Charlotte Executive Leadership Council (CLEC) to tackle structural obstacles to economic opportunity. Bank of America's CEO, Brian Moynihan, has chaired the CLEC since 2018. Following the detailed recommendations of a local task force to address the roots of economic inequality, we are working through the CLEC to make an impact in education, workforce development, affordable housing, community engagement and economic development.

#### Investing in education, jobs and housing

Because early education is vital to economic mobility, extending free, public pre-K to all 4-year-olds in Charlotte was a top priority. We contributed to the initial studies and helped fund scholarships and related expenses to expand the pre-K teacher

 **\$1.5B**

Our investment across 255 Community Development Financial Institutions to finance economic development, small businesses, affordable housing and community facilities and services

 **\$2B**

Philanthropic investments since 2009 to drive economic mobility and social progress in the communities we serve

 **\$5B**

Part of our affordable home ownership initiative for low- and moderate-income homebuyers and communities across the U.S.

 **2M**

Volunteer hours by Bank of America employees in their local communities in 2019

workforce, committing \$1 million of \$6 million raised from the private sector over five years. This private sector investment leveraged \$223 million in Mecklenburg County funding for pre-K and childcare subsidies over the same period of time.

To create pathways to job opportunities, we support youth apprenticeship and other workforce development initiatives. Participating CLEC members, including Bank of America, expect to hire 1,000 employees through local training programs and offer 150+ work-based learning experiences for K-12 students in the coming year.

We have partnered with other financial institutions to commit more than \$135 million to affordable housing—the largest private sector investment in affordable housing in Charlotte's history. To help the project work financially, our commitment includes below-market loans, a donation of land, an investment in the Charlotte Housing Opportunity Investment Fund, and economic mobility grants and programs. In total, public and private partners in Charlotte have committed over \$270 million to affordable housing.

What's happening in Charlotte is not an isolated effort. Many of the initiatives first used in Charlotte are now being piloted in other Bank of America markets, with a goal of creating greater economic mobility for all our communities—and the people who live and work in them.

## Investing to improve the environment

Our financial commitment to improving the environment helps inform our global business strategy, including how we work with partners, support our employees, make our operations more sustainable, manage issues and govern our activities. These efforts are critical to our efforts to achieve U.N. Sustainable Development Goals focused on Clean Water and Sanitation (SDG6), Affordable and Clean Energy (SDG7) and more.

Our \$125 billion commitment to mobilize capital to low-carbon, sustainable business activities was achieved in 2019, six years ahead of schedule, and we're not done yet. In 2019, we announced an additional \$300 billion environmental business commitment, which we will meet by 2030, in support of energy efficiency, renewable energy and sustainable transportation, as well as important areas like water conservation, land use and waste.

We are the first U.S. financial institution to issue five corporate green bonds, which raised a total of \$6.35 billion for renewable energy projects since 2013. And we have been a leader in green bond underwriting globally. BofA Securities has underwritten more than \$49 billion on behalf of over 100 clients, supporting more than 288 deals and providing critical funding to environmental projects since 2007. We have also been the top investor in tax equity projects in the U.S. since 2015. Our current portfolio holds approximately \$9.4 billion of renewable energy tax equity projects supporting wind and solar facilities.

We have achieved carbon neutrality in our own operations\* one year ahead of schedule.

# \$158B

Deployed to low-carbon sustainable business activities

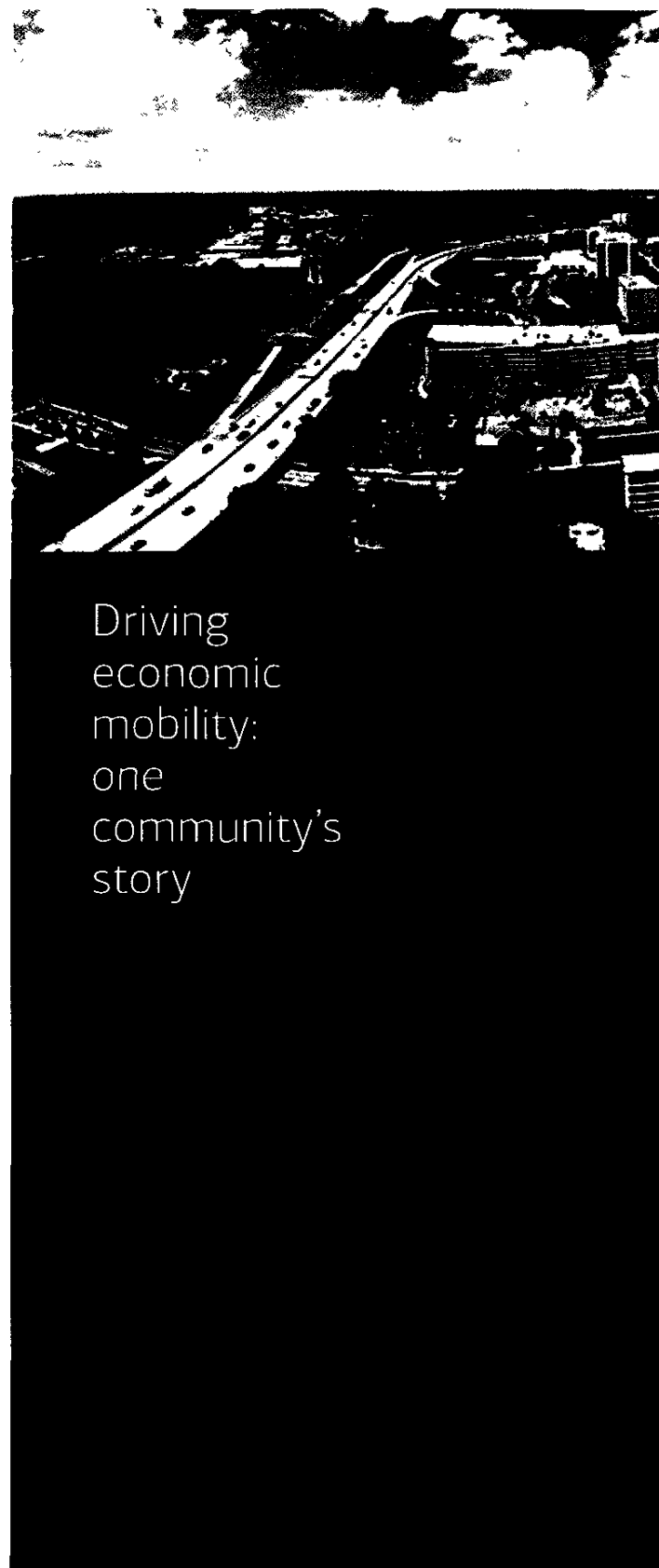
# \$49B

Green bonds underwritten since 2007 supporting environmental projects

# \$9.4B

Renewable energy tax equity projects for wind and solar facilities

\*pending third-party validation



Driving  
economic  
mobility:  
one  
community's  
story



## A world of ESG innovation

We have achieved carbon neutrality in our own operations\* one year ahead of schedule.

How did we get there? We reduced Scope 1 and 2 emissions in our facilities by more than 52% since 2010 and met our goal to purchase 100% of our electricity from renewable sources. We installed on-site solar at our facilities, completed multiple long-term renewable agreements to add new wind and solar electricity to the grid, and purchased Renewable Energy Credits.

To compensate for unavoidable emissions, we purchased carbon offsets by supporting four projects in impoverished areas around the globe, which help to preserve biodiversity and drive reforestation, while furthering local economic mobility.

In Indonesia, we supported peatland protection through Cool Effect. The project is restoring 157,000 hectares of damaged vital peatland. It also directly supports 34 communities, has 100% Indonesian staff and has provided 948 micro-loans for sustainable small business development.

In the Mississippi River Valley, we supported an Arbor Day tree planting as part of the largest reforestation program in North America — already over

120,000 acres have been reforested with more than 500 landowners participating and 42 million trees planted. This ultimately helps communities in some of the poorest counties in the U.S. to build resiliency against climate change and flooding.

In Peru, we supported a conservation program that helps protect the Andes and Amazon forests by establishing sustainable livelihoods for communities living around the Cordillera Azul National Park. The project created 624 jobs, 30% of which are held by women. It also returned \$1.43 million to the local economy through the production of fair trade, organic cocoa, coffee and honey.

Finally, in Kenya and Uganda, we supported an endeavor that empowers small farmer communities to learn to plant and maintain trees, for which they receive cash stipends. They also receive health training on HIV/AIDS, malaria, typhoid and tuberculosis, as well as vocational education and leadership training.

We have achieved carbon neutrality in our own operations\* one year ahead of schedule.

\*pending third-party validation



*Gender Equality (SDG5):* We support equal pay for equal work. At our company, compensation received by women on average is greater than 99% of that received by men, and compensation received by people of color on average is greater than 99% of non-people of color, as validated by third-party analysis. In addition to compensation, our ongoing work to invest in women as they make meaningful contributions within our company and in our communities includes our focus on being a great place to work for our female employees, making the financial lives of our female clients better, and advancing the economic empowerment of women around the world.



*Zero Hunger (SDG2), Quality Education (SDG4) and Reduced Inequalities (SDG10):* We invested nearly \$250 million in 2019 in global philanthropic giving to advance economic mobility—with \$2 billion in giving since 2009. For example, since 2015, across the globe we've invested nearly \$50 million in support of hunger relief, and \$243 million to advance skill building and jobs for young adults and those with barriers to employment, including addressing issues affecting social justice and racial and gender inequality.

These are just some of many examples of how we bring our full company and broader influence to address these 17 critical goals.

**Q: How are you engaging with others externally to drive this work?**

**Anne:** We drive global collaboration to address these major societal challenges by engaging with external stakeholders. **Brian Moynihan** discusses in his letter the work he is doing at the International Business Council of the World Economic Forum to develop standardized metrics that define sustainable business practices. We also are working with the World Bank and Stanford University to develop financial vehicles that will deploy greater capital to support the SDGs and close the funding gap. We are working with the Vatican, the United Nations and the Prince of Wales to help harness the power of the capitalist system to be able to address society's needs. In the U.S., our **National Community Advisory Council (NCAC)** consists of senior leaders from social justice, consumer advocacy, community development, environmental, research and advocacy organizations who provide external perspectives, guidance and feedback on our business policies and practices. Our work in these areas is recognized by others: In 2019, we were named to the CDP A list for leadership in addressing climate change. This was our ninth year as a CDP-recognized leader. And for the sixth straight year, we were recognized for ESG leadership on the Dow Jones Sustainability Index (DJSI) World Index.

In addition to the work I'm describing here, please see the following pages for additional examples of the progress we are making.

---

**“ We are addressing some of society’s greatest challenges by helping align the various sources of capital—from the business community, the public sector, and philanthropy—with all of Bank of America’s financial capabilities and talent, calling on the expertise of our teams and the passion of our employees around the globe. ”**



**Sustainable Cities and Communities (SDG11):** Between 2005 and 2019, we financed 202,800 affordable housing units. In 2019 alone, our Community Development Banking unit provided a record \$4.88 billion in capital for affordable housing and community development, including financing more than 8,300 affordable housing units.



**Good Health and Wellbeing (SDG3) and Decent Work and Economic Growth (SDG8):** We are increasing our U.S. minimum wage to \$20 per hour in 2020, and have strong and progressive health and wellness benefits. For example, for U.S. employees making less than \$50,000, we reduced annual family coverage medical premiums by 50% in 2011, and have kept those premiums flat since 2012. We have paid family leave of 16 weeks for maternity, paternity and adoption, and generous bereavement benefits for those who have lost a loved one. And externally, since 2014, we have partnered with (RED)<sup>®</sup> to achieve an AIDS-free generation, pledging more than \$35 million by 2025 to the Global Fund to Fight AIDS.

# Addressing society's biggest challenges

Q&A with Vice Chairman Anne Finucane

The Sustainable Development Goals (SDGs) are the world's roadmap to a sustainable future. The SDGs give governments, the private sector, foundations, and others a framework to prioritize resources and policies toward goals we all share: prosperity, equality, human rights, and a sustainable, clean energy future. **Brian Moynihan** lays out in these pages the ways that the private sector can align business operating models with investors seeking to drive capital toward companies that are making progress on the SDGs.

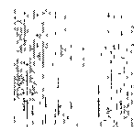
At Bank of America, sustainability is a central characteristic of our operating model. This includes our core financing and advisory capabilities for our clients, how we manage our own operations—our New York headquarters at One Bryant Park was the first Platinum certified LEED skyscraper in the world—our global workplace practices and our philanthropy. By aligning all of our capabilities, we create the scale needed to drive capital toward the world's most important priorities as defined in the SDGs: climate change, affordable housing, clean water and equal access to opportunities for prosperity.

## Q: How are we driving progress on the United Nations Sustainable Development Goals?

**Anne:** To sharpen our focus on bringing even more business solutions to this work, we recently established a Sustainable Markets Committee, co-chaired by Chief Operating Officer **Tom Montag** and me, to accelerate our progress, identify new opportunities and build upon our work in sustainable finance in particular. While we already are making great progress—we are the largest underwriter of green bonds in the world for instance—the Sustainable Markets Committee will help us expand on that to identify even more opportunities to develop products, capabilities and services in support of our clients as we work together to help realize the achievement of the SDGs.

## Q: How have we accelerated progress on specific SDGs?

**Anne:** Last year, Bank of America directed more than \$50 billion in capital toward activities that support achievement of the SDGs. I'll highlight a few:



*Affordable and Clean Energy (SDG7) and Clean Water and Sanitation (SDG6):* From 2007 through the end of 2030, we will have financed more than \$445 billion to low-carbon, sustainable business activities in support of energy efficiency, renewable energy and sustainable transportation, and in other areas including water conservation, land use and waste. In our own operations, we are carbon neutral as of 2020.

# 95%

We have relationships with 95% of the 2019 U.S. Fortune 1,000; and 77% of the 2019 Global Fortune 500



We are also expanding the types of unique solutions available to our clients, including the leading capabilities we have in environmental, social and governance (ESG) and sustainable finance. Through BofA Securities, we have led more green bond deals than anyone else and we continue to provide clients with options that help finance a more environmentally sound planet. Our Investment Bank showed tremendous momentum in 2019, with increased market share in key countries across the world where we operate, including our U.S. middle market clients with which we already hold primary core banking relationships.

In Global Markets, we recently realigned our business to cover clients more efficiently and are making strategic investments in technology and people to continue to innovate across every asset class.

**Q: What makes Global Banking and Global Markets at Bank of America unique?**

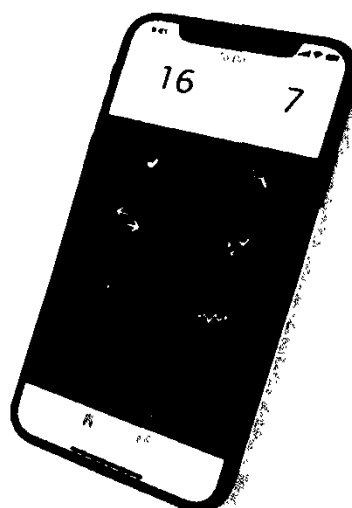
**Tom:** We serve our clients by delivering market-leading solutions across consumer banking, wealth management, commercial banking, corporate and investment banking, sales and trading, and research. No one can offer the range of services and capabilities at the level that Bank of America can. By building relationships, being in the local market and consistently bringing the full value of our company for our clients, we are delivering on our commitment to Responsible Growth.

## Powerful CashPro® platform

Our mobile and digital capabilities extend beyond our retail client offerings. Our business clients also seek solutions to help them work faster and more efficiently. Our commitment to providing those solutions has earned the business of approximately 35,000 companies and institutions across 175 countries. Each year, we manage \$72 trillion in payments, receivables and deposit transactions through CashPro®, our award-winning platform accessed by approximately 500,000 users.

Through ongoing digitization of processes and expansion of online, application-programming interfaces and mobile capabilities, including electronic signature, real-time payments and loan information, clients can now access the platform anytime, anywhere. Last summer, one of our business clients used our mobile app to send a \$1.6 billion payment, the biggest transaction ever on our CashPro app. CashPro ranks first in the Mobile category of Greenwich Associates latest Digital Banking Benchmarking study.

Client feedback helps make all of our capabilities better. The CashPro Client Advisory Boards, made up of clients of all sizes, help ensure that we are delivering for our clients through our digital platform and deepening our relationships with them.



# Global Banking and Global Markets

Q&A with Tom Montag on deepening local client coverage and driving Responsible Growth

**Q: Who does your business serve, and what's your vision for delivering for those clients?**

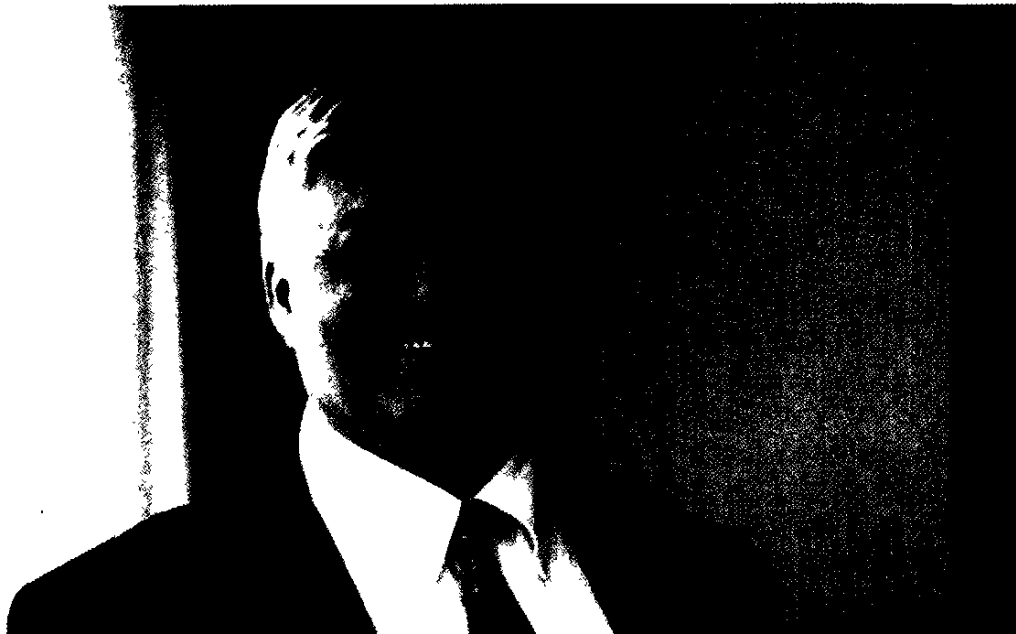
**Tom:** Our Global Banking businesses serve companies of varying sizes. In Business Banking, we work with clients with more than \$5 million in revenue; our Global Commercial Banking clients are mid-sized companies with revenues of \$50 million to \$2–\$3 billion; and through Global Corporate & Investment Banking, we serve the largest companies and corporations in the world. Our Global Markets businesses serve institutional investors with sales and trading services, liquidity, hedging strategies and ideas and insights they draw from our top-ranked Global Research platform.

Our strategy is straightforward: deliver the full benefits of our company to our clients. We do this by deepening relationships and connecting our clients with the capabilities and solutions they need to drive their businesses forward. Every relationship and every market matters. From a first credit card to a first

line of credit, to raising capital or advising on the sale of a company, we support our clients as their needs and aspirations evolve.

**Q: How are Global Banking and Global Markets evolving to serve clients?**

**Tom:** This year, we are continuing to *build our capabilities in Global Banking to create more opportunity for middle market clients, who increasingly are global in their perspective.* We are hiring and assigning additional client relationship bankers to serve clients through our local market teams, so they live and work in the same communities as those clients. Being local with an unparalleled global platform is a strength that differentiates us.



Tom Montag, Chief Operating Officer of Bank of America and President of Global Banking and Global Markets



## Market presidents deliver the bank

Los Angeles Market President Raul Anaya

Bank of America operates locally in communities all across the United States. Having a strong local presence with deep connections in our communities drives performance in each of our lines of business. Leading the way in these communities are Bank of America market presidents who oversee integrated business teams to ensure we're delivering the full capabilities of our company to each client in every community, and lead our interactions with countless nonprofit partners.

This coast-to-coast network of more than 90 local executives—each of whom also serves in full-time roles as division leaders, client managers, financial advisors and more—connects the banking and investment resources offered through our eight lines of business to companies, families and individuals in each market, from the largest cities in the country to suburban and rural communities. They also lead our work in sharing our success by deploying Bank of America resources—including philanthropy and employee volunteerism—to address social and economic concerns and build strong communities.

One example is Los Angeles Market President Raul Anaya, who has spent the past eight years leading in one of the country's most vibrant and dynamic cities.

"As market president, I work with members of my team to bring the expertise and resources of our company to our clients, serve as a civic leader on community and social issues, and keep employees connected to reach their personal and career goals—all of which enhance the strength of our 100-plus year heritage here in Los Angeles," said Raul. "I'm incredibly proud."

Recently, to promote business integration, the market hosted its first-ever "Power of Inclusion Summit," an event designed to engage with business leaders on the strategic value of building a diverse and inclusive workforce. Existing and prospective clients were invited to attend and hear from leaders on how they are using inclusion as a competitive advantage, creating an ideal opportunity to build relationships and create momentum on an important issue.

In 2019, the L.A. team also helped address a critical issue in the city—housing and homelessness—partnering with groups such as the Central City Association and *United Way* to hold deep conversations about stemming the tide of homelessness through lending and investing in underserved areas and advocating for public-private solutions to complex housing issues. Coupled with the bank's community development lending and investing of over \$315 million to help create more than 500 units of affordable housing in L.A., as well as local philanthropy of over \$7 million to local groups, these efforts demonstrate that we're not only talking the talk, we're walking the walk to improve the economic mobility of all Angelenos.

To help make the bank a great place to work, the Los Angeles team established a number of ways to develop local talent, including creating mentoring programs, holding career events in partnership with groups such as the National Black MBA Association and offering training programs for those who serve on nonprofit boards.

These are just a few examples of the work market presidents are doing across the country to ensure Bank of America drives progress in every community where our clients and employees live and work.

# Making financial lives better in underserved communities

Core to how we drive Responsible Growth is ensuring it is sustainable. We do that through operational excellence, which creates the savings we generate to reinvest in serving our clients and in our capabilities. We ensure sustainability by being a great place to work for our teammates, which we discuss in more detail throughout this report. And sustainability is driven by the ways we share success with the communities in which we operate.

Our approach to serving low- and moderate-income (LMI) neighborhoods reflects all these elements of sustainability. LMI neighborhoods include more than 8.4 million unbanked households and 24.2 million underbanked households.<sup>1</sup> Today, about one-third of our financial centers and ATMs are located in LMI neighborhoods and 33% of our financial center teammates work in these locations. With the anchor of that physical presence, we serve these communities in several ways by providing:

- Access to secure, transparent and affordable products, including credit
- Personalized financial education and tools
- Employment and business opportunities

## Secure, transparent and affordable products

Through our digital banking platform and strong community presence, we offer all our clients access to secure, transparent and affordable products that can be personalized to meet their unique needs. For example, Bank of America Advantage SafeBalance Banking® is a checkless bank account that helps clients avoid overdraft fees. SafeBalance Banking includes a debit card and has unlimited access online and mobile services, financial centers and more than 16,800 Bank of America ATMs.

To help increase access to affordable and sustainable homeownership, in April 2019, we announced the \$5 billion Bank of America Community Homeownership Commitment™ to benefit LMI homebuyers over the next five years. The initiative will help more than 20,000 individuals and families achieve homeownership through grants that directly assist homebuyers with their down payments and closing costs. At the end of 2019, the program helped over 9,000 new homeowners with \$2.3 billion in mortgage lending.

## Personalized financial education and tools

Through Better Money Habits®, we support people in becoming more financially resilient by connecting them to the tools, resources and education they need to help achieve their financial goals. This includes content to assist with budgeting and saving, homeownership, reducing debt, and retirement goals. Better Money Habits empowers people to evaluate their life priorities, such as family, health and home, and helps them determine how they should approach their finances. All content is available in both English and Spanish.

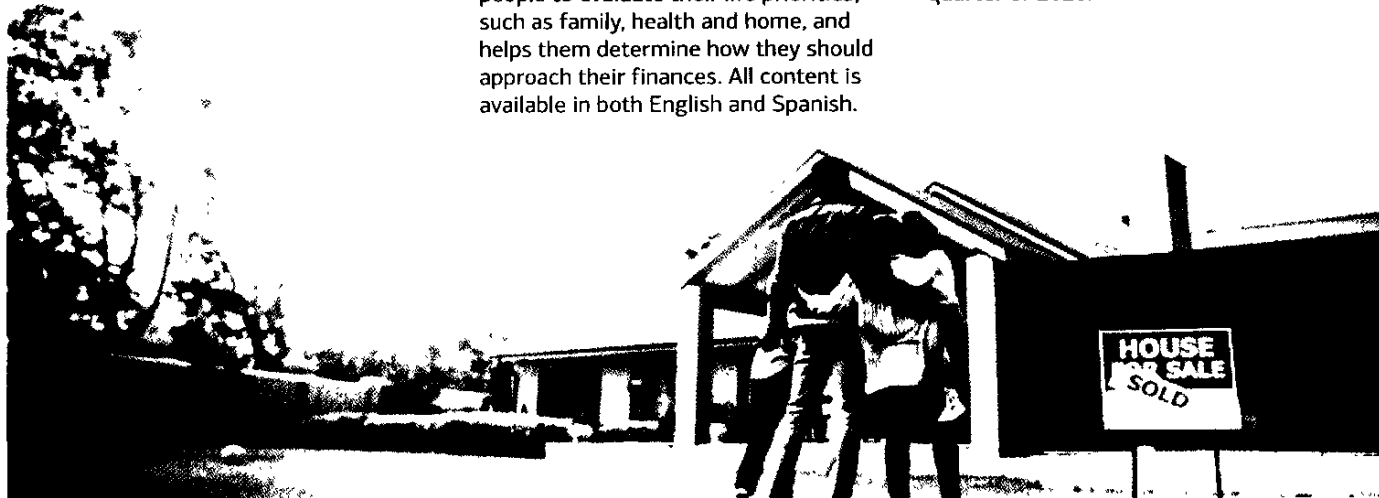
Consumers have accessed this free platform over 2.7 billion times. And it has had an impact on the habits of those who use it: 1 in 4 users (1 in 3 LMI users) of Better Money Habits and the Spending & Budgeting content grew their savings by 20% or more.<sup>2</sup>

Additionally, we've trained over 4,000 teammates who work in approximately 700 community financial centers on how to help consumers build their financial skills and pursue their goals, delivering quarterly educational workshops in English and Spanish.

## Employment and business opportunities

We also are focused on helping people who live in our communities find meaningful employment. Externally—through our Supplier Diversity Program—we spend \$2 billion each year with diverse-, veteran- and women-owned businesses. In 2018, we committed to hiring and training 10,000 teammates in LMI neighborhoods within five years. We are well ahead of that pace; our Consumer & Small Business team has hired more than 8,000 employees from these communities in just two years.

Those teammates benefit from our commitment to be a great place to work, which includes offering fair and competitive pay. We are an industry leader in establishing an internal minimum rate of pay above all mandated minimums for our U.S. hourly teammates, and have made regular increases over the past several years. Our minimum hourly wage for U.S. teammates is \$20, as of the first quarter of 2020.



<sup>1</sup> Source: 2017 FDIC National Survey of Unbanked and Underbanked Households

<sup>2</sup> Refer to footnote 1 on page 39 for Better Money Habits research study information

## Building rewarding relationships

The more clients do with us, the more their benefits grow. Our approach to deepening the relationships we have with our clients rewards them by recognizing the value of their entire relationship. This sets us apart from our competitors. Preferred Rewards is a first-of-its-kind relationship-based approach that provides members with extensive rewards and benefits across their deposit accounts, investments, credit cards, mortgages and auto loans, along with exclusive discounts.

Launched in September 2014, the Preferred Rewards program has over 6 million members, representing \$501 billion in assets as of Dec. 31, 2019. The program allows and encourages members to get more from their banking relationship. On average, members hold about twice the number of banking products as nonmembers and show higher levels of satisfaction with their banking experience. Our retention rate for Preferred Rewards members was close to 99% at the end of last year and, in a 2019 bank survey, 8 out of 10 members told us they

are “highly likely” to recommend Bank of America to friends and family.

Preferred Rewards for Business is having a significant impact, as well. During the program's inaugural year, we rewarded participating small business clients with approximately \$175 million in benefits, in recognition of the tremendous value of their relationships with us. Preferred Rewards for Business was recognized in 2019 by Barlow Research with a Monarch Innovation Award in the “Business Banking Most Innovative Product” category.

Clients can also use My Rewards, an easy-to-use tool that tracks the rewards they have earned across Preferred Rewards, credit cards, BankAmeriDeals® and Preferred Rewards for Wealth Management. This information is conveniently presented in our Mobile Banking app. Since My Rewards launched in 2018, 17 million unique users have reviewed their rewards, with 65% being repeat users.



## Personalized banking, digitally delivered

Digital is more important than ever. Today, clients expect the best mobile and digital technology in their financial relationships, just as they do in other areas of their lives. Our award-winning high-tech capabilities—our digital services earned 34 industry accolades in 2019 alone—together with our high-touch approach are making banking better and delivering a more intuitive and efficient experience for our clients across all channels.

Three core principles guide how we develop and deliver each digital experience. The information and advice we provide should be in the best interest of the client, timely and relevant, and offer a choice of the next best step.

Our digital platforms bring never-before-possible convenience to our more than 38 million digital clients, including more than 80% of our small business owner clients. Significant investments in our user interface (UI) and artificial intelligence (AI) allow us to deliver a digital experience with powerful simplicity and groundbreaking personalization.

Our virtual AI-driven assistant, Erica®, is the engine that enables this personalization at scale, delivering valuable client-specific insights and advice at key moments. Clients interact with Erica through voice, text chat or on-screen gesture, receiving help with their banking needs and proactive insights to help make managing finances easier and meet savings goals. For instance, Erica detects duplicate charges on an account and notifies clients if their spending is higher than usual or their checking account balance is trending toward \$0. Erica can also assist with common inquiries, including billing disputes, fees, deposit holds and transaction-related questions. Since launching in 2018, Erica has already helped more than 10 million clients complete over 100 million requests.

In 2019, clients logged into our digital platforms more than 8 billion times, deposited more than 140 million checks through Mobile Check Deposit, and sent and received over \$78 billion using Zelle®. More than one-quarter of all new products are provided through digital channels, including auto loans and home mortgages.

In February 2019, we launched Business Advantage 360, our one-stop digital dashboard for business owners, and we recently enhanced the platform with the ability to integrate data from key third-party business applications. Since the launch, more than 1 million business owner clients have used Business Advantage 360, and Barlow Research recently named Bank of America No. 1 in Small Business Mobile Banking Adoption among the top 10 U.S. banks.

Our digital and mobile capabilities are aligned with the capabilities clients receive in a financial center, too. For example, clients can use our mobile app to easily book an appointment with an employee to discuss a specific matter in a financial center. Alternatively, an employee in the financial center can discuss and save products to a client's digital shopping cart, and the client can complete the application digitally at a later date.





The Corporation performs periodic and systematic detailed reviews of its lending portfolios to identify credit risks and to assess the overall collectability of those portfolios. The allowance on certain homogeneous consumer loan portfolios, which generally consist of consumer real estate loans within the Consumer Real Estate portfolio segment and credit card loans within the Credit Card and Other Consumer portfolio segment, is based on aggregated portfolio segment evaluations generally by product type. Loss forecast models are utilized for these portfolios which consider a variety of factors including, but not limited to, historical loss experience, estimated defaults or foreclosures based on portfolio trends, delinquencies, bankruptcies, economic conditions, credit scores and the amount of loss in the event of default.

For consumer loans secured by residential real estate, using statistical modeling methodologies, the Corporation estimates the number of loans that will default based on the individual loan attributes aggregated into pools of homogeneous loans with similar attributes. The attributes that are most significant to the probability of default and are used to estimate defaults include refreshed loan-to-value (LTV) or, in the case of a subordinated lien, refreshed combined LTV (CLTV), borrower credit score, months since origination and geography, all of which are further broken down by present collection status (whether the loan is current, delinquent, in default or in bankruptcy). The severity of loss given default is estimated based on the refreshed LTV for first-lien mortgages or CLTV for subordinated liens. The estimates are based on the Corporation's historical experience with the loan portfolio, adjusted to reflect an assessment of environmental factors not yet reflected in the historical data underlying the loss estimates, such as changes in real estate values, local and national economies, underwriting standards and the regulatory environment. The probability of default models also incorporate recent experience with modification programs including re-defaults subsequent to modification, a loan's default history prior to modification and the change in borrower payments post-modification. On home equity loans where the Corporation holds only a second-lien position and foreclosure is not the best alternative, the loss severity is estimated at 100 percent.

The allowance on certain commercial loans (except business card and certain small business loans) is calculated using loss rates delineated by risk rating and product type. Factors considered when assessing loss rates include the value of the underlying collateral, if applicable, the industry of the obligor, and the obligor's liquidity and other financial indicators along with certain qualitative factors. These statistical models are updated regularly for changes in economic and business conditions. Included in the analysis of consumer and commercial loan portfolios are qualitative estimates which are maintained to cover uncertainties that affect the Corporation's estimate of probable losses including domestic and global economic uncertainty and large single-name defaults.

For individually impaired loans, which include nonperforming commercial loans as well as consumer and commercial loans and leases modified in a troubled debt restructuring (TDR), management measures impairment primarily based on the present value of payments expected to be received, discounted at the loans' original effective contractual interest rates. Credit card loans are discounted at the portfolio average contractual annual percentage rate, excluding promotionally priced loans, in effect prior to restructuring. Impaired loans and TDRs may also be measured based on observable market prices, or for loans that are solely dependent on the collateral for repayment, the estimated fair value of the collateral less costs to sell. If the recorded investment in impaired loans exceeds this amount, a specific allowance is established as part of the allowance for loan and

lease losses unless these are secured consumer loans that are solely dependent on collateral for repayment, in which case the amount that exceeds the fair value of the collateral is charged off.

Generally, the Corporation initially estimates the fair value of the collateral securing these consumer real estate-secured loans using an automated valuation model (AVM). An AVM is a tool that estimates the value of a property by reference to market data including sales of comparable properties and price trends specific to the Metropolitan Statistical Area in which the property being valued is located. In the event that an AVM value is not available, the Corporation utilizes publicized indices or if these methods provide less reliable valuations, the Corporation uses appraisals or broker price opinions to estimate the fair value of the collateral. While there is inherent imprecision in these valuations, the Corporation believes that they are representative of the portfolio in the aggregate.

In addition to the allowance for loan and lease losses, the Corporation also estimates probable losses related to unfunded lending commitments, such as letters of credit, financial guarantees and binding unfunded loan commitments. Unfunded lending commitments are subject to individual reviews and are analyzed and segregated by risk according to the Corporation's internal risk rating scale. These risk classifications, in conjunction with an analysis of historical loss experience, utilization assumptions, current economic conditions, performance trends within the portfolio and any other pertinent information, result in the estimation of the reserve for unfunded lending commitments.

The allowance for credit losses related to the loan and lease portfolio is reported separately on the Consolidated Balance Sheet whereas the reserve for unfunded lending commitments is reported on the Consolidated Balance Sheet in accrued expenses and other liabilities. The provision for credit losses related to the loan and lease portfolio and unfunded lending commitments is reported in the Consolidated Statement of Income.

#### ***Nonperforming Loans and Leases, Charge-offs and Delinquencies***

Nonperforming loans and leases generally include loans and leases that have been placed on nonaccrual status. Loans accounted for under the fair value option and LHFS are not reported as nonperforming.

In accordance with the Corporation's policies, consumer real estate-secured loans, including residential mortgages and home equity loans, are generally placed on nonaccrual status and classified as nonperforming at 90 days past due unless repayment of the loan is insured by the Federal Housing Administration (FHA) or through individually insured long-term standby agreements with Fannie Mae (FNMA) or Freddie Mac (FHLMC) (the fully-insured portfolio). Residential mortgage loans in the fully-insured portfolio are not placed on nonaccrual status and, therefore, are not reported as nonperforming. Junior-lien home equity loans are placed on nonaccrual status and classified as nonperforming when the underlying first-lien mortgage loan becomes 90 days past due even if the junior-lien loan is current. The outstanding balance of real estate-secured loans that is in excess of the estimated property value less costs to sell is charged off no later than the end of the month in which the loan becomes 180 days past due unless the loan is fully insured, or for loans in bankruptcy, within 60 days of receipt of notification of filing, with the remaining balance classified as nonperforming.

Consumer loans secured by personal property, credit card loans and other unsecured consumer loans are not placed on nonaccrual status prior to charge-off and, therefore, are not reported as nonperforming loans, except for certain secured consumer loans, including those that have been modified in a TDR. Personal

property-secured loans (including auto loans) are charged off to collateral value no later than the end of the month in which the account becomes 120 days past due, or upon repossession of an auto or, for loans in bankruptcy, within 60 days of receipt of notification of filing. Credit card and other unsecured customer loans are charged off no later than the end of the month in which the account becomes 180 days past due, within 60 days after receipt of notification of death or bankruptcy, or upon confirmation of fraud.

Commercial loans and leases, excluding business card loans, that are past due 90 days or more as to principal or interest, or where reasonable doubt exists as to timely collection, including loans that are individually identified as being impaired, are generally placed on nonaccrual status and classified as nonperforming unless well-secured and in the process of collection.

Business card loans are charged off in the same manner as consumer credit card loans. Other commercial loans and leases are generally charged off when all or a portion of the principal amount is determined to be uncollectible.

The entire balance of a consumer loan or commercial loan or lease is contractually delinquent if the minimum payment is not received by the specified due date on the customer's billing statement. Interest and fees continue to accrue on past due loans and leases until the date the loan is placed on nonaccrual status, if applicable. Accrued interest receivable is reversed when loans and leases are placed on nonaccrual status. Interest collections on nonaccruing loans and leases for which the ultimate collectability of principal is uncertain are applied as principal reductions; otherwise, such collections are credited to income when received. Loans and leases may be restored to accrual status when all principal and interest is current and full repayment of the remaining contractual principal and interest is expected.

#### **Troubled Debt Restructurings**

Consumer and commercial loans and leases whose contractual terms have been restructured in a manner that grants a concession to a borrower experiencing financial difficulties are classified as TDRs. Concessions could include a reduction in the interest rate to a rate that is below market on the loan, payment extensions, forgiveness of principal, forbearance or other actions designed to maximize collections. Loans that are carried at fair value and LHFS are not classified as TDRs.

Loans and leases whose contractual terms have been modified in a TDR and are current at the time of restructuring may remain on accrual status if there is demonstrated performance prior to the restructuring and payment in full under the restructured terms is expected. Otherwise, the loans are placed on nonaccrual status and reported as nonperforming, except for fully-insured consumer real estate loans, until there is sustained repayment performance for a reasonable period, generally six months. If accruing TDRs cease to perform in accordance with their modified contractual terms, they are placed on nonaccrual status and reported as nonperforming TDRs.

Secured consumer loans that have been discharged in Chapter 7 bankruptcy and have not been reaffirmed by the borrower are classified as TDRs at the time of discharge. Such loans are placed on nonaccrual status and written down to the estimated collateral value less costs to sell no later than at the time of discharge. If these loans are contractually current, interest collections are generally recorded in interest income on a cash basis. Consumer real estate-secured loans for which a binding offer to restructure has been extended are also classified as TDRs. Credit card and other unsecured consumer loans that have been renegotiated in a TDR generally remain on accrual status until the loan is either

paid in full or charged off, which occurs no later than the end of the month in which the loan becomes 180 days past due or, for loans that have been placed on a fixed payment plan, 120 days past due.

A loan that had previously been modified in a TDR and is subsequently refinanced under current underwriting standards at a market rate with no concessionary terms is accounted for as a new loan and is no longer reported as a TDR.

#### **Loans Held-for-sale**

Loans that the Corporation intends to sell in the foreseeable future, including residential mortgages, loan syndications, and to a lesser degree, commercial real estate, consumer finance and other loans, are reported as LHFS and are carried at the lower of aggregate cost or fair value. The Corporation accounts for certain LHFS, including residential mortgage LHFS, under the fair value option with interest recorded in interest income and changes in fair value recorded in other income. Loan origination costs related to LHFS that the Corporation accounts for under the fair value option are recognized in noninterest expense when incurred. Loan origination costs for LHFS carried at the lower of cost or fair value are capitalized as part of the carrying value of the loans and recognized as a reduction of noninterest income upon the sale of such loans. LHFS that are on nonaccrual status and are reported as nonperforming, as defined in the policy herein, are reported separately from nonperforming loans and leases.

#### **Premises and Equipment**

Premises and equipment are carried at cost less accumulated depreciation and amortization. Depreciation and amortization are recognized using the straight-line method over the estimated useful lives of the assets. Estimated lives range up to 40 years for buildings, up to 12 years for furniture and equipment, and the shorter of lease term or estimated useful life for leasehold improvements.

#### **Lessee Arrangements**

Substantially all of the Corporation's lessee arrangements are operating leases. Under these arrangements, the Corporation records right-of-use assets and lease liabilities at lease commencement. Right-of-use assets are reported in other assets on the Consolidated Balance Sheet, and the related lease liabilities are reported in accrued expenses and other liabilities. All leases are recorded on the Consolidated Balance Sheet except leases with an initial term less than 12 months for which the Corporation made the short-term lease election. Lease expense is recognized on a straight-line basis over the lease term and is recorded in occupancy and equipment expense in the Consolidated Statement of Income.

The Corporation made an accounting policy election not to separate lease and non-lease components of a contract that is or contains a lease for its real estate and equipment leases. As such, lease payments represent payments on both lease and non-lease components. At lease commencement, lease liabilities are recognized based on the present value of the remaining lease payments and discounted using the Corporation's incremental borrowing rate. Right-of-use assets initially equal the lease liability, adjusted for any lease payments made prior to lease commencement and for any lease incentives.

#### **Goodwill and Intangible Assets**

Goodwill is the purchase premium after adjusting for the fair value of net assets acquired. Goodwill is not amortized but is reviewed for potential impairment on an annual basis, or when events or circumstances indicate a potential impairment, at the reporting

unit level. A reporting unit is a business segment or one level below a business segment.

The Corporation assesses the fair value of each reporting unit against its carrying value, including goodwill, as measured by allocated equity. For purposes of goodwill impairment testing, the Corporation utilizes allocated equity as a proxy for the carrying value of its reporting units. Allocated equity in the reporting units is comprised of allocated capital plus capital for the portion of goodwill and intangibles specifically assigned to the reporting unit.

In performing its goodwill impairment testing, the Corporation first assesses qualitative factors to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Qualitative factors include, among other things, macroeconomic conditions, industry and market considerations, financial performance of the respective reporting unit and other relevant entity- and reporting-unit specific considerations.

If the Corporation concludes it is more likely than not that the fair value of a reporting unit is less than its carrying value, a quantitative assessment is performed. If the fair value of the reporting unit exceeds its carrying value, goodwill of the reporting unit is considered not impaired; however, if the carrying value of the reporting unit exceeds its fair value, an additional step is performed to measure potential impairment.

This step involves calculating an implied fair value of goodwill which is the excess of the fair value of the reporting unit, as determined in the first step, over the aggregate fair values of the assets, liabilities and identifiable intangibles as if the reporting unit was being acquired in a business combination. If the implied fair value of goodwill exceeds the goodwill assigned to the reporting unit, there is no impairment. If the goodwill assigned to a reporting unit exceeds the implied fair value of goodwill, an impairment charge is recorded for the excess. An impairment loss recognized cannot exceed the amount of goodwill assigned to a reporting unit. An impairment loss establishes a new basis in the goodwill, and subsequent reversals of goodwill impairment losses are not permitted under applicable accounting guidance.

For intangible assets subject to amortization, an impairment loss is recognized if the carrying value of the intangible asset is not recoverable and exceeds fair value. The carrying value of the intangible asset is considered not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use of the asset. Intangible assets deemed to have indefinite useful lives are not subject to amortization. An impairment loss is recognized if the carrying value of the intangible asset with an indefinite life exceeds its fair value.

#### **Variable Interest Entities**

A VIE is an entity that lacks equity investors or whose equity investors do not have a controlling financial interest in the entity through their equity investments. The Corporation consolidates a VIE if it has both the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and an obligation to absorb losses or the right to receive benefits that could potentially be significant to the VIE. On a quarterly basis, the Corporation reassesses its involvement with the VIE and evaluates the impact of changes in governing documents and its financial interests in the VIE. The consolidation status of the VIEs with which the Corporation is involved may change as a result of such reassessments.

The Corporation primarily uses VIEs for its securitization activities, in which the Corporation transfers whole loans or debt securities into a trust or other vehicle. When the Corporation is the servicer of whole loans held in a securitization trust, including non-agency residential mortgages, home equity loans, credit cards, and other loans, the Corporation has the power to direct the most

significant activities of the trust. The Corporation generally does not have the power to direct the most significant activities of a residential mortgage agency trust except in certain circumstances in which the Corporation holds substantially all of the issued securities and has the unilateral right to liquidate the trust. The power to direct the most significant activities of a commercial mortgage securitization trust is typically held by the special servicer or by the party holding specific subordinate securities which embody certain controlling rights. The Corporation consolidates a whole-loan securitization trust if it has the power to direct the most significant activities and also holds securities issued by the trust or has other contractual arrangements, other than standard representations and warranties, that could potentially be significant to the trust.

The Corporation may also transfer trading account securities and AFS securities into municipal bond or resecuritization trusts. The Corporation consolidates a municipal bond or resecuritization trust if it has control over the ongoing activities of the trust such as the remarketing of the trust's liabilities or, if there are no ongoing activities, sole discretion over the design of the trust, including the identification of securities to be transferred in and the structure of securities to be issued, and also retains securities or has liquidity or other commitments that could potentially be significant to the trust. The Corporation does not consolidate a municipal bond or resecuritization trust if one or a limited number of third-party investors share responsibility for the design of the trust or have control over the significant activities of the trust through liquidation or other substantive rights.

Other VIEs used by the Corporation include collateralized debt obligations (CDOs), investment vehicles created on behalf of customers and other investment vehicles. The Corporation does not routinely serve as collateral manager for CDOs and, therefore, does not typically have the power to direct the activities that most significantly impact the economic performance of a CDO. However, following an event of default, if the Corporation is a majority holder of senior securities issued by a CDO and acquires the power to manage its assets, the Corporation consolidates the CDO.

The Corporation consolidates a customer or other investment vehicle if it has control over the initial design of the vehicle or manages the assets in the vehicle and also absorbs potentially significant gains or losses through an investment in the vehicle, derivative contracts or other arrangements. The Corporation does not consolidate an investment vehicle if a single investor controlled the initial design of the vehicle or manages the assets in the vehicles or if the Corporation does not have a variable interest that could potentially be significant to the vehicle.

Retained interests in securitized assets are initially recorded at fair value. In addition, the Corporation may invest in debt securities issued by unconsolidated VIEs. Fair values of these debt securities, which are classified as trading account assets, debt securities carried at fair value or HTM securities, are based primarily on quoted market prices in active or inactive markets. Generally, quoted market prices for retained residual interests are not available; therefore, the Corporation estimates fair values based on the present value of the associated expected future cash flows.

#### **Fair Value**

The Corporation measures the fair values of its assets and liabilities, where applicable, in accordance with accounting guidance that requires an entity to base fair value on exit price. Under this guidance, an entity is required to maximize the use of observable inputs and minimize the use of unobservable inputs in measuring fair value. Under applicable accounting standards, fair value measurements are categorized into one of three levels

based on the inputs to the valuation technique with the highest priority given to unadjusted quoted prices in active markets and the lowest priority given to unobservable inputs. The Corporation categorizes its fair value measurements of financial instruments based on this three-level hierarchy.

- Level 1** Unadjusted quoted prices in active markets for identical assets or liabilities. Level 1 assets and liabilities include debt and equity securities and derivative contracts that are traded in an active exchange market, as well as certain U.S. Treasury securities that are highly liquid and are actively traded in OTC markets.
- Level 2** Observable inputs other than Level 1 prices, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities include debt securities with quoted prices that are traded less frequently than exchange-traded instruments and derivative contracts where fair value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data. This category generally includes U.S. government and agency mortgage-backed (MBS) and asset-backed securities (ABS), corporate debt securities, derivative contracts, certain loans and LHFS.
- Level 3** Unobservable inputs that are supported by little or no market activity and that are significant to the overall fair value of the assets or liabilities. Level 3 assets and liabilities include financial instruments for which the determination of fair value requires significant management judgment or estimation. The fair value for such assets and liabilities is generally determined using pricing models, discounted cash flow methodologies or similar techniques that incorporate the assumptions a market participant would use in pricing the asset or liability. This category generally includes retained residual interests in securitizations, consumer MSRs, certain ABS, highly structured, complex or long-dated derivative contracts, certain loans and LHFS, IRLCs and certain CDOs where independent pricing information cannot be obtained for a significant portion of the underlying assets.

#### **Income Taxes**

There are two components of income tax expense: current and deferred. Current income tax expense reflects taxes to be paid or refunded for the current period. Deferred income tax expense results from changes in deferred tax assets and liabilities between periods. These gross deferred tax assets and liabilities represent decreases or increases in taxes expected to be paid in the future because of future reversals of temporary differences in the bases of assets and liabilities as measured by tax laws and their bases as reported in the financial statements. Deferred tax assets are also recognized for tax attributes such as net operating loss carryforwards and tax credit carryforwards. Valuation allowances are recorded to reduce deferred tax assets to the amounts management concludes are more likely than not to be realized.

Income tax benefits are recognized and measured based upon a two-step model: first, a tax position must be more likely than not to be sustained based solely on its technical merits in order to be recognized, and second, the benefit is measured as the largest dollar amount of that position that is more likely than not to be sustained upon settlement. The difference between the benefit

recognized and the tax benefit claimed on a tax return is referred to as an unrecognized tax benefit. The Corporation records income tax-related interest and penalties, if applicable, within income tax expense.

#### **Revenue Recognition**

The following summarizes the Corporation's revenue recognition accounting policies for certain noninterest income activities.

##### **Card Income**

Card income includes annual, late and over-limit fees as well as fees earned from interchange, cash advances and other miscellaneous transactions and is presented net of direct costs. Interchange fees are recognized upon settlement of the credit and debit card payment transactions and are generally determined on a percentage basis for credit cards and fixed rates for debit cards based on the corresponding payment network's rates. Substantially all card fees are recognized at the transaction date, except for certain time-based fees such as annual fees, which are recognized over 12 months. Fees charged to cardholders that are estimated to be uncollectible are reserved in the allowance for loan and lease losses. Included in direct cost are rewards and credit card partner payments. Rewards paid to cardholders are related to points earned by the cardholder that can be redeemed for a broad range of rewards including cash, travel and gift cards. The points to be redeemed are estimated based on past redemption behavior, card product type, account transaction activity and other historical card performance. The liability is reduced as the points are redeemed. The Corporation also makes payments to credit card partners. The payments are based on revenue-sharing agreements that are generally driven by cardholder transactions and partner sales volumes. As part of the revenue-sharing agreements, the credit card partner provides the Corporation exclusive rights to market to the credit card partner's members or customers on behalf of the Corporation.

##### **Service Charges**

Service charges include deposit and lending-related fees. Deposit-related fees consist of fees earned on consumer and commercial deposit activities and are generally recognized when the transactions occur or as the service is performed. Consumer fees are earned on consumer deposit accounts for account maintenance and various transaction-based services, such as ATM transactions, wire transfer activities, check and money order processing and insufficient funds/overdraft transactions. Commercial deposit-related fees are from the Corporation's Global Transaction Services business and consist of commercial deposit and treasury management services, including account maintenance and other services, such as payroll, sweep account and other cash management services. Lending-related fees generally represent transactional fees earned from certain loan commitments, financial guarantees and SBLCS.

##### **Investment and Brokerage Services**

Investment and brokerage services consist of asset management and brokerage fees. Asset management fees are earned from the management of client assets under advisory agreements or the full discretion of the Corporation's financial advisors (collectively referred to as assets under management (AUM)). Asset management fees are earned as a percentage of the client's AUM and generally range from 50 basis points (bps) to 150 bps of the AUM. In cases where a third party is used to obtain a client's investment allocation, the fee remitted to the third party is recorded net and is not reflected in the transaction price, as the Corporation is an agent for those services.

Brokerage fees include income earned from transaction-based services that are performed as part of investment management services and are based on a fixed price per unit or as a percentage of the total transaction amount. Brokerage fees also include distribution fees and sales commissions that are primarily in the *Global Wealth & Investment Management (GWIM)* segment and are earned over time. In addition, primarily in the *Global Markets* segment, brokerage fees are earned when the Corporation fills customer orders to buy or sell various financial products or when it acknowledges, affirms, settles and clears transactions and/or submits trade information to the appropriate clearing broker. Certain customers pay brokerage, clearing and/or exchange fees imposed by relevant regulatory bodies or exchanges in order to execute or clear trades. These fees are recorded net and are not reflected in the transaction price, as the Corporation is an agent for those services.

#### **Investment Banking Income**

Investment banking income includes underwriting income and financial advisory services income. Underwriting consists of fees earned for the placement of a customer's debt or equity securities. The revenue is generally earned based on a percentage of the fixed number of shares or principal placed. Once the number of shares or notes is determined and the service is completed, the underwriting fees are recognized. The Corporation incurs certain out-of-pocket expenses, such as legal costs, in performing these services. These expenses are recovered through the revenue the Corporation earns from the customer and are included in operating expenses. Syndication fees represent fees earned as the agent or lead lender responsible for structuring, arranging and administering a loan syndication.

Financial advisory services consist of fees earned for assisting clients with transactions related to mergers and acquisitions and financial restructurings. Revenue varies depending on the size of the transaction and scope of services performed and is generally contingent on successful completion of the transaction. Revenue is typically recognized once the transaction is completed and all services have been rendered. Additionally, the Corporation may earn a fixed fee in merger and acquisition transactions to provide a fairness opinion, with the fees recognized when the opinion is delivered to the client.

#### **Other Revenue Measurement and Recognition Policies**

The Corporation did not disclose the value of any open performance obligations at December 31, 2019, as its contracts with customers generally have a fixed term that is less than one year, an open term with a cancellation period that is less than one year, or provisions that allow the Corporation to recognize revenue at the amount it has the right to invoice.

#### **Earnings Per Common Share**

Earnings per common share (EPS) is computed by dividing net income allocated to common shareholders by the weighted-average common shares outstanding, excluding unvested common shares subject to repurchase or cancellation. Net income allocated to common shareholders is net income adjusted for preferred stock dividends including dividends declared, accretion of discounts on preferred stock including accelerated accretion when preferred stock is repaid early, and cumulative dividends related to the current dividend period that have not been declared as of period end, less income allocated to participating securities. Diluted EPS is computed by dividing income allocated to common shareholders plus dividends on dilutive convertible preferred stock and preferred stock that can be tendered to exercise warrants, by the weighted-average common shares outstanding plus amounts representing the dilutive effect of stock options outstanding, restricted stock, restricted stock units (RSUs), outstanding warrants and the dilution resulting from the conversion of convertible preferred stock, if applicable.

#### **Foreign Currency Translation**

Assets, liabilities and operations of foreign branches and subsidiaries are recorded based on the functional currency of each entity. When the functional currency of a foreign operation is the local currency, the assets, liabilities and operations are translated, for consolidation purposes, from the local currency to the U.S. dollar reporting currency at period-end rates for assets and liabilities and generally at average rates for results of operations. The resulting unrealized gains and losses are reported as a component of accumulated OCI, net-of-tax. When the foreign entity's functional currency is the U.S. dollar, the resulting remeasurement gains or losses on foreign currency-denominated assets or liabilities are included in earnings.

## NOTE 2 Net Interest Income and Noninterest Income

The table below presents the Corporation's net interest income and noninterest income disaggregated by revenue source for 2019, 2018 and 2017. For more information, see Note 1 – Summary of Significant Accounting Principles. For a disaggregation of noninterest income by business segment and All Other, see Note 24 – Business Segment Information.

| (Dollars in millions)                                                              | 2019             | 2018             | 2017             |
|------------------------------------------------------------------------------------|------------------|------------------|------------------|
| <b>Net interest income</b>                                                         |                  |                  |                  |
| <b>Interest income</b>                                                             |                  |                  |                  |
| Loans and leases                                                                   | \$ 43,086        | \$ 40,811        | \$ 36,221        |
| Debt securities                                                                    | 11,806           | 11,724           | 10,471           |
| Federal funds sold and securities borrowed or purchased under agreements to resell | 4,843            | 3,176            | 2,390            |
| Trading account assets                                                             | 5,196            | 4,811            | 4,474            |
| Other interest income                                                              | 6,305            | 6,247            | 4,023            |
| <b>Total interest income</b>                                                       | <b>71,236</b>    | <b>66,769</b>    | <b>57,579</b>    |
| <b>Interest expense</b>                                                            |                  |                  |                  |
| Deposits                                                                           | 7,188            | 4,495            | 1,931            |
| Short-term borrowings                                                              | 7,208            | 5,839            | 3,538            |
| Trading account liabilities                                                        | 1,249            | 1,358            | 1,204            |
| Long-term debt                                                                     | 6,700            | 6,915            | 5,667            |
| <b>Total interest expense</b>                                                      | <b>22,345</b>    | <b>18,607</b>    | <b>12,340</b>    |
| <b>Net interest income</b>                                                         | <b>\$ 48,891</b> | <b>\$ 48,162</b> | <b>\$ 45,239</b> |
| <b>Noninterest income</b>                                                          |                  |                  |                  |
| <b>Fees and commissions</b>                                                        |                  |                  |                  |
| <b>Card income</b>                                                                 |                  |                  |                  |
| Interchange fees <sup>(1)</sup>                                                    | \$ 3,834         | \$ 3,866         | \$ 3,777         |
| Other card income                                                                  | 1,963            | 1,958            | 1,899            |
| <b>Total card income</b>                                                           | <b>5,797</b>     | <b>5,824</b>     | <b>5,676</b>     |
| <b>Service charges</b>                                                             |                  |                  |                  |
| Deposit-related fees                                                               | 6,588            | 6,667            | 6,708            |
| Lending-related fees                                                               | 1,066            | 1,100            | 1,110            |
| <b>Total service charges</b>                                                       | <b>7,674</b>     | <b>7,767</b>     | <b>7,818</b>     |
| <b>Investment and brokerage services</b>                                           |                  |                  |                  |
| Asset management fees                                                              | 10,241           | 10,189           | 9,310            |
| Brokerage fees                                                                     | 3,661            | 3,971            | 4,526            |
| <b>Total investment and brokerage services</b>                                     | <b>13,902</b>    | <b>14,160</b>    | <b>13,836</b>    |
| <b>Investment banking fees</b>                                                     |                  |                  |                  |
| Underwriting income                                                                | 2,998            | 2,722            | 2,821            |
| Syndication fees                                                                   | 1,184            | 1,347            | 1,499            |
| Financial advisory services                                                        | 1,460            | 1,258            | 1,691            |
| <b>Total investment banking fees</b>                                               | <b>5,642</b>     | <b>5,327</b>     | <b>6,011</b>     |
| <b>Total fees and commissions</b>                                                  | <b>33,015</b>    | <b>33,078</b>    | <b>33,341</b>    |
| <b>Market making and similar activities</b>                                        | <b>9,034</b>     | <b>9,008</b>     | <b>7,102</b>     |
| <b>Other income</b>                                                                | <b>304</b>       | <b>772</b>       | <b>1,444</b>     |
| <b>Total noninterest income</b>                                                    | <b>\$ 42,353</b> | <b>\$ 42,858</b> | <b>\$ 41,887</b> |

<sup>(1)</sup> Gross interchange fees were \$10.0 billion, \$9.5 billion and \$8.8 billion for 2019, 2018 and 2017, respectively, and are presented net of \$6.2 billion, \$5.6 billion and \$5.1 billion of expenses for rewards and partner payments for the same periods.

## NOTE 3 Derivatives

### Derivative Balances

Derivatives are entered into on behalf of customers, for trading or to support risk management activities. Derivatives used in risk management activities include derivatives that may or may not be designated in qualifying hedge accounting relationships. Derivatives that are not designated in qualifying hedge accounting relationships are referred to as other risk management derivatives. For more information on the Corporation's derivatives and hedging

activities, see *Note 1 – Summary of Significant Accounting Principles*. The following tables present derivative instruments included on the Consolidated Balance Sheet in derivative assets and liabilities at December 31, 2019 and 2018. Balances are presented on a gross basis, prior to the application of counterparty and cash collateral netting. Total derivative assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements and have been reduced by cash collateral received or paid.

|                                                     | December 31, 2019                    |                                                        |                                    |                |                                                        |                                    |                |  |
|-----------------------------------------------------|--------------------------------------|--------------------------------------------------------|------------------------------------|----------------|--------------------------------------------------------|------------------------------------|----------------|--|
|                                                     | Gross Derivative Assets              |                                                        |                                    |                | Gross Derivative Liabilities                           |                                    |                |  |
|                                                     | Contract/<br>Notional <sup>(1)</sup> | Trading and<br>Other Risk<br>Management<br>Derivatives | Qualifying<br>Accounting<br>Hedges | Total          | Trading and<br>Other Risk<br>Management<br>Derivatives | Qualifying<br>Accounting<br>Hedges | Total          |  |
| (Dollars in billions)                               |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| <b>Interest rate contracts</b>                      |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| Swaps                                               | \$ 15,074.4                          | \$ 162.0                                               | \$ 9.7                             | \$ 171.7       | \$ 168.5                                               | \$ 0.4                             | \$ 168.9       |  |
| Futures and forwards                                | 3,279.8                              | 1.0                                                    | —                                  | 1.0            | 1.0                                                    | —                                  | 1.0            |  |
| Written options                                     | 1,767.7                              | —                                                      | —                                  | —              | 32.5                                                   | —                                  | 32.5           |  |
| Purchased options                                   | 1,673.6                              | 37.4                                                   | —                                  | 37.4           | —                                                      | —                                  | —              |  |
| <b>Foreign exchange contracts</b>                   |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| Swaps                                               | 1,657.7                              | 30.3                                                   | 0.7                                | 31.0           | 31.7                                                   | 0.9                                | 32.6           |  |
| Spot, futures and forwards                          | 3,792.7                              | 35.9                                                   | 0.1                                | 36.0           | 38.7                                                   | 0.3                                | 39.0           |  |
| Written options                                     | 274.3                                | —                                                      | —                                  | —              | 3.8                                                    | —                                  | 3.8            |  |
| Purchased options                                   | 261.6                                | 4.0                                                    | —                                  | 4.0            | —                                                      | —                                  | —              |  |
| <b>Equity contracts</b>                             |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| Swaps                                               | 315.0                                | 6.5                                                    | —                                  | 6.5            | 8.1                                                    | —                                  | 8.1            |  |
| Futures and forwards                                | 125.1                                | 0.3                                                    | —                                  | 0.3            | 1.1                                                    | —                                  | 1.1            |  |
| Written options                                     | 731.1                                | —                                                      | —                                  | —              | 34.6                                                   | —                                  | 34.6           |  |
| Purchased options                                   | 668.6                                | 42.4                                                   | —                                  | 42.4           | —                                                      | —                                  | —              |  |
| <b>Commodity contracts</b>                          |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| Swaps                                               | 42.0                                 | 2.1                                                    | —                                  | 2.1            | 4.4                                                    | —                                  | 4.4            |  |
| Futures and forwards                                | 61.3                                 | 1.7                                                    | —                                  | 1.7            | 0.4                                                    | —                                  | 0.4            |  |
| Written options                                     | 33.2                                 | —                                                      | —                                  | —              | 1.4                                                    | —                                  | 1.4            |  |
| Purchased options                                   | 37.9                                 | 1.4                                                    | —                                  | 1.4            | —                                                      | —                                  | —              |  |
| <b>Credit derivatives <sup>(2)</sup></b>            |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| Purchased credit derivatives:                       |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| Credit default swaps                                | 321.6                                | 2.7                                                    | —                                  | 2.7            | 5.6                                                    | —                                  | 5.6            |  |
| Total return swaps/options                          | 86.6                                 | 0.4                                                    | —                                  | 0.4            | 1.3                                                    | —                                  | 1.3            |  |
| Written credit derivatives:                         |                                      |                                                        |                                    |                |                                                        |                                    |                |  |
| Credit default swaps                                | 300.2                                | 5.4                                                    | —                                  | 5.4            | 2.0                                                    | —                                  | 2.0            |  |
| Total return swaps/options                          | 86.2                                 | 0.8                                                    | —                                  | 0.8            | 0.4                                                    | —                                  | 0.4            |  |
| Gross derivative assets/liabilities                 |                                      | \$ 334.3                                               | \$ 10.5                            | \$ 344.8       | \$ 335.5                                               | \$ 1.6                             | \$ 337.1       |  |
| Less: Legally enforceable master netting agreements |                                      |                                                        |                                    | (270.4)        |                                                        |                                    | (270.4)        |  |
| Less: Cash collateral received/paid                 |                                      |                                                        |                                    | (33.9)         |                                                        |                                    | (28.5)         |  |
| <b>Total derivative assets/liabilities</b>          |                                      |                                                        |                                    | <b>\$ 40.5</b> |                                                        |                                    | <b>\$ 38.2</b> |  |

<sup>(1)</sup> Represents the total contract/notional amount of derivative assets and liabilities outstanding

<sup>(2)</sup> The net derivative asset (liability) and notional amount of written credit derivatives for which the Corporation held purchased credit derivatives with identical underlying referenced names were \$2.8 billion and \$309.7 billion at December 31, 2019.

|                                                     | December 31, 2018                    |                                                        |                                    |                |                                                        |                                    |                |
|-----------------------------------------------------|--------------------------------------|--------------------------------------------------------|------------------------------------|----------------|--------------------------------------------------------|------------------------------------|----------------|
|                                                     | Gross Derivative Assets              |                                                        |                                    |                | Gross Derivative Liabilities                           |                                    |                |
|                                                     | Contract/<br>Notional <sup>(1)</sup> | Trading and<br>Other Risk<br>Management<br>Derivatives | Qualifying<br>Accounting<br>Hedges | Total          | Trading and<br>Other Risk<br>Management<br>Derivatives | Qualifying<br>Accounting<br>Hedges | Total          |
| (Dollars in billions)                               |                                      |                                                        |                                    |                |                                                        |                                    |                |
| <b>Interest rate contracts</b>                      |                                      |                                                        |                                    |                |                                                        |                                    |                |
| Swaps                                               | \$ 15,977.9                          | \$ 141.0                                               | \$ 3.2                             | \$ 144.2       | \$ 138.9                                               | \$ 2.0                             | \$ 140.9       |
| Futures and forwards                                | 3,656.6                              | 4.7                                                    | —                                  | 4.7            | 5.0                                                    | —                                  | 5.0            |
| Written options                                     | 1,584.9                              | —                                                      | —                                  | —              | 28.6                                                   | —                                  | 28.6           |
| Purchased options                                   | 1,614.0                              | 30.8                                                   | —                                  | 30.8           | —                                                      | —                                  | —              |
| <b>Foreign exchange contracts</b>                   |                                      |                                                        |                                    |                |                                                        |                                    |                |
| Swaps                                               | 1,704.8                              | 38.8                                                   | 1.4                                | 40.2           | 42.2                                                   | 2.3                                | 44.5           |
| Spot, futures, and forwards                         | 4,276.0                              | 39.8                                                   | 0.4                                | 40.2           | 39.3                                                   | 0.3                                | 39.6           |
| Written options                                     | 256.7                                | —                                                      | —                                  | —              | 5.0                                                    | —                                  | 5.0            |
| Purchased options                                   | 240.4                                | 4.6                                                    | —                                  | 4.6            | —                                                      | —                                  | —              |
| <b>Equity contracts</b>                             |                                      |                                                        |                                    |                |                                                        |                                    |                |
| Swaps                                               | 253.6                                | 7.7                                                    | —                                  | 7.7            | 8.4                                                    | —                                  | 8.4            |
| Futures and forwards                                | 100.0                                | 2.1                                                    | —                                  | 2.1            | 0.3                                                    | —                                  | 0.3            |
| Written options                                     | 597.1                                | —                                                      | —                                  | —              | 27.5                                                   | —                                  | 27.5           |
| Purchased options                                   | 549.4                                | 36.0                                                   | —                                  | 36.0           | —                                                      | —                                  | —              |
| <b>Commodity contracts</b>                          |                                      |                                                        |                                    |                |                                                        |                                    |                |
| Swaps                                               | 43.1                                 | 2.7                                                    | —                                  | 2.7            | 4.5                                                    | —                                  | 4.5            |
| Futures and forwards                                | 51.7                                 | 3.2                                                    | —                                  | 3.2            | 0.5                                                    | —                                  | 0.5            |
| Written options                                     | 27.5                                 | —                                                      | —                                  | —              | 2.2                                                    | —                                  | 2.2            |
| Purchased options                                   | 23.4                                 | 1.7                                                    | —                                  | 1.7            | —                                                      | —                                  | —              |
| <b>Credit derivatives <sup>(2)</sup></b>            |                                      |                                                        |                                    |                |                                                        |                                    |                |
| Purchased credit derivatives:                       |                                      |                                                        |                                    |                |                                                        |                                    |                |
| Credit default swaps                                | 408.1                                | 5.3                                                    | —                                  | 5.3            | 4.9                                                    | —                                  | 4.9            |
| Total return swaps/options                          | 84.5                                 | 0.4                                                    | —                                  | 0.4            | 1.0                                                    | —                                  | 1.0            |
| Written credit derivatives:                         |                                      |                                                        |                                    |                |                                                        |                                    |                |
| Credit default swaps                                | 371.9                                | 4.4                                                    | —                                  | 4.4            | 4.3                                                    | —                                  | 4.3            |
| Total return swaps/options                          | 87.3                                 | 0.6                                                    | —                                  | 0.6            | 0.6                                                    | —                                  | 0.6            |
| Gross derivative assets/liabilities                 |                                      | \$ 323.8                                               | \$ 5.0                             | \$ 328.8       | \$ 313.2                                               | \$ 4.6                             | \$ 317.8       |
| Less: Legally enforceable master netting agreements |                                      |                                                        |                                    | (252.7)        |                                                        |                                    | (252.7)        |
| Less: Cash collateral received/paid                 |                                      |                                                        |                                    | (32.4)         |                                                        |                                    | (27.2)         |
| <b>Total derivative assets/liabilities</b>          |                                      |                                                        |                                    | <b>\$ 43.7</b> |                                                        |                                    | <b>\$ 37.9</b> |

<sup>(1)</sup> Represents the total contract/notional amount of derivative assets and liabilities outstanding.

<sup>(2)</sup> The net derivative asset (liability) and notional amount of written credit derivatives for which the Corporation held purchased credit derivatives with identical underlying referenced names were \$(185) million and \$342.8 billion at December 31, 2018.

## Offsetting of Derivatives

The Corporation enters into International Swaps and Derivatives Association, Inc. (ISDA) master netting agreements or similar agreements with substantially all of the Corporation's derivative counterparties. Where legally enforceable, these master netting agreements give the Corporation, in the event of default by the counterparty, the right to liquidate securities held as collateral and to offset receivables and payables with the same counterparty. For purposes of the Consolidated Balance Sheet, the Corporation offsets derivative assets and liabilities and cash collateral held with the same counterparty where it has such a legally enforceable master netting agreement.

The following table presents derivative instruments included in derivative assets and liabilities on the Consolidated Balance

Sheet at December 31, 2019 and 2018 by primary risk (e.g., interest rate risk) and the platform, where applicable, on which these derivatives are transacted. Balances are presented on a gross basis, prior to the application of counterparty and cash collateral netting. Total gross derivative assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements which include reducing the balance for counterparty netting and cash collateral received or paid.

For more information on offsetting of securities financing agreements, see *Note 11 - Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash*.

## Offsetting of Derivatives <sup>(1)</sup>

|                                                                                       | Derivative<br>Assets | Derivative<br>Liabilities | Derivative<br>Assets | Derivative<br>Liabilities |
|---------------------------------------------------------------------------------------|----------------------|---------------------------|----------------------|---------------------------|
|                                                                                       | December 31, 2019    |                           | December 31, 2018    |                           |
| (Dollars in billions)                                                                 |                      |                           |                      |                           |
| <b>Interest rate contracts</b>                                                        |                      |                           |                      |                           |
| Over-the-counter                                                                      | \$ 203.1             | \$ 196.6                  | \$ 174.2             | \$ 169.4                  |
| Exchange-traded                                                                       | 0.1                  | 0.1                       | —                    | —                         |
| Over-the-counter cleared                                                              | 6.0                  | 5.3                       | 4.8                  | 4.0                       |
| <b>Foreign exchange contracts</b>                                                     |                      |                           |                      |                           |
| Over-the-counter                                                                      | 69.2                 | 73.1                      | 82.5                 | 86.3                      |
| Over-the-counter cleared                                                              | 0.5                  | 0.5                       | 0.9                  | 0.9                       |
| <b>Equity contracts</b>                                                               |                      |                           |                      |                           |
| Over-the-counter                                                                      | 21.3                 | 17.8                      | 24.6                 | 14.6                      |
| Exchange-traded                                                                       | 26.4                 | 22.8                      | 16.1                 | 15.1                      |
| <b>Commodity contracts</b>                                                            |                      |                           |                      |                           |
| Over-the-counter                                                                      | 2.8                  | 4.2                       | 3.5                  | 4.5                       |
| Exchange-traded                                                                       | 0.8                  | 0.8                       | 1.0                  | 0.9                       |
| Over-the-counter cleared                                                              | —                    | 0.1                       | —                    | —                         |
| <b>Credit derivatives</b>                                                             |                      |                           |                      |                           |
| Over-the-counter                                                                      | 6.4                  | 6.6                       | 7.7                  | 8.2                       |
| Over-the-counter cleared                                                              | 2.5                  | 2.2                       | 2.5                  | 2.3                       |
| <b>Total gross derivative assets/liabilities, before netting</b>                      |                      |                           |                      |                           |
| Over-the-counter                                                                      | 302.8                | 298.3                     | 292.5                | 283.0                     |
| Exchange-traded                                                                       | 27.3                 | 23.7                      | 17.1                 | 16.0                      |
| Over-the-counter cleared                                                              | 9.0                  | 8.1                       | 8.2                  | 7.2                       |
| Less: Legally enforceable master netting agreements and cash collateral received/paid |                      |                           |                      |                           |
| Over-the-counter                                                                      | (274.7)              | (269.3)                   | (264.4)              | (259.2)                   |
| Exchange-traded                                                                       | (21.5)               | (21.5)                    | (13.5)               | (13.5)                    |
| Over-the-counter cleared                                                              | (8.1)                | (8.1)                     | (7.2)                | (7.2)                     |
| <b>Derivative assets/liabilities, after netting</b>                                   | 34.8                 | 31.2                      | 32.7                 | 26.3                      |
| <b>Other gross derivative assets/liabilities <sup>(2)</sup></b>                       | 5.7                  | 7.0                       | 11.0                 | 11.6                      |
| <b>Total derivative assets/liabilities</b>                                            | 40.5                 | 38.2                      | 43.7                 | 37.9                      |
| Less: Financial instruments collateral <sup>(3)</sup>                                 | (14.6)               | (16.1)                    | (16.3)               | (8.6)                     |
| <b>Total net derivative assets/liabilities</b>                                        | \$ 25.9              | \$ 22.1                   | \$ 27.4              | \$ 29.3                   |

<sup>(1)</sup> OTC derivatives include bilateral transactions between the Corporation and a particular counterparty. OTC-cleared derivatives include bilateral transactions between the Corporation and a counterparty where the transaction is cleared through a clearinghouse. Exchange-traded derivatives include listed options transacted on an exchange.

<sup>(2)</sup> Consists of derivatives entered into under master netting agreements where the enforceability of these agreements is uncertain under bankruptcy laws in some countries or industries.

<sup>(3)</sup> Amounts are limited to the derivative asset/liability balance and, accordingly, do not include excess collateral received/pledged. Financial instruments collateral includes securities collateral received or pledged and cash securities held and posted at third-party custodians that are not offset on the Consolidated Balance Sheet but shown as a reduction to derive net derivative assets and liabilities.

## ALM and Risk Management Derivatives

The Corporation's ALM and risk management activities include the use of derivatives to mitigate risk to the Corporation including derivatives designated in qualifying hedge accounting relationships and derivatives used in other risk management activities. Interest rate, foreign exchange, equity, commodity and credit contracts are utilized in the Corporation's ALM and risk management activities.

The Corporation maintains an overall interest rate risk management strategy that incorporates the use of interest rate contracts, which are generally non-leveraged generic interest rate and basis swaps, options, futures and forwards, to minimize significant fluctuations in earnings caused by interest rate volatility. The Corporation's goal is to manage interest rate sensitivity and volatility so that movements in interest rates do not significantly adversely affect earnings or capital. As a result of interest rate fluctuations, hedged fixed-rate assets and liabilities appreciate or depreciate in fair value. Gains or losses on the derivative instruments that are linked to the hedged fixed-rate assets and liabilities are expected to substantially offset this unrealized appreciation or depreciation.

Market risk, including interest rate risk, can be substantial in the mortgage business. Market risk in the mortgage business is the risk that values of mortgage assets or revenues will be adversely affected by changes in market conditions such as interest rate movements. To mitigate the interest rate risk in mortgage banking production income, the Corporation utilizes forward loan sale commitments and other derivative instruments, including purchased options, and certain debt securities. The

Corporation also utilizes derivatives such as interest rate options, interest rate swaps, forward settlement contracts and eurodollar futures to hedge certain market risks of MSRs.

The Corporation uses foreign exchange contracts to manage the foreign exchange risk associated with certain foreign currency-denominated assets and liabilities, as well as the Corporation's investments in non-U.S. subsidiaries. Exposure to loss on these contracts will increase or decrease over their respective lives as currency exchange and interest rates fluctuate.

The Corporation purchases credit derivatives to manage credit risk related to certain funded and unfunded credit exposures. Credit derivatives include credit default swaps (CDS), total return swaps and swaptions. These derivatives are recorded on the Consolidated Balance Sheet at fair value with changes in fair value recorded in other income.

## Derivatives Designated as Accounting Hedges

The Corporation uses various types of interest rate and foreign exchange derivative contracts to protect against changes in the fair value of its assets and liabilities due to fluctuations in interest rates and exchange rates (fair value hedges). The Corporation also uses these types of contracts to protect against changes in the cash flows of its assets and liabilities, and other forecasted transactions (cash flow hedges). The Corporation hedges its net investment in consolidated non-U.S. operations determined to have functional currencies other than the U.S. dollar using forward exchange contracts and cross-currency basis swaps, and by issuing foreign currency-denominated debt (net investment hedges).

## Fair Value Hedges

The table below summarizes information related to fair value hedges for 2019, 2018 and 2017.

### Gains and Losses on Derivatives Designated as Fair Value Hedges

| (Dollars in millions)                                                    | Derivative      |                   |               | Hedged Item       |                 |                 |
|--------------------------------------------------------------------------|-----------------|-------------------|---------------|-------------------|-----------------|-----------------|
|                                                                          | 2019            | 2018              | 2017          | 2019              | 2018            | 2017            |
| Interest rate risk on long-term debt <sup>(1)</sup>                      | \$ 6,113        | \$ (1,538)        | \$ (1,537)    | \$ (6,110)        | \$ 1,429        | \$ 1,045        |
| Interest rate and foreign currency risk on long-term debt <sup>(2)</sup> | 119             | (1,187)           | 1,811         | (101)             | 1,079           | (1,767)         |
| Interest rate risk on available-for-sale securities <sup>(3)</sup>       | (102)           | (52)              | (67)          | 98                | 50              | 35              |
| <b>Total</b>                                                             | <b>\$ 6,130</b> | <b>\$ (2,777)</b> | <b>\$ 207</b> | <b>\$ (6,113)</b> | <b>\$ 2,558</b> | <b>\$ (687)</b> |

<sup>(1)</sup> Amounts are recorded in Interest expense in the Consolidated Statement of Income.

<sup>(2)</sup> In 2019, 2018 and 2017, the derivative amount includes gains (losses) of \$73 million, \$(116) million and \$(365) million in interest expense, \$28 million, \$(992) million and \$2.2 billion in market making and similar activities, and \$18 million and \$(79) million in accumulated OCI, respectively. Line item totals are in the Consolidated Statement of Income and in the Consolidated Balance Sheet.

<sup>(3)</sup> Amounts are recorded in Interest income in the Consolidated Statement of Income.

The table below summarizes the carrying value of hedged assets and liabilities that are designated and qualifying in fair value hedging relationships along with the cumulative amount of fair value hedging adjustments included in the carrying value that have been recorded in the current hedging relationships. These fair value hedging adjustments are open basis adjustments that are not subject to amortization as long as the hedging relationship remains designated.

### Designated Fair Value Hedged Assets (Liabilities)

| (Dollars in millions)                             | Carrying Value    | Cumulative Fair Value Adjustments <sup>(1)</sup> | Carrying Value    | Cumulative Fair Value Adjustments <sup>(1)</sup> |
|---------------------------------------------------|-------------------|--------------------------------------------------|-------------------|--------------------------------------------------|
|                                                   | December 31, 2019 |                                                  | December 31, 2018 |                                                  |
| Long-term debt <sup>(2)</sup>                     | \$ (162,389)      | \$ (8,686)                                       | \$ (138,682)      | \$ (2,117)                                       |
| Available-for-sale debt securities <sup>(2)</sup> | 1,654             | 64                                               | 981               | (29)                                             |

<sup>(1)</sup> For assets, increase (decrease) to carrying value and for liabilities, (increase) decrease to carrying value.

<sup>(2)</sup> At December 31, 2019 and 2018, the cumulative fair value adjustments remaining on long-term debt and AFS debt securities from discontinued hedging relationships resulted in a decrease in the related liability of \$1.3 billion and \$1.6 billion and an increase (decrease) in the related asset of \$8 million and \$(29) million, which are being amortized over the remaining contractual life of the designated hedged items.

### Cash Flow and Net Investment Hedges

The following table summarizes certain information related to cash flow hedges and net investment hedges for 2019, 2018 and 2017. Of the \$400 million after-tax net loss (\$526 million pretax) on derivatives in accumulated OCI at December 31, 2019, \$68 million after-tax (\$90 million pretax) is expected to be reclassified into

earnings in the next 12 months. These net losses reclassified into earnings are expected to primarily reduce net interest income related to the respective hedged items. For terminated cash flow hedges, the time period over which the majority of the forecasted transactions are hedged is approximately 3 years, with a maximum length of time for certain forecasted transactions of 16 years.

### Gains and Losses on Derivatives Designated as Cash Flow and Net Investment Hedges

| (Dollars in millions, amounts pretax)                     | Gains (Losses) in Accumulated OCI on Derivatives |                 |                | Gains (Losses) in Income Reclassified from Accumulated OCI |                 |                 |
|-----------------------------------------------------------|--------------------------------------------------|-----------------|----------------|------------------------------------------------------------|-----------------|-----------------|
|                                                           | 2019                                             | 2018            | 2017           | 2019                                                       | 2018            | 2017            |
| <b>Cash flow hedges</b>                                   |                                                  |                 |                |                                                            |                 |                 |
| Interest rate risk on variable-rate assets <sup>(1)</sup> | \$ 671                                           | \$ (159)        | \$ (109)       | \$ (104)                                                   | \$ (165)        | \$ (327)        |
| Price risk on certain compensation plans <sup>(2)</sup>   | 34                                               | 4               | 59             | (2)                                                        | 27              | 148             |
| <b>Total</b>                                              | <b>\$ 705</b>                                    | <b>\$ (155)</b> | <b>\$ (50)</b> | <b>\$ (106)</b>                                            | <b>\$ (138)</b> | <b>\$ (179)</b> |
| <b>Net investment hedges</b>                              |                                                  |                 |                |                                                            |                 |                 |
| Foreign exchange risk <sup>(3)</sup>                      | \$ 22                                            | \$ 989          | \$ (1,588)     | \$ 366                                                     | \$ 411          | \$ 1,782        |

<sup>(1)</sup> Amounts reclassified from accumulated OCI are recorded in interest income in the Consolidated Statement of Income.

<sup>(2)</sup> Amounts reclassified from accumulated OCI are recorded in compensation and benefits expense in the Consolidated Statement of Income.

<sup>(3)</sup> Amounts reclassified from accumulated OCI are recorded in other income in the Consolidated Statement of Income. Amounts excluded from effectiveness testing and recognized in market making and similar activities were gains of \$154 million, \$47 million and \$120 million in 2019, 2018 and 2017, respectively.

### Other Risk Management Derivatives

Other risk management derivatives are used by the Corporation to reduce certain risk exposures by economically hedging various assets and liabilities. The following table presents gains (losses) on these derivatives for 2019, 2018 and 2017. These gains (losses) are largely offset by the income or expense recorded on the hedged item.

## Gains and Losses on Other Risk Management Derivatives

| (Dollars in millions)                                                    | 2019   | 2018     | 2017    |
|--------------------------------------------------------------------------|--------|----------|---------|
| Interest rate risk on mortgage activities <sup>(1, 2)</sup>              | \$ 315 | \$ (107) | \$ 8    |
| Credit risk on loans <sup>(2)</sup>                                      | (58)   | 9        | (6)     |
| Interest rate and foreign currency risk on ALM activities <sup>(3)</sup> | 1,112  | 3,278    | (1,318) |
| Price risk on certain compensation plans <sup>(4)</sup>                  | 943    | (495)    | 704     |

<sup>(1)</sup> Primarily related to hedges of interest rate risk on MSR and IRLCs to originate mortgage loans that will be held for sale. The net gains on IRLCs, which are not included in the table but are considered derivative instruments, were \$73 million, \$47 million and \$220 million in 2019, 2018 and 2017, respectively.

<sup>(2)</sup> Gains (losses) on these derivatives are recorded in other income.

<sup>(3)</sup> Gains (losses) on these derivatives are recorded in market making and similar activities. Proportioned amounts have been updated to conform to the current period presentation.

<sup>(4)</sup> Gains (losses) on these derivatives are recorded in compensation and benefits expense.

## Transfers of Financial Assets with Risk Retained through Derivatives

The Corporation enters into certain transactions involving the transfer of financial assets that are accounted for as sales where substantially all of the economic exposure to the transferred financial assets is retained through derivatives (e.g., interest rate and/or credit), but the Corporation does not retain control over the assets transferred. As of December 31, 2019 and 2018, the Corporation had transferred \$5.2 billion and \$5.8 billion of non-U.S. government-guaranteed MBS to a third-party trust and retained economic exposure to the transferred assets through derivative contracts. In connection with these transfers, the Corporation received gross cash proceeds of \$5.2 billion and \$5.8 billion at the transfer dates. At December 31, 2019 and 2018, the fair value of the transferred securities was \$5.3 billion and \$5.5 billion.

## Sales and Trading Revenue

The Corporation enters into trading derivatives to facilitate client transactions and to manage risk exposures arising from trading account assets and liabilities. It is the Corporation's policy to include these derivative instruments in its trading activities which include derivatives and non-derivative cash instruments. The resulting risk from these derivatives is managed on a portfolio basis as part of the Corporation's *Global Markets* business segment. The related sales and trading revenue generated within *Global Markets* is recorded in various income statement line items including market making and similar activities and net interest income as well as other revenue categories.

Sales and trading revenue includes changes in the fair value and realized gains and losses on the sales of trading and other assets, net interest income, and fees primarily from commissions on equity securities. Revenue is generated by the difference in the client price for an instrument and the price at which the trading desk can execute the trade in the dealer market. For equity securities, commissions related to purchases and sales are recorded in the "Other" column in the Sales and Trading Revenue table. Changes in the fair value of these securities are included in market making and similar activities. For debt securities, revenue, with the exception of interest associated with the debt securities, is typically included in market making and similar activities. Unlike commissions for equity securities, the initial revenue related to broker-dealer services for debt securities is typically included in the pricing of the instrument rather than being charged through separate fee arrangements. Therefore, this revenue is recorded in market making and similar activities as part of the initial mark to fair value. For derivatives, the majority of revenue is included in market making and similar activities. In

transactions where the Corporation acts as agent, which include exchange-traded futures and options, fees are recorded in other income.

The following table, which includes both derivatives and non-derivative cash instruments, identifies the amounts in the respective income statement line items attributable to the Corporation's sales and trading revenue in *Global Markets*, categorized by primary risk, for 2019, 2018 and 2017. This table includes debit valuation adjustment (DVA) and funding valuation adjustment (FVA) gains (losses). *Global Markets* results in Note 24 – *Business Segment Information* are presented on a fully taxable-equivalent (FTE) basis. The table below is not presented on an FTE basis.

## Sales and Trading Revenue

|                                        | Market making and similar activities | Net Interest Income | Other <sup>(1)</sup> | Total            |
|----------------------------------------|--------------------------------------|---------------------|----------------------|------------------|
| (Dollars in millions)                  | 2019                                 |                     |                      |                  |
| Interest rate risk                     | \$ 916                               | \$ 1,831            | \$ 121               | \$ 2,868         |
| Foreign exchange risk                  | 1,300                                | 54                  | 43                   | 1,397            |
| Equity risk                            | 3,565                                | (638)               | 1,574                | 4,501            |
| Credit risk                            | 1,158                                | 1,800               | 511                  | 3,469            |
| Other risk                             | 123                                  | 75                  | 57                   | 255              |
| <b>Total sales and trading revenue</b> | <b>\$ 7,062</b>                      | <b>\$ 3,122</b>     | <b>\$ 2,306</b>      | <b>\$ 12,490</b> |
|                                        | 2018                                 |                     |                      |                  |
| Interest rate risk                     | \$ 784                               | \$ 1,696            | \$ 259               | \$ 2,739         |
| Foreign exchange risk                  | 1,486                                | 11                  | 14                   | 1,511            |
| Equity risk                            | 3,874                                | (662)               | 1,644                | 4,856            |
| Credit risk                            | 1,063                                | 1,861               | 588                  | 3,512            |
| Other risk                             | 50                                   | 202                 | 53                   | 305              |
| <b>Total sales and trading revenue</b> | <b>\$ 7,257</b>                      | <b>\$ 3,108</b>     | <b>\$ 2,558</b>      | <b>\$ 12,923</b> |
|                                        | 2017                                 |                     |                      |                  |
| Interest rate risk                     | \$ 429                               | \$ 1,846            | \$ 248               | \$ 2,523         |
| Foreign exchange risk                  | 1,409                                | 12                  | 9                    | 1,430            |
| Equity risk                            | 2,598                                | (427)               | 1,904                | 4,075            |
| Credit risk                            | 1,685                                | 1,945               | 578                  | 4,208            |
| Other risk                             | 79                                   | 170                 | 75                   | 324              |
| <b>Total sales and trading revenue</b> | <b>\$ 6,200</b>                      | <b>\$ 3,546</b>     | <b>\$ 2,814</b>      | <b>\$ 12,560</b> |

<sup>(1)</sup> Represents amounts in investment and brokerage services and other income that are recorded in *Global Markets* and included in the definition of sales and trading revenue. Includes investment and brokerage services revenue of \$1.7 billion, \$1.7 billion and \$2.0 billion in 2019, 2018 and 2017, respectively.

## Credit Derivatives

The Corporation enters into credit derivatives primarily to facilitate client transactions and to manage credit risk exposures. Credit derivatives derive value based on an underlying third-party referenced obligation or a portfolio of referenced obligations and generally require the Corporation, as the seller of credit protection, to make payments to a buyer upon the occurrence of a predefined credit event. Such credit events generally include bankruptcy of the referenced credit entity and failure to pay under the obligation, as well as acceleration of indebtedness and payment repudiation or moratorium. For credit derivatives based on a portfolio of referenced credits or credit indices, the Corporation may not be required to make payment until a specified amount of loss has occurred and/or may only be required to make payment up to a specified amount.

Credit derivatives are classified as investment and non-investment grade based on the credit quality of the underlying referenced obligation. The Corporation considers ratings of BBB- or higher as investment grade. Non-investment grade includes non-

rated credit derivative instruments. The Corporation discloses internal categorizations of investment grade and non-investment grade consistent with how risk is managed for these instruments.

Credit derivative instruments where the Corporation is the seller of credit protection and their expiration at December 31, 2019 and 2018 are summarized in the following table.

### Credit Derivative Instruments

|                                 | Less than<br>One Year | One to<br>Three Years | Three to<br>Five Years | Over Five<br>Years | Total             |
|---------------------------------|-----------------------|-----------------------|------------------------|--------------------|-------------------|
| <b>December 31, 2019</b>        |                       |                       |                        |                    |                   |
| Carrying Value                  |                       |                       |                        |                    |                   |
| (Dollars in millions)           |                       |                       |                        |                    |                   |
| Credit default swaps            |                       |                       |                        |                    |                   |
| Investment grade                | \$ —                  | \$ 5                  | \$ 60                  | \$ 164             | \$ 229            |
| Non-investment grade            | 70                    | 292                   | 561                    | 808                | 1,731             |
| Total                           | 70                    | 297                   | 621                    | 972                | 1,960             |
| Total return swaps/options      |                       |                       |                        |                    |                   |
| Investment grade                | 36                    | —                     | —                      | —                  | 36                |
| Non-investment grade            | 344                   | —                     | —                      | —                  | 344               |
| Total                           | 379                   | —                     | —                      | —                  | 379               |
| <b>Total credit derivatives</b> | <b>\$ 449</b>         | <b>\$ 297</b>         | <b>\$ 621</b>          | <b>\$ 972</b>      | <b>\$ 2,339</b>   |
| Credit-related notes            |                       |                       |                        |                    |                   |
| Investment grade                | \$ —                  | \$ 3                  | \$ 1                   | \$ 639             | \$ 643            |
| Non-investment grade            | 6                     | 2                     | 1                      | 1,125              | 1,134             |
| Total credit-related notes      | 6                     | 5                     | 2                      | 1,764              | 1,777             |
| <b>Maximum Payout/Notional</b>  |                       |                       |                        |                    |                   |
| Credit default swaps            |                       |                       |                        |                    |                   |
| Investment grade                | \$ 55,827             | \$ 67,838             | \$ 71,320              | \$ 17,708          | \$ 212,693        |
| Non-investment grade            | 19,049                | 26,521                | 29,618                 | 12,337             | 87,525            |
| Total                           | 74,876                | 94,359                | 100,938                | 30,045             | 300,218           |
| Total return swaps/options      |                       |                       |                        |                    |                   |
| Investment grade                | 56,488                | —                     | 62                     | 76                 | 56,626            |
| Non-investment grade            | 28,707                | 657                   | 104                    | 60                 | 29,528            |
| Total                           | 85,195                | 657                   | 166                    | 136                | 86,154            |
| <b>Total credit derivatives</b> | <b>\$ 160,071</b>     | <b>\$ 95,016</b>      | <b>\$ 101,104</b>      | <b>\$ 30,181</b>   | <b>\$ 386,372</b> |
| <b>December 31, 2018</b>        |                       |                       |                        |                    |                   |
| Carrying Value                  |                       |                       |                        |                    |                   |
| Credit default swaps            |                       |                       |                        |                    |                   |
| Investment grade                | \$ 2                  | \$ 44                 | \$ 436                 | \$ 488             | \$ 970            |
| Non-investment grade            | 132                   | 636                   | 914                    | 1,691              | 3,373             |
| Total                           | 134                   | 680                   | 1,350                  | 2,179              | 4,343             |
| Total return swaps/options      |                       |                       |                        |                    |                   |
| Investment grade                | 105                   | —                     | —                      | —                  | 105               |
| Non-investment grade            | 472                   | 21                    | —                      | —                  | 493               |
| Total                           | 577                   | 21                    | —                      | —                  | 598               |
| <b>Total credit derivatives</b> | <b>\$ 711</b>         | <b>\$ 701</b>         | <b>\$ 1,350</b>        | <b>\$ 2,179</b>    | <b>\$ 4,941</b>   |
| Credit-related notes            |                       |                       |                        |                    |                   |
| Investment grade                | \$ —                  | \$ —                  | \$ 4                   | \$ 532             | \$ 536            |
| Non-investment grade            | 1                     | 1                     | 1                      | 1,500              | 1,503             |
| Total credit-related notes      | 1                     | 1                     | 5                      | 2,032              | 2,039             |
| <b>Maximum Payout/Notional</b>  |                       |                       |                        |                    |                   |
| Credit default swaps            |                       |                       |                        |                    |                   |
| Investment grade                | \$ 53,758             | \$ 95,699             | \$ 95,274              | \$ 20,054          | \$ 264,785        |
| Non-investment grade            | 24,297                | 33,881                | 34,530                 | 14,426             | 107,134           |
| Total                           | 78,055                | 129,580               | 129,804                | 34,480             | 371,919           |
| Total return swaps/options      |                       |                       |                        |                    |                   |
| Investment grade                | 60,042                | 822                   | 59                     | 72                 | 60,995            |
| Non-investment grade            | 24,524                | 1,649                 | 39                     | 70                 | 26,282            |
| Total                           | 84,566                | 2,471                 | 98                     | 142                | 87,277            |
| <b>Total credit derivatives</b> | <b>\$ 162,621</b>     | <b>\$ 132,051</b>     | <b>\$ 129,902</b>      | <b>\$ 34,622</b>   | <b>\$ 459,196</b> |

The notional amount represents the maximum amount payable by the Corporation for most credit derivatives. However, the Corporation does not monitor its exposure to credit derivatives based solely on the notional amount because this measure does not take into consideration the probability of occurrence. As such, the notional amount is not a reliable indicator of the Corporation's exposure to these contracts. Instead, a risk framework is used to define risk tolerances and establish limits so that certain credit risk-related losses occur within acceptable, predefined limits.

Credit-related notes in the table above include investments in securities issued by CDO, collateralized loan obligation (CLO) and credit-linked note vehicles. These instruments are primarily classified as trading securities. The carrying value of these

instruments equals the Corporation's maximum exposure to loss. The Corporation is not obligated to make any payments to the entities under the terms of the securities owned.

### Credit-related Contingent Features and Collateral

The Corporation executes the majority of its derivative contracts in the OTC market with large, international financial institutions, including broker-dealers and, to a lesser degree, with a variety of non-financial companies. A significant majority of the derivative transactions are executed on a daily margin basis. Therefore, events such as a credit rating downgrade (depending on the ultimate rating level) or a breach of credit covenants would typically require an increase in the amount of collateral required of the counterparty, where applicable, and/or allow the Corporation to

take additional protective measures such as early termination of all trades. Further, as previously discussed on page 124, the Corporation enters into legally enforceable master netting agreements which reduce risk by permitting closeout and netting of transactions with the same counterparty upon the occurrence of certain events.

Certain of the Corporation's derivative contracts contain credit risk-related contingent features, primarily in the form of ISDA master netting agreements and credit support documentation that enhance the creditworthiness of these instruments compared to other obligations of the respective counterparty with whom the Corporation has transacted. These contingent features may be for the benefit of the Corporation as well as its counterparties with respect to changes in the Corporation's creditworthiness and the mark-to-market exposure under the derivative transactions. At December 31, 2019 and 2018, the Corporation held cash and securities collateral of \$84.3 billion and \$81.6 billion and posted cash and securities collateral of \$69.1 billion and \$56.5 billion in the normal course of business under derivative agreements, excluding cross-product margining agreements where clients are permitted to margin on a net basis for both derivative and secured financing arrangements.

In connection with certain OTC derivative contracts and other trading agreements, the Corporation can be required to provide additional collateral or to terminate transactions with certain counterparties in the event of a downgrade of the senior debt ratings of the Corporation or certain subsidiaries. The amount of additional collateral required depends on the contract and is usually a fixed incremental amount and/or the market value of the exposure.

At December 31, 2019, the amount of collateral, calculated based on the terms of the contracts, that the Corporation and certain subsidiaries could be required to post to counterparties but had not yet posted to counterparties was \$2.3 billion, including \$913 million for Bank of America, National Association (BANA).

Some counterparties are currently able to unilaterally terminate certain contracts, or the Corporation or certain subsidiaries may be required to take other action such as find a suitable replacement or obtain a guarantee. At December 31, 2019 and 2018, the liability recorded for these derivative contracts was not significant.

The following table presents the amount of additional collateral that would have been contractually required by derivative contracts and other trading agreements at December 31, 2019 if the rating agencies had downgraded their long-term senior debt ratings for the Corporation or certain subsidiaries by one incremental notch and by an additional second incremental notch.

#### **Additional Collateral Required to be Posted Upon Downgrade at December 31, 2019**

|                                                       | One<br>incremental<br>notch | Second<br>incremental<br>notch |
|-------------------------------------------------------|-----------------------------|--------------------------------|
| (Dollars in millions)                                 |                             |                                |
| Bank of America Corporation                           | \$ 480                      | \$ 491                         |
| Bank of America, N.A. and subsidiaries <sup>(1)</sup> | 222                         | 353                            |

<sup>(1)</sup> Included in Bank of America Corporation collateral requirements in this table.

The following table presents the derivative liabilities that would be subject to unilateral termination by counterparties and the amounts of collateral that would have been contractually required at December 31, 2019 if the long-term senior debt ratings for the Corporation or certain subsidiaries had been lower by one incremental notch and by an additional second incremental notch.

#### **Derivative Liabilities Subject to Unilateral Termination Upon Downgrade at December 31, 2019**

|                        | One<br>incremental<br>notch | Second<br>incremental<br>notch |
|------------------------|-----------------------------|--------------------------------|
| (Dollars in millions)  |                             |                                |
| Derivative liabilities | \$ 57                       | \$ 783                         |
| Collateral posted      | 42                          | 411                            |

#### **Valuation Adjustments on Derivatives**

The Corporation records credit risk valuation adjustments on derivatives in order to properly reflect the credit quality of the counterparties and its own credit quality. The Corporation calculates valuation adjustments on derivatives based on a modeled expected exposure that incorporates current market risk factors. The exposure also takes into consideration credit mitigants such as enforceable master netting agreements and collateral. CDS spread data is used to estimate the default probabilities and severities that are applied to the exposures. Where no observable credit default data is available for counterparties, the Corporation uses proxies and other market data to estimate default probabilities and severity.

Valuation adjustments on derivatives are affected by changes in market spreads, non-credit related market factors such as interest rates and foreign exchange rates that affect the expected exposure, and other factors like changes in collateral arrangements and partial payments. Credit spreads and non-credit factors can move independently. For example, for an interest rate swap, changes in interest rates may increase the expected exposure, which would increase the counterparty credit valuation adjustment (CVA). Independently, counterparty credit spreads may tighten, which would result in an offsetting decrease to CVA.

The Corporation enters into risk management activities to offset market driven exposures. The Corporation often hedges the counterparty spread risk in CVA with CDS. The Corporation hedges other market risks in both CVA and DVA primarily with foreign exchange and interest rate swaps. In certain instances, the net-of-hedge amounts in the table below move in the same direction as the gross amount or may move in the opposite direction. This movement is a consequence of the complex interaction of the risks being hedged, resulting in limitations in the ability to perfectly hedge all of the market exposures at all times.

The table below presents CVA, DVA and FVA gains (losses) on derivatives, which are recorded in market making and similar activities, on a gross and net of hedge basis for 2019, 2018 and 2017. CVA gains reduce the cumulative CVA thereby increasing the derivative assets balance. DVA gains increase the cumulative DVA thereby decreasing the derivative liabilities balance. CVA and DVA losses have the opposite impact. FVA gains related to derivative assets reduce the cumulative FVA thereby increasing the derivative assets balance. FVA gains related to derivative liabilities increase the cumulative FVA thereby decreasing the derivative liabilities balance. FVA losses have the opposite impact.

#### **Valuation Adjustments Gains (Losses) on Derivatives <sup>(1)</sup>**

|                                     | Gross | Net   | Gross | Net    | Gross  | Net   |
|-------------------------------------|-------|-------|-------|--------|--------|-------|
|                                     | 2019  | 2018  | 2019  | 2018   | 2017   | 2017  |
| Derivative assets (CVA)             | \$ 72 | \$ 45 | \$ 77 | \$ 187 | \$ 330 | \$ 98 |
| Derivative assets/liabilities (FVA) | (2)   | 46    | (15)  | 14     | 160    | 178   |
| Derivative liabilities (DVA)        | (147) | (135) | (19)  | (55)   | (324)  | (281) |

<sup>(1)</sup> At December 31, 2019, 2018 and 2017, cumulative CVA reduced the derivative assets balance by \$528 million, \$600 million and \$677 million, cumulative FVA reduced the net derivatives balance by \$153 million, \$151 million and \$136 million, and cumulative DVA reduced the derivative liabilities balance by \$285 million, \$432 million and \$450 million, respectively.

## NOTE 4 Securities

The table below presents the amortized cost, gross unrealized gains and losses, and fair value of AFS debt securities, other debt securities carried at fair value and HTM debt securities at December 31, 2019 and 2018.

### Debt Securities

|                                                                                            | Amortized<br>Cost | Gross<br>Unrealized<br>Gains | Gross<br>Unrealized<br>Losses | Fair<br>Value |
|--------------------------------------------------------------------------------------------|-------------------|------------------------------|-------------------------------|---------------|
| December 31, 2019                                                                          |                   |                              |                               |               |
| (Dollars in millions)                                                                      |                   |                              |                               |               |
| <b>Available-for-sale debt securities</b>                                                  |                   |                              |                               |               |
| Mortgage-backed securities:                                                                |                   |                              |                               |               |
| Agency                                                                                     | \$ 121,698        | \$ 1,013                     | \$ (183)                      | \$ 122,528    |
| Agency-collateralized mortgage obligations                                                 | 4,587             | 78                           | (24)                          | 4,641         |
| Commercial                                                                                 | 14,797            | 249                          | (25)                          | 15,021        |
| Non-agency residential <sup>(1)</sup>                                                      | 948               | 138                          | (9)                           | 1,077         |
| Total mortgage-backed securities                                                           | 142,030           | 1,478                        | (241)                         | 143,267       |
| U.S. Treasury and agency securities                                                        | 67,700            | 1,023                        | (195)                         | 68,528        |
| Non-U.S. securities                                                                        | 11,987            | 6                            | (2)                           | 11,991        |
| Other taxable securities, substantially all asset-backed securities                        | 3,874             | 67                           | —                             | 3,941         |
| Total taxable securities                                                                   | 225,591           | 2,574                        | (438)                         | 227,727       |
| Tax-exempt securities                                                                      | 17,716            | 202                          | (6)                           | 17,912        |
| Total available-for-sale debt securities                                                   | 243,307           | 2,776                        | (444)                         | 245,639       |
| Other debt securities carried at fair value <sup>(2)</sup>                                 | 10,596            | 255                          | (23)                          | 10,828        |
| Total debt securities carried at fair value                                                | 253,903           | 3,031                        | (467)                         | 256,467       |
| Held-to-maturity debt securities, substantially all U.S. agency mortgage-backed securities | 215,730           | 4,433                        | (342)                         | 219,821       |
| Total debt securities <sup>(3, 4)</sup>                                                    | \$ 469,633        | \$ 7,464                     | \$ (809)                      | \$ 476,288    |
| December 31, 2018                                                                          |                   |                              |                               |               |
| <b>Available-for-sale debt securities</b>                                                  |                   |                              |                               |               |
| Mortgage-backed securities:                                                                |                   |                              |                               |               |
| Agency                                                                                     | \$ 125,116        | \$ 138                       | \$ (3,428)                    | \$ 121,826    |
| Agency-collateralized mortgage obligations                                                 | 5,621             | 19                           | (110)                         | 5,530         |
| Commercial                                                                                 | 14,469            | 11                           | (402)                         | 14,078        |
| Non-agency residential <sup>(1)</sup>                                                      | 1,792             | 136                          | (11)                          | 1,917         |
| Total mortgage-backed securities                                                           | 146,998           | 304                          | (3,951)                       | 143,351       |
| U.S. Treasury and agency securities                                                        | 56,239            | 62                           | (1,378)                       | 54,923        |
| Non-U.S. securities                                                                        | 9,307             | 5                            | (6)                           | 9,306         |
| Other taxable securities, substantially all asset-backed securities                        | 4,387             | 29                           | (6)                           | 4,410         |
| Total taxable securities                                                                   | 216,931           | 400                          | (5,341)                       | 211,990       |
| Tax-exempt securities                                                                      | 17,349            | 99                           | (72)                          | 17,376        |
| Total available-for-sale debt securities                                                   | 234,280           | 499                          | (5,413)                       | 229,366       |
| Other debt securities carried at fair value <sup>(2)</sup>                                 | 8,595             | 172                          | (32)                          | 8,735         |
| Total debt securities carried at fair value                                                | 242,875           | 671                          | (5,445)                       | 238,101       |
| Held-to-maturity debt securities, substantially all U.S. agency mortgage-backed securities | 203,652           | 747                          | (3,964)                       | 200,435       |
| Total debt securities <sup>(3, 4)</sup>                                                    | \$ 446,527        | \$ 1,418                     | \$ (9,409)                    | \$ 438,536    |

<sup>(1)</sup> At December 31, 2019 and 2018, the underlying collateral type included approximately 49 percent and 68 percent prime, six percent and four percent Alt-A and 45 percent and 28 percent subprime.

<sup>(2)</sup> Primarily includes non-U.S. securities used to satisfy certain international regulatory requirements. Any changes in value are reported in other income. For detail on the components, see Note 21 - Fair Value Measurements.

<sup>(3)</sup> Includes securities pledged as collateral of \$67.0 billion and \$40.6 billion at December 31, 2019 and 2018.

<sup>(4)</sup> The Corporation held debt securities from FNMA and FHLMC that each exceeded 10 percent of shareholders' equity, with an amortized cost of \$157.2 billion and \$54.1 billion, and a fair value of \$160.6 billion and \$55.1 billion at December 31, 2019, and an amortized cost of \$161.2 billion and \$52.2 billion, and a fair value of \$158.5 billion and \$51.4 billion at December 31, 2018.

At December 31, 2019, the accumulated net unrealized gain on AFS debt securities, excluding the amount related to debt securities previously transferred to held to maturity, included in accumulated OCI was \$1.8 billion, net of the related income tax expense of \$569 million. The Corporation had nonperforming AFS debt securities of \$9 million and \$11 million at December 31, 2019 and 2018.

At December 31, 2019, the Corporation held equity securities at an aggregate fair value of \$891 million and other equity securities, as valued under the measurement alternative, at cost of \$183 million, both of which are included in other assets. At December 31, 2019, the Corporation also held equity securities at fair value of \$1.0 billion included in time deposits placed and other short-term investments.

The gross realized gains and losses on sales of AFS debt securities for 2019, 2018 and 2017 are presented in the table below.

### Gains and Losses on Sales of AFS Debt Securities

|                                                                                       | 2019   | 2018   | 2017   |
|---------------------------------------------------------------------------------------|--------|--------|--------|
| (Dollars in millions)                                                                 |        |        |        |
| Gross gains                                                                           | \$ 336 | \$ 169 | \$ 352 |
| Gross losses                                                                          | (119)  | (15)   | (97)   |
| Net gains on sales of AFS debt securities                                             | \$ 217 | \$ 154 | \$ 255 |
| Income tax expense attributable to realized net gains on sales of AFS debt securities | \$ 54  | \$ 37  | \$ 97  |

The table below presents the fair value and the associated gross unrealized losses on AFS debt securities and whether these securities have had gross unrealized losses for less than 12 months or for 12 months or longer at December 31, 2019 and 2018.

### Temporarily Impaired and Other-than-temporarily Impaired AFS Debt Securities

|                                                                                           | Less than Twelve Months |                         | Twelve Months or Longer |                         | Total             |                         |
|-------------------------------------------------------------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------|-------------------------|
|                                                                                           | Fair Value              | Gross Unrealized Losses | Fair Value              | Gross Unrealized Losses | Fair Value        | Gross Unrealized Losses |
| <b>December 31, 2019</b>                                                                  |                         |                         |                         |                         |                   |                         |
| (Dollars in millions)                                                                     |                         |                         |                         |                         |                   |                         |
| <b>Temporarily impaired AFS debt securities</b>                                           |                         |                         |                         |                         |                   |                         |
| Mortgage-backed securities:                                                               |                         |                         |                         |                         |                   |                         |
| Agency                                                                                    | \$ 17,641               | \$ (41)                 | \$ 17,238               | \$ (142)                | \$ 34,879         | \$ (183)                |
| Agency-collateralized mortgage obligations                                                | 255                     | (1)                     | 925                     | (23)                    | 1,180             | (24)                    |
| Commercial                                                                                | 2,180                   | (22)                    | 442                     | (3)                     | 2,622             | (25)                    |
| Non-agency residential                                                                    | 19                      | (1)                     | 1                       | —                       | 20                | (1)                     |
| Total mortgage-backed securities                                                          | 20,095                  | (65)                    | 18,606                  | (168)                   | 38,701            | (233)                   |
| U.S. Treasury and agency securities                                                       | 12,836                  | (71)                    | 18,866                  | (124)                   | 31,702            | (195)                   |
| Non-U.S. securities                                                                       | 851                     | —                       | 837                     | (2)                     | 1,688             | (2)                     |
| Other taxable securities, substantially all asset-backed securities                       | 938                     | —                       | 222                     | —                       | 1,160             | —                       |
| Total taxable securities                                                                  | 34,720                  | (136)                   | 38,531                  | (294)                   | 73,251            | (430)                   |
| Tax-exempt securities                                                                     | 4,286                   | (5)                     | 190                     | (1)                     | 4,476             | (6)                     |
| <b>Total temporarily impaired AFS debt securities</b>                                     | <b>39,006</b>           | <b>(141)</b>            | <b>38,721</b>           | <b>(295)</b>            | <b>77,727</b>     | <b>(436)</b>            |
| <b>Other-than-temporarily impaired AFS debt securities <sup>(1)</sup></b>                 |                         |                         |                         |                         |                   |                         |
| Non-agency residential mortgage-backed securities                                         | 103                     | (5)                     | 21                      | (3)                     | 124               | (8)                     |
| <b>Total temporarily impaired and other-than-temporarily impaired AFS debt securities</b> | <b>\$ 39,109</b>        | <b>\$ (146)</b>         | <b>\$ 38,742</b>        | <b>\$ (298)</b>         | <b>\$ 77,851</b>  | <b>\$ (444)</b>         |
| <b>December 31, 2018</b>                                                                  |                         |                         |                         |                         |                   |                         |
| <b>Temporarily impaired AFS debt securities</b>                                           |                         |                         |                         |                         |                   |                         |
| Mortgage-backed securities:                                                               |                         |                         |                         |                         |                   |                         |
| Agency                                                                                    | \$ 14,771               | \$ (49)                 | \$ 99,211               | \$ (3,379)              | \$ 113,982        | \$ (3,428)              |
| Agency-collateralized mortgage obligations                                                | 3                       | —                       | 4,452                   | (110)                   | 4,455             | (110)                   |
| Commercial                                                                                | 1,344                   | (8)                     | 11,991                  | (394)                   | 13,335            | (402)                   |
| Non-agency residential                                                                    | 106                     | (8)                     | 49                      | (3)                     | 155               | (11)                    |
| Total mortgage-backed securities                                                          | 16,224                  | (65)                    | 115,703                 | (3,886)                 | 131,927           | (3,951)                 |
| U.S. Treasury and agency securities                                                       | 288                     | (1)                     | 51,374                  | (1,377)                 | 51,662            | (1,378)                 |
| Non-U.S. securities                                                                       | 773                     | (5)                     | 21                      | (1)                     | 794               | (6)                     |
| Other taxable securities, substantially all asset-backed securities                       | 183                     | (1)                     | 185                     | (5)                     | 368               | (6)                     |
| Total taxable securities                                                                  | 17,468                  | (72)                    | 167,283                 | (5,269)                 | 184,751           | (5,341)                 |
| Tax-exempt securities                                                                     | 232                     | (2)                     | 2,148                   | (70)                    | 2,380             | (72)                    |
| <b>Total temporarily impaired AFS debt securities</b>                                     | <b>17,700</b>           | <b>(74)</b>             | <b>169,431</b>          | <b>(5,339)</b>          | <b>187,131</b>    | <b>(5,413)</b>          |
| <b>Other-than-temporarily impaired AFS debt securities <sup>(1)</sup></b>                 |                         |                         |                         |                         |                   |                         |
| Non-agency residential mortgage-backed securities                                         | 131                     | —                       | 3                       | —                       | 134               | —                       |
| <b>Total temporarily impaired and other-than-temporarily impaired AFS debt securities</b> | <b>\$ 17,831</b>        | <b>\$ (74)</b>          | <b>\$ 169,434</b>       | <b>\$ (5,339)</b>       | <b>\$ 187,265</b> | <b>\$ (5,413)</b>       |

<sup>(1)</sup> Includes other-than-temporarily impaired AFS debt securities on which an OTTI loss, primarily related to changes in interest rates, remains in accumulated OCI

In 2019, 2018 and 2017, the Corporation had \$24 million, \$33 million and \$41 million, respectively, of credit-related OTTI losses on AFS debt securities which were recognized in other income. The amount of non-credit related OTTI losses for these AFS debt securities, which is recognized in OCI, was not significant for all periods presented.

The cumulative OTTI credit losses recognized in income on AFS debt securities that the Corporation does not intend to sell were \$85 million, \$120 million and \$274 million at December 31, 2019, 2018 and 2017, respectively.

The Corporation estimates the portion of a loss on a security that is attributable to credit using a discounted cash flow model and estimates the expected cash flows of the underlying collateral using internal credit, interest rate and prepayment risk models that incorporate management's best estimate of current key

assumptions such as default rates, loss severity and prepayment rates. Assumptions used for the underlying loans that support the MBS can vary widely from loan to loan and are influenced by such factors as loan interest rate, geographic location of the borrower, borrower characteristics and collateral type. Based on these assumptions, the Corporation then determines how the underlying collateral cash flows will be distributed to each MBS issued from the applicable special purpose entity. Expected principal and interest cash flows on an impaired AFS debt security are discounted using the effective yield of each individual impaired AFS debt security.

Significant assumptions used in estimating the expected cash flows for measuring credit losses on non-agency residential mortgage-backed securities (RMBS) were as follows at December 31, 2019.

## Significant Assumptions

|                   | Weighted average | Range <sup>(1)</sup>           |                                |
|-------------------|------------------|--------------------------------|--------------------------------|
|                   |                  | 10th Percentile <sup>(2)</sup> | 90th Percentile <sup>(2)</sup> |
| Prepayment speed  | 16.6%            | 5.5%                           | 27.8%                          |
| Loss severity     | 14.7             | 8.0                            | 30.7                           |
| Life default rate | 11.9             | 1.0                            | 36.5                           |

<sup>(1)</sup> Represents the range of inputs/assumptions based upon the underlying collateral.

<sup>(2)</sup> The value of a variable below which the indicated percentile of observations will fall

Annual constant prepayment speed and loss severity rates are projected considering collateral characteristics such as LTV, creditworthiness of borrowers as measured using Fair Isaac Corporation (FICO) scores, and geographic concentrations. The weighted-average severity by collateral type was 12.9 percent for prime, 11.1 percent for Alt-A and 18.8 percent for subprime at December 31, 2019. Default rates are projected by considering collateral characteristics including, but not limited to, LTV, FICO and geographic concentration. Weighted-average life default rates

by collateral type were 7.8 percent for prime, 11.6 percent for Alt-A and 13.6 percent for subprime at December 31, 2019.

The remaining contractual maturity distribution and yields of the Corporation's debt securities carried at fair value and HTM debt securities at December 31, 2019 are summarized in the table below. Actual duration and yields may differ as prepayments on the loans underlying the mortgages or other ABS are passed through to the Corporation.

## Maturities of Debt Securities Carried at Fair Value and Held-to-maturity Debt Securities

| (Dollars in millions)                                               | Due in One Year or Less |                      | Due after One Year through Five Years |                      | Due after Five Years through Ten Years |                      | Due after Ten Years |                      | Total     |                      |
|---------------------------------------------------------------------|-------------------------|----------------------|---------------------------------------|----------------------|----------------------------------------|----------------------|---------------------|----------------------|-----------|----------------------|
|                                                                     | Amount                  | Yield <sup>(1)</sup> | Amount                                | Yield <sup>(1)</sup> | Amount                                 | Yield <sup>(1)</sup> | Amount              | Yield <sup>(1)</sup> | Amount    | Yield <sup>(1)</sup> |
| <b>Amortized cost of debt securities carried at fair value</b>      |                         |                      |                                       |                      |                                        |                      |                     |                      |           |                      |
| <b>Mortgage-backed securities</b>                                   |                         |                      |                                       |                      |                                        |                      |                     |                      |           |                      |
| Agency                                                              | \$ —                    | —%                   | \$ 11                                 | 5.25%                | \$ 66                                  | 4.56%                | \$124,618           | 3.24%                | \$124,695 | 3.24%                |
| Agency-collateralized mortgage obligations                          | —                       | —                    | —                                     | —                    | 27                                     | 2.48                 | 4,560               | 3.16                 | 4,587     | 3.16                 |
| Commercial                                                          | —                       | —                    | 3,806                                 | 2.37                 | 10,136                                 | 2.57                 | 868                 | 2.99                 | 14,810    | 2.54                 |
| Non-agency residential                                              | —                       | —                    | —                                     | —                    | 12                                     | —                    | 2,157               | 9.26                 | 2,169     | 9.22                 |
| Total mortgage-backed securities                                    | —                       | —                    | 3,817                                 | 2.38                 | 10,241                                 | 2.58                 | 132,203             | 3.33                 | 146,261   | 3.25                 |
| U.S. Treasury and agency securities                                 | 1,350                   | 0.92                 | 35,544                                | 1.67                 | 30,789                                 | 2.25                 | 20                  | 2.45                 | 67,703    | 1.92                 |
| Non-U.S. securities                                                 | 15,648                  | 1.17                 | 2,598                                 | 1.03                 | 7                                      | 4.17                 | 96                  | 6.74                 | 18,349    | 1.18                 |
| Other taxable securities, substantially all asset-backed securities | 1,189                   | 2.80                 | 1,650                                 | 3.02                 | 440                                    | 3.32                 | 595                 | 2.91                 | 3,874     | 2.97                 |
| Total taxable securities                                            | 18,187                  | 1.26                 | 43,609                                | 1.74                 | 41,477                                 | 2.34                 | 132,914             | 3.34                 | 236,187   | 2.70                 |
| Tax-exempt securities                                               | 2,189                   | 1.72                 | 7,472                                 | 2.10                 | 4,849                                  | 2.06                 | 3,206               | 2.44                 | 17,716    | 2.10                 |
| Total amortized cost of debt securities carried at fair value       | \$ 20,376               | 1.31                 | \$ 51,081                             | 1.79                 | \$ 46,326                              | 2.31                 | \$136,120           | 3.32                 | \$253,903 | 2.67                 |
| Amortized cost of HTM debt securities <sup>(2)</sup>                | \$ 1,025                | 2.83                 | \$ 48                                 | 3.57                 | \$ 1,102                               | 2.57                 | \$213,555           | 3.19                 | \$215,730 | 3.19                 |
| <b>Debt securities carried at fair value</b>                        |                         |                      |                                       |                      |                                        |                      |                     |                      |           |                      |
| <b>Mortgage-backed securities</b>                                   |                         |                      |                                       |                      |                                        |                      |                     |                      |           |                      |
| Agency                                                              | \$ —                    | —                    | \$ 11                                 | —                    | \$ 71                                  | —                    | \$125,449           | —                    | \$125,531 | —                    |
| Agency-collateralized mortgage obligations                          | —                       | —                    | —                                     | —                    | 26                                     | —                    | 4,615               | —                    | 4,641     | —                    |
| Commercial                                                          | —                       | —                    | 3,854                                 | —                    | 10,287                                 | —                    | 893                 | —                    | 15,034    | —                    |
| Non-agency residential                                              | —                       | —                    | —                                     | —                    | 25                                     | —                    | 2,386               | —                    | 2,411     | —                    |
| Total mortgage-backed securities                                    | —                       | —                    | 3,865                                 | —                    | 10,409                                 | —                    | 133,343             | —                    | 147,617   | —                    |
| U.S. Treasury and agency securities                                 | 1,347                   | —                    | 35,686                                | —                    | 31,478                                 | —                    | 20                  | —                    | 68,531    | —                    |
| Non-U.S. securities                                                 | 15,751                  | —                    | 2,606                                 | —                    | 8                                      | —                    | 98                  | —                    | 18,463    | —                    |
| Other taxable securities, substantially all asset-backed securities | 1,196                   | —                    | 1,687                                 | —                    | 465                                    | —                    | 596                 | —                    | 3,944     | —                    |
| Total taxable securities                                            | 18,294                  | —                    | 43,844                                | —                    | 42,360                                 | —                    | 134,057             | —                    | 238,555   | —                    |
| Tax-exempt securities                                               | 2,192                   | —                    | 7,509                                 | —                    | 4,976                                  | —                    | 3,235               | —                    | 17,912    | —                    |
| Total debt securities carried at fair value                         | \$ 20,486               | —                    | \$ 51,353                             | —                    | \$ 47,336                              | —                    | \$137,292           | —                    | \$256,467 | —                    |
| Fair value of HTM debt securities <sup>(2)</sup>                    | \$ 1,025                | —                    | \$ 48                                 | —                    | \$ 1,113                               | —                    | \$217,635           | —                    | \$219,821 | —                    |

<sup>(1)</sup> The weighted-average yield is computed based on a constant effective interest rate over the contractual life of each security. The average yield considers the contractual coupon and the amortization of premiums and accretion of discounts, excluding the effect of related hedging derivatives.

<sup>(2)</sup> Substantially all U.S. agency MBS.

## NOTE 5 Outstanding Loans and Leases

The following tables present total outstanding loans and leases and an aging analysis for the Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments, by class of financing receivables, at December 31, 2019 and 2018.

|                                                                           | 30-59 Days<br>Past Due <sup>(1)</sup> | 60-89 Days<br>Past Due <sup>(1)</sup> | 90 Days or<br>More<br>Past Due <sup>(2)</sup> | Total Past<br>Due 30<br>Days<br>or More | Total<br>Current or<br>Less Than<br>30 Days<br>Past Due <sup>(3)</sup> | Loans<br>Accounted<br>for Under<br>the Fair<br>Value Option | Total<br>Outstandings |
|---------------------------------------------------------------------------|---------------------------------------|---------------------------------------|-----------------------------------------------|-----------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|
| (Dollars in millions)                                                     |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| <b>December 31, 2019</b>                                                  |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| <b>Consumer real estate</b>                                               |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Core portfolio                                                            |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Residential mortgage                                                      | \$ 1,378                              | \$ 261                                | \$ 565                                        | \$ 2,204                                | \$ 223,566                                                             |                                                             | \$ 225,770            |
| Home equity                                                               | 135                                   | 70                                    | 198                                           | 403                                     | 34,823                                                                 |                                                             | 35,226                |
| Non-core portfolio                                                        |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Residential mortgage                                                      | 458                                   | 209                                   | 1,263                                         | 1,930                                   | 8,469                                                                  |                                                             | 10,399                |
| Home equity                                                               | 34                                    | 16                                    | 72                                            | 122                                     | 4,860                                                                  |                                                             | 4,982                 |
| <b>Credit card and other consumer</b>                                     |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Credit card                                                               | 564                                   | 429                                   | 1,042                                         | 2,035                                   | 95,573                                                                 |                                                             | 97,608                |
| Direct/Indirect consumer <sup>(4)</sup>                                   | 297                                   | 85                                    | 35                                            | 417                                     | 90,581                                                                 |                                                             | 90,998                |
| Other consumer                                                            | —                                     | —                                     | —                                             | —                                       | 192                                                                    |                                                             | 192                   |
| <b>Total consumer</b>                                                     | <b>2,866</b>                          | <b>1,070</b>                          | <b>3,175</b>                                  | <b>7,111</b>                            | <b>458,064</b>                                                         |                                                             | <b>465,175</b>        |
| Consumer loans accounted for under the fair value option <sup>(5)</sup>   |                                       |                                       |                                               |                                         |                                                                        | \$ 594                                                      | 594                   |
| <b>Total consumer loans and leases</b>                                    | <b>2,866</b>                          | <b>1,070</b>                          | <b>3,175</b>                                  | <b>7,111</b>                            | <b>458,064</b>                                                         | <b>594</b>                                                  | <b>465,769</b>        |
| <b>Commercial</b>                                                         |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| U.S. commercial                                                           | 788                                   | 279                                   | 371                                           | 1,438                                   | 305,610                                                                |                                                             | 307,048               |
| Non-U.S. commercial                                                       | 35                                    | 23                                    | 8                                             | 66                                      | 104,900                                                                |                                                             | 104,966               |
| Commercial real estate <sup>(6)</sup>                                     | 144                                   | 19                                    | 119                                           | 282                                     | 62,407                                                                 |                                                             | 62,689                |
| Commercial lease financing                                                | 100                                   | 56                                    | 39                                            | 195                                     | 19,685                                                                 |                                                             | 19,880                |
| U.S. small business commercial                                            | 119                                   | 56                                    | 107                                           | 282                                     | 15,051                                                                 |                                                             | 15,333                |
| <b>Total commercial</b>                                                   | <b>1,186</b>                          | <b>433</b>                            | <b>644</b>                                    | <b>2,263</b>                            | <b>507,653</b>                                                         |                                                             | <b>509,916</b>        |
| Commercial loans accounted for under the fair value option <sup>(5)</sup> |                                       |                                       |                                               |                                         |                                                                        | 7,741                                                       | 7,741                 |
| <b>Total commercial loans and leases</b>                                  | <b>1,186</b>                          | <b>433</b>                            | <b>644</b>                                    | <b>2,263</b>                            | <b>507,653</b>                                                         | <b>7,741</b>                                                | <b>517,657</b>        |
| <b>Total loans and leases <sup>(7)</sup></b>                              | <b>\$ 4,052</b>                       | <b>\$ 1,503</b>                       | <b>\$ 3,819</b>                               | <b>\$ 9,374</b>                         | <b>\$ 965,717</b>                                                      | <b>\$ 8,335</b>                                             | <b>\$ 983,426</b>     |
| <b>Percentage of outstandings</b>                                         | <b>0.41%</b>                          | <b>0.15%</b>                          | <b>0.39%</b>                                  | <b>0.95%</b>                            | <b>98.20%</b>                                                          | <b>0.85%</b>                                                | <b>100.00%</b>        |

<sup>(1)</sup> Consumer real estate loans 30-59 days past due includes fully-insured loans of \$517 million and nonperforming loans of \$139 million. Consumer real estate loans 60-89 days past due includes fully-insured loans of \$206 million and nonperforming loans of \$114 million.

<sup>(2)</sup> Consumer real estate includes fully-insured loans of \$1.1 billion.

<sup>(3)</sup> Consumer real estate includes \$856 million and direct/indirect consumer includes \$45 million of nonperforming loans.

<sup>(4)</sup> Total outstandings primarily includes auto and specialty lending loans and leases of \$50.4 billion, U.S. securities-based lending loans of \$36.7 billion and non-U.S. consumer loans of \$2.8 billion.

<sup>(5)</sup> Consumer loans accounted for under the fair value option includes residential mortgage loans of \$257 million and home equity loans of \$337 million. Commercial loans accounted for under the fair value option includes U.S. commercial loans of \$4.7 billion and non-U.S. commercial loans of \$3.1 billion. For more information, see Note 21 - Fair Value Measurements and Note 22 - Fair Value Option.

<sup>(6)</sup> Total outstandings includes U.S. commercial real estate loans of \$59.0 billion and non-U.S. commercial real estate loans of \$3.7 billion.

<sup>(7)</sup> Total outstandings includes loans and leases pledged as collateral of \$25.9 billion. The Corporation also pledged \$168.2 billion of loans with no related outstanding borrowings to secure potential borrowing capacity with the Federal Reserve Bank and Federal Home Loan Bank.

|                                                                           | 30-59 Days<br>Past Due <sup>(1)</sup> | 60-89 Days<br>Past Due <sup>(1)</sup> | 90 Days or<br>More<br>Past Due <sup>(2)</sup> | Total Past<br>Due 30<br>Days<br>or More | Total<br>Current or<br>Less Than<br>30 Days<br>Past Due <sup>(3)</sup> | Loans<br>Accounted<br>for Under<br>the Fair<br>Value Option | Total<br>Outstandings |
|---------------------------------------------------------------------------|---------------------------------------|---------------------------------------|-----------------------------------------------|-----------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------|-----------------------|
| (Dollars in millions)                                                     | December 31, 2018                     |                                       |                                               |                                         |                                                                        |                                                             |                       |
| <b>Consumer real estate</b>                                               |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Core portfolio                                                            |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Residential mortgage                                                      | \$ 1,188                              | \$ 249                                | \$ 793                                        | \$ 2,230                                | \$ 191,465                                                             |                                                             | \$ 193,695            |
| Home equity                                                               | 200                                   | 85                                    | 387                                           | 672                                     | 39,338                                                                 |                                                             | 40,010                |
| Non-core portfolio                                                        |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Residential mortgage                                                      | 757                                   | 309                                   | 2,201                                         | 3,267                                   | 11,595                                                                 |                                                             | 14,862                |
| Home equity                                                               | 139                                   | 69                                    | 339                                           | 547                                     | 7,729                                                                  |                                                             | 8,276                 |
| <b>Credit card and other consumer</b>                                     |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| Credit card                                                               | 577                                   | 418                                   | 994                                           | 1,989                                   | 96,349                                                                 |                                                             | 98,338                |
| Direct/Indirect consumer <sup>(4)</sup>                                   | 317                                   | 90                                    | 40                                            | 447                                     | 90,719                                                                 |                                                             | 91,166                |
| Other consumer <sup>(5)</sup>                                             | —                                     | —                                     | —                                             | —                                       | 202                                                                    |                                                             | 202                   |
| <b>Total consumer</b>                                                     | <b>3,178</b>                          | <b>1,220</b>                          | <b>4,754</b>                                  | <b>9,152</b>                            | <b>437,397</b>                                                         |                                                             | <b>446,549</b>        |
| Consumer loans accounted for under the fair value option <sup>(6)</sup>   |                                       |                                       |                                               |                                         |                                                                        | \$ 682                                                      | 682                   |
| <b>Total consumer loans and leases</b>                                    | <b>3,178</b>                          | <b>1,220</b>                          | <b>4,754</b>                                  | <b>9,152</b>                            | <b>437,397</b>                                                         | <b>682</b>                                                  | <b>447,231</b>        |
| <b>Commercial</b>                                                         |                                       |                                       |                                               |                                         |                                                                        |                                                             |                       |
| U.S. commercial                                                           | 594                                   | 232                                   | 573                                           | 1,399                                   | 297,878                                                                |                                                             | 299,277               |
| Non-U.S. commercial                                                       | 1                                     | 49                                    | —                                             | 50                                      | 98,726                                                                 |                                                             | 98,776                |
| Commercial real estate <sup>(7)</sup>                                     | 29                                    | 16                                    | 14                                            | 59                                      | 60,786                                                                 |                                                             | 60,845                |
| Commercial lease financing                                                | 124                                   | 114                                   | 37                                            | 275                                     | 22,259                                                                 |                                                             | 22,534                |
| U.S. small business commercial                                            | 83                                    | 54                                    | 96                                            | 233                                     | 14,332                                                                 |                                                             | 14,565                |
| <b>Total commercial</b>                                                   | <b>831</b>                            | <b>465</b>                            | <b>720</b>                                    | <b>2,016</b>                            | <b>493,981</b>                                                         |                                                             | <b>495,997</b>        |
| Commercial loans accounted for under the fair value option <sup>(6)</sup> |                                       |                                       |                                               |                                         |                                                                        | 3,667                                                       | 3,667                 |
| <b>Total commercial loans and leases</b>                                  | <b>831</b>                            | <b>465</b>                            | <b>720</b>                                    | <b>2,016</b>                            | <b>493,981</b>                                                         | <b>3,667</b>                                                | <b>499,664</b>        |
| <b>Total loans and leases <sup>(8)</sup></b>                              | <b>\$ 4,009</b>                       | <b>\$ 1,685</b>                       | <b>\$ 5,474</b>                               | <b>\$ 11,168</b>                        | <b>\$ 931,378</b>                                                      | <b>\$ 4,349</b>                                             | <b>\$ 946,895</b>     |
| <b>Percentage of outstandings</b>                                         | <b>0.42%</b>                          | <b>0.18%</b>                          | <b>0.58%</b>                                  | <b>1.18%</b>                            | <b>98.36%</b>                                                          | <b>0.46%</b>                                                | <b>100.00%</b>        |

<sup>(1)</sup> Consumer real estate loans 30-59 days past due includes fully-insured loans of \$637 million and nonperforming loans of \$217 million. Consumer real estate loans 60-89 days past due includes fully-insured loans of \$269 million and nonperforming loans of \$146 million.

<sup>(2)</sup> Consumer real estate includes fully-insured loans of \$1.9 billion.

<sup>(3)</sup> Consumer real estate includes \$1.8 billion and direct/indirect consumer includes \$53 million of nonperforming loans.

<sup>(4)</sup> Total outstandings primarily includes auto and specialty lending loans and leases of \$50.1 billion, U.S. securities-based lending loans of \$37.0 billion and non-U.S. consumer loans of \$2.9 billion.

<sup>(5)</sup> Substantially all of other consumer is consumer overdrafts.

<sup>(6)</sup> Consumer loans accounted for under the fair value option includes residential mortgage loans of \$336 million and home equity loans of \$346 million. Commercial loans accounted for under the fair value option includes U.S. commercial loans of \$2.5 billion and non-U.S. commercial loans of \$1.1 billion. For more information, see Note 21 - Fair Value Measurements and Note 22 - Fair Value Option.

<sup>(7)</sup> Total outstandings includes U.S. commercial real estate loans of \$56.6 billion and non-U.S. commercial real estate loans of \$4.2 billion.

<sup>(8)</sup> Total outstandings includes loans and leases pledged as collateral of \$36.7 billion. The Corporation also pledged \$166.1 billion of loans with no related outstanding borrowings to secure potential borrowing capacity with the Federal Reserve Bank and Federal Home Loan Bank.

The Corporation categorizes consumer real estate loans as core and non-core based on loan and customer characteristics such as origination date, product type, LTV, FICO score and delinquency status consistent with its current consumer and mortgage servicing strategy. Generally, loans that were originated after January 1, 2010, qualified under government-sponsored enterprise (GSE) underwriting guidelines, or otherwise met the Corporation's underwriting guidelines in place in 2015 are characterized as core loans. All other loans are generally characterized as non-core loans and represent runoff portfolios.

The Corporation has entered into long-term credit protection agreements with FNMA and FHLMC on loans totaling \$7.5 billion and \$6.1 billion at December 31, 2019 and 2018, providing full credit protection on residential mortgage loans that become

severely delinquent. All of these loans are individually insured and therefore the Corporation does not record an allowance for credit losses related to these loans.

During 2019, the Corporation sold \$4.7 billion of consumer real estate compared to \$11.6 billion in 2018.

### Nonperforming Loans and Leases

The Corporation classifies consumer real estate loans that have been discharged in Chapter 7 bankruptcy and not reaffirmed by the borrower as TDRs, irrespective of payment history or delinquency status, even if the repayment terms for the loans have not been otherwise modified. The Corporation continues to have a lien on the underlying collateral.

The table below presents the Corporation's nonperforming loans and leases including nonperforming TDRs, and loans accruing past due 90 days or more at December 31, 2019 and 2018. Nonperforming LHFS are excluded from nonperforming loans and leases as they are recorded at either fair value or the lower of cost or fair value. For more information on the criteria for classification as nonperforming, see Note 1 – Summary of Significant Accounting Principles.

### Credit Quality

|                                       | Nonperforming Loans and Leases |                 | Accruing Past Due 90 Days or More |                 |
|---------------------------------------|--------------------------------|-----------------|-----------------------------------|-----------------|
|                                       | December 31                    |                 |                                   |                 |
|                                       | 2019                           | 2018            | 2019                              | 2018            |
| (Dollars in millions)                 |                                |                 |                                   |                 |
| <b>Consumer real estate</b>           |                                |                 |                                   |                 |
| Core portfolio                        |                                |                 |                                   |                 |
| Residential mortgage <sup>(1)</sup>   | \$ 883                         | \$ 1,010        | \$ 176                            | \$ 274          |
| Home equity                           | 363                            | 955             | —                                 | —               |
| Non-core portfolio                    |                                |                 |                                   |                 |
| Residential mortgage <sup>(1)</sup>   | 587                            | 883             | 912                               | 1,610           |
| Home equity                           | 173                            | 938             | —                                 | —               |
| <b>Credit card and other consumer</b> |                                |                 |                                   |                 |
| Credit card                           | n/a                            | n/a             | 1,042                             | 994             |
| Direct/indirect consumer              | 47                             | 56              | 33                                | 38              |
| <b>Total consumer</b>                 | <b>2,053</b>                   | <b>3,842</b>    | <b>2,163</b>                      | <b>2,916</b>    |
| <b>Commercial</b>                     |                                |                 |                                   |                 |
| U.S. commercial                       | 1,094                          | 794             | 106                               | 197             |
| Non-U.S. commercial                   | 43                             | 80              | 8                                 | —               |
| Commercial real estate                | 280                            | 156             | 19                                | 4               |
| Commercial lease financing            | 32                             | 18              | 20                                | 29              |
| U.S. small business commercial        | 50                             | 54              | 97                                | 84              |
| <b>Total commercial</b>               | <b>1,499</b>                   | <b>1,102</b>    | <b>250</b>                        | <b>314</b>      |
| <b>Total loans and leases</b>         | <b>\$ 3,552</b>                | <b>\$ 4,944</b> | <b>\$ 2,413</b>                   | <b>\$ 3,230</b> |

<sup>(1)</sup> Residential mortgage loans in the core and non-core portfolios accruing past due 90 days or more are fully-insured loans. At December 31, 2019 and 2018, residential mortgage includes \$740 million and \$1.4 billion of loans on which interest has been curtailed by the FHA and therefore are no longer accruing interest, although principal is still insured, and \$348 million and \$498 million of loans on which interest is still accruing.

n/a = not applicable

### Credit Quality Indicators

The Corporation monitors credit quality within its Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments based on primary credit quality indicators. For more information on the portfolio segments, see Note 1 – Summary of Significant Accounting Principles. Within the Consumer Real Estate portfolio segment, the primary credit quality indicators are refreshed LTV and refreshed FICO score. Refreshed LTV measures the carrying value of the loan as a percentage of the value of the property securing the loan, refreshed quarterly. Home equity loans are evaluated using CLTV which measures the carrying value of the Corporation's loan and available line of credit combined with any outstanding senior liens against the property as a percentage of the value of the property securing the loan, refreshed quarterly. FICO score measures the creditworthiness of the borrower based on the financial obligations of the borrower and the borrower's credit history. FICO scores are typically refreshed quarterly or more frequently. Certain borrowers (e.g., borrowers that have had debts discharged in a bankruptcy proceeding) may not have their FICO

scores updated. FICO scores are also a primary credit quality indicator for the Credit Card and Other Consumer portfolio segment and the business card portfolio within U.S. small business commercial. Within the Commercial portfolio segment, loans are evaluated using the internal classifications of pass rated or reservable criticized as the primary credit quality indicators. The term reservable criticized refers to those commercial loans that are internally classified or listed by the Corporation as Special Mention, Substandard or Doubtful, which are asset quality categories defined by regulatory authorities. These assets have an elevated level of risk and may have a high probability of default or total loss. Pass rated refers to all loans not considered reservable criticized. In addition to these primary credit quality indicators, the Corporation uses other credit quality indicators for certain types of loans.

The following tables present certain credit quality indicators for the Corporation's Consumer Real Estate, Credit Card and Other Consumer, and Commercial portfolio segments, by class of financing receivables, at December 31, 2019 and 2018.

### Consumer Real Estate – Credit Quality Indicators <sup>(1)</sup>

|                                                               | Core Residential Mortgage | Non-core Residential Mortgage | Core Home Equity | Non-core Home Equity | Core Residential Mortgage | Non-core Residential Mortgage | Core Home Equity | Non-core Home Equity |
|---------------------------------------------------------------|---------------------------|-------------------------------|------------------|----------------------|---------------------------|-------------------------------|------------------|----------------------|
| (Dollars in millions)                                         | December 31, 2019         |                               |                  |                      | December 31, 2018         |                               |                  |                      |
| Refreshed LTV                                                 |                           |                               |                  |                      |                           |                               |                  |                      |
| Less than or equal to 90 percent                              | \$ 205,357                | \$ 7,433                      | \$ 34,733        | \$ 4,127             | \$ 173,911                | \$ 10,272                     | \$ 39,246        | \$ 6,478             |
| Greater than 90 percent but less than or equal to 100 percent | 3,100                     | 273                           | 226              | 348                  | 2,349                     | 533                           | 354              | 715                  |
| Greater than 100 percent                                      | 1,049                     | 267                           | 267              | 507                  | 817                       | 545                           | 410              | 1,083                |
| Fully-insured loans <sup>(2)</sup>                            | 16,264                    | 2,426                         |                  |                      | 16,618                    | 3,512                         |                  |                      |
| <b>Total consumer real estate</b>                             | <b>\$ 225,770</b>         | <b>\$ 10,399</b>              | <b>\$ 35,226</b> | <b>\$ 4,982</b>      | <b>\$ 193,695</b>         | <b>\$ 14,862</b>              | <b>\$ 40,010</b> | <b>\$ 8,276</b>      |
| Refreshed FICO score                                          |                           |                               |                  |                      |                           |                               |                  |                      |
| Less than 620                                                 | \$ 2,127                  | \$ 1,230                      | \$ 751           | \$ 541               | \$ 2,125                  | \$ 1,974                      | \$ 1,064         | \$ 1,503             |
| Greater than or equal to 620 and less than 680                | 4,821                     | 1,053                         | 1,550            | 800                  | 4,538                     | 1,719                         | 2,008            | 1,720                |
| Greater than or equal to 680 and less than 740                | 26,905                    | 1,981                         | 6,025            | 1,412                | 23,841                    | 3,042                         | 7,008            | 2,188                |
| Greater than or equal to 740                                  | 175,653                   | 3,709                         | 26,900           | 2,229                | 146,573                   | 4,615                         | 29,930           | 2,865                |
| Fully-insured loans <sup>(2)</sup>                            | 16,264                    | 2,426                         |                  |                      | 16,618                    | 3,512                         |                  |                      |
| <b>Total consumer real estate</b>                             | <b>\$ 225,770</b>         | <b>\$ 10,399</b>              | <b>\$ 35,226</b> | <b>\$ 4,982</b>      | <b>\$ 193,695</b>         | <b>\$ 14,862</b>              | <b>\$ 40,010</b> | <b>\$ 8,276</b>      |

<sup>(1)</sup> Excludes \$594 million and \$682 million of loans accounted for under the fair value option at December 31, 2019 and 2018.

<sup>(2)</sup> Credit quality indicators are not reported for fully-insured loans as principal repayment is insured

### Credit Card and Other Consumer – Credit Quality Indicators

|                                                 | Credit Card       | Direct/Indirect Consumer | Other Consumer | Credit Card       | Direct/Indirect Consumer | Other Consumer |
|-------------------------------------------------|-------------------|--------------------------|----------------|-------------------|--------------------------|----------------|
| (Dollars in millions)                           | December 31, 2019 |                          |                | December 31, 2018 |                          |                |
| Refreshed FICO score                            |                   |                          |                |                   |                          |                |
| Less than 620                                   | \$ 5,179          | \$ 1,720                 |                | \$ 5,016          | \$ 1,719                 |                |
| Greater than or equal to 620 and less than 680  | 12,277            | 2,734                    |                | 12,415            | 3,124                    |                |
| Greater than or equal to 680 and less than 740  | 35,301            | 8,460                    |                | 35,781            | 8,921                    |                |
| Greater than or equal to 740                    | 44,851            | 37,825                   |                | 45,126            | 36,709                   |                |
| Other internal credit metrics <sup>(1, 2)</sup> |                   | 40,259                   | \$ 192         |                   | 40,693                   | \$ 202         |
| <b>Total credit card and other consumer</b>     | <b>\$ 97,608</b>  | <b>\$ 90,998</b>         | <b>\$ 192</b>  | <b>\$ 98,338</b>  | <b>\$ 91,166</b>         | <b>\$ 202</b>  |

<sup>(1)</sup> Other internal credit metrics may include delinquency status, geography or other factors.

<sup>(2)</sup> Direct/indirect consumer includes \$39.6 billion and \$39.9 billion of securities-based lending which is overcollateralized and therefore has minimal credit risk at December 31, 2019 and 2018.

### Commercial – Credit Quality Indicators <sup>(1)</sup>

|                                                | U.S. Commercial   | Non-U.S. Commercial | Commercial Real Estate | Commercial Lease Financing | U.S. Small Business Commercial <sup>(2)</sup> |
|------------------------------------------------|-------------------|---------------------|------------------------|----------------------------|-----------------------------------------------|
| (Dollars in millions)                          | December 31, 2019 |                     |                        |                            |                                               |
| Risk ratings                                   |                   |                     |                        |                            |                                               |
| Pass rated                                     | \$ 299,380        | \$ 104,051          | \$ 61,598              | \$ 19,551                  | \$ 231                                        |
| Reservable criticized                          | 7,668             | 915                 | 1,091                  | 329                        | 18                                            |
| Refreshed FICO score                           |                   |                     |                        |                            |                                               |
| Less than 620                                  |                   |                     |                        |                            | 308                                           |
| Greater than or equal to 620 and less than 680 |                   |                     |                        |                            | 756                                           |
| Greater than or equal to 680 and less than 740 |                   |                     |                        |                            | 2,267                                         |
| Greater than or equal to 740                   |                   |                     |                        |                            | 4,607                                         |
| Other internal credit metrics <sup>(3)</sup>   |                   |                     |                        |                            | 7,146                                         |
| <b>Total commercial</b>                        | <b>\$ 307,048</b> | <b>\$ 104,966</b>   | <b>\$ 62,689</b>       | <b>\$ 19,880</b>           | <b>\$ 15,333</b>                              |
|                                                | December 31, 2018 |                     |                        |                            |                                               |
| Risk ratings                                   |                   |                     |                        |                            |                                               |
| Pass rated                                     | \$ 291,918        | \$ 97,916           | \$ 59,910              | \$ 22,168                  | \$ 389                                        |
| Reservable criticized                          | 7,359             | 860                 | 935                    | 366                        | 29                                            |
| Refreshed FICO score                           |                   |                     |                        |                            |                                               |
| Less than 620                                  |                   |                     |                        |                            | 264                                           |
| Greater than or equal to 620 and less than 680 |                   |                     |                        |                            | 684                                           |
| Greater than or equal to 680 and less than 740 |                   |                     |                        |                            | 2,072                                         |
| Greater than or equal to 740                   |                   |                     |                        |                            | 4,254                                         |
| Other internal credit metrics <sup>(3)</sup>   |                   |                     |                        |                            | 6,873                                         |
| <b>Total commercial</b>                        | <b>\$ 299,277</b> | <b>\$ 98,776</b>    | <b>\$ 60,845</b>       | <b>\$ 22,534</b>           | <b>\$ 14,565</b>                              |

<sup>(1)</sup> Excludes \$7.7 billion and \$3.7 billion of loans accounted for under the fair value option at December 31, 2019 and 2018.

<sup>(2)</sup> At December 31, 2019 and 2018, U.S. small business commercial includes \$715 million and \$731 million of criticized business card and small business loans which are evaluated using refreshed FICO scores or internal credit metrics, including delinquency status, rather than risk ratings. Refreshed FICO score and other internal credit metrics are applicable only to the U.S. small business commercial portfolio.

<sup>(3)</sup> Other internal credit metrics may include delinquency status, application scores, geography or other factors. At both December 31, 2019 and 2018, 99 percent of the balances where internal credit metrics are used were current or less than 30 days past due.

### Impaired Loans and Troubled Debt Restructurings

A loan is considered impaired when, based on current information, it is probable that the Corporation will be unable to collect all amounts due from the borrower in accordance with the contractual terms of the loan. For more information, see *Note 1 – Summary of Significant Accounting Principles*.

#### Consumer Real Estate

Impaired consumer real estate loans within the Consumer Real Estate portfolio segment consist entirely of TDRs. Most modifications of consumer real estate loans meet the definition of TDRs when a binding offer is extended to a borrower. Modifications of consumer real estate loans are done in accordance with government programs or the Corporation's proprietary programs. These modifications are considered to be TDRs if concessions have been granted to borrowers experiencing financial difficulties. Concessions may include reductions in interest rates, capitalization of past due amounts, principal and/or interest forbearance, payment extensions, principal and/or interest forgiveness, or combinations thereof.

Prior to permanently modifying a loan, the Corporation may enter into trial modifications with certain borrowers under both government and proprietary programs. Trial modifications generally represent a three- to four-month period during which the borrower makes monthly payments under the anticipated modified payment terms. Upon successful completion of the trial period, the Corporation and the borrower enter into a permanent modification. Binding trial modifications are classified as TDRs when the trial offer is made and continue to be classified as TDRs regardless of whether the borrower enters into a permanent modification.

Consumer real estate loans of \$632 million that have been discharged in Chapter 7 bankruptcy with no change in repayment terms and not reaffirmed by the borrower were included in TDRs at December 31, 2019, of which \$101 million were classified as nonperforming and \$275 million were loans fully insured by the FHA. For more information on loans discharged in Chapter 7 bankruptcy, see *Nonperforming Loans and Leases* in this Note.

Consumer real estate TDRs are measured primarily based on the net present value of the estimated cash flows discounted at the loan's original effective interest rate. If the carrying value of a TDR exceeds this amount, a specific allowance is recorded as a component of the allowance for loan and lease losses.

Alternatively, consumer real estate TDRs that are considered to be dependent solely on the collateral for repayment (e.g., due to the lack of income verification) are measured based on the estimated fair value of the collateral and a charge-off is recorded if the carrying value exceeds the fair value of the collateral. Consumer real estate loans that reached 180 days past due prior to modification had been charged off to their net realizable value, less costs to sell, before they were modified as TDRs in accordance with established policy. Therefore, modifications of consumer real estate loans that are 180 or more days past due as TDRs do not have an impact on the allowance for loan and lease losses nor are additional charge-offs required at the time of modification. Subsequent declines in the fair value of the collateral after a loan has reached 180 days past due are recorded as charge-offs. Fully-insured loans are protected against principal loss, and therefore, the Corporation does not record an allowance for loan and lease losses on the outstanding principal balance, even after they have been modified in a TDR.

At December 31, 2019 and 2018, remaining commitments to lend additional funds to debtors whose terms have been modified in a consumer real estate TDR were not significant. Consumer real estate foreclosed properties totaled \$229 million and \$244 million at December 31, 2019 and 2018. The carrying value of consumer real estate loans, including fully-insured loans, for which formal foreclosure proceedings were in process at December 31, 2019 was \$1.6 billion. During 2019 and 2018, the Corporation reclassified \$611 million and \$670 million of consumer real estate loans to foreclosed properties or, for properties acquired upon foreclosure of certain government-guaranteed loans (principally FHA-insured loans), to other assets. The reclassifications represent non-cash investing activities and, accordingly, are not reflected in the Consolidated Statement of Cash Flows.

The following table provides the unpaid principal balance, carrying value and related allowance at December 31, 2019 and 2018 and the average carrying value and interest income recognized in 2019, 2018 and 2017 for impaired loans in the Corporation's Consumer Real Estate portfolio segment. Certain impaired consumer real estate loans do not have a related allowance as the current valuation of these impaired loans exceeded the carrying value, which is net of previously recorded charge-offs.

## Impaired Loans – Consumer Real Estate

| (Dollars in millions)             | Unpaid Principal Balance | Carrying Value | Related Allowance | Unpaid Principal Balance | Carrying Value | Related Allowance |
|-----------------------------------|--------------------------|----------------|-------------------|--------------------------|----------------|-------------------|
|                                   | December 31, 2019        |                |                   | December 31, 2018        |                |                   |
| <b>With no recorded allowance</b> |                          |                |                   |                          |                |                   |
| Residential mortgage              | \$ 4,224                 | \$ 3,354       | \$ —              | \$ 5,396                 | \$ 4,268       | \$ —              |
| Home equity                       | 1,176                    | 706            | —                 | 2,948                    | 1,599          | —                 |
| <b>With an allowance recorded</b> |                          |                |                   |                          |                |                   |
| Residential mortgage              | \$ 1,426                 | \$ 1,399       | \$ 70             | \$ 1,977                 | \$ 1,929       | \$ 114            |
| Home equity                       | 543                      | 523            | 69                | 812                      | 760            | 144               |
| <b>Total</b>                      |                          |                |                   |                          |                |                   |
| Residential mortgage              | \$ 5,650                 | \$ 4,753       | \$ 70             | \$ 7,373                 | \$ 6,197       | \$ 114            |
| Home equity                       | 1,719                    | 1,229          | 69                | 3,760                    | 2,359          | 144               |

|                                   | Average Carrying Value | Interest Income Recognized <sup>(1)</sup> | Average Carrying Value | Interest Income Recognized <sup>(1)</sup> | Average Carrying Value | Interest Income Recognized <sup>(1)</sup> |
|-----------------------------------|------------------------|-------------------------------------------|------------------------|-------------------------------------------|------------------------|-------------------------------------------|
|                                   | 2019                   |                                           | 2018                   |                                           | 2017                   |                                           |
| <b>With no recorded allowance</b> |                        |                                           |                        |                                           |                        |                                           |
| Residential mortgage              | \$ 3,831               | \$ 155                                    | \$ 5,424               | \$ 207                                    | \$ 7,737               | \$ 311                                    |
| Home equity                       | 1,221                  | 76                                        | 1,894                  | 105                                       | 1,997                  | 109                                       |
| <b>With an allowance recorded</b> |                        |                                           |                        |                                           |                        |                                           |
| Residential mortgage              | \$ 1,635               | \$ 62                                     | \$ 2,409               | \$ 91                                     | \$ 3,414               | \$ 123                                    |
| Home equity                       | 637                    | 22                                        | 861                    | 25                                        | 858                    | 24                                        |
| <b>Total</b>                      |                        |                                           |                        |                                           |                        |                                           |
| Residential mortgage              | \$ 5,466               | \$ 217                                    | \$ 7,833               | \$ 298                                    | \$ 11,151              | \$ 434                                    |
| Home equity                       | 1,858                  | 98                                        | 2,755                  | 130                                       | 2,855                  | 133                                       |

<sup>(1)</sup> Interest income recognized includes interest accrued and collected on the outstanding balances of accruing impaired loans as well as interest cash collections on nonaccruing impaired loans for which the principal is considered collectible

The table below presents the December 31, 2019, 2018 and 2017 unpaid principal balance, carrying value, and average pre- and post-modification interest rates of consumer real estate loans that were modified in TDRs during 2019, 2018 and 2017. The following Consumer Real Estate portfolio segment tables include loans that were initially classified as TDRs during the period and also loans that had previously been classified as TDRs and were modified again during the period.

## Consumer Real Estate – TDRs Entered Into During 2019, 2018 and 2017

| (Dollars in millions) | Unpaid Principal Balance | Carrying Value | Pre-Modification Interest Rate | Post-Modification Interest Rate <sup>(1)</sup> |
|-----------------------|--------------------------|----------------|--------------------------------|------------------------------------------------|
|                       | December 31, 2019        |                |                                |                                                |
| Residential mortgage  | \$ 464                   | \$ 377         | 4.19%                          | 4.13%                                          |
| Home equity           | 141                      | 101            | 5.04                           | 4.31                                           |
| <b>Total</b>          | \$ 605                   | \$ 478         | 4.39                           | 4.17                                           |

| December 31, 2018    |          |        |       |       |
|----------------------|----------|--------|-------|-------|
| Residential mortgage | \$ 774   | \$ 641 | 4.33% | 4.21% |
| Home equity          | 489      | 358    | 4.46  | 3.74  |
| <b>Total</b>         | \$ 1,263 | \$ 999 | 4.38  | 4.03  |

| December 31, 2017    |          |          |       |       |
|----------------------|----------|----------|-------|-------|
| Residential mortgage | \$ 824   | \$ 712   | 4.43% | 4.16% |
| Home equity          | 764      | 590      | 4.22  | 3.49  |
| <b>Total</b>         | \$ 1,588 | \$ 1,302 | 4.33  | 3.83  |

<sup>(1)</sup> The post-modification interest rate reflects the interest rate applicable only to permanently completed modifications, which exclude loans that are in a trial modification period

The table below presents the December 31, 2019, 2018 and 2017 carrying value for consumer real estate loans that were modified in a TDR during 2019, 2018 and 2017, by type of modification.

### Consumer Real Estate – Modification Programs

| (Dollars in millions)                                   | TDRs Entered into During |               |                 |
|---------------------------------------------------------|--------------------------|---------------|-----------------|
|                                                         | 2019                     | 2018          | 2017            |
| Modifications under government programs <sup>(1)</sup>  | \$ 35                    | \$ 61         | \$ 85           |
| Modifications under proprietary programs <sup>(1)</sup> | 174                      | 523           | 437             |
| Loans discharged in Chapter 7 bankruptcy <sup>(2)</sup> | 68                       | 130           | 211             |
| Trial modifications                                     | 201                      | 285           | 569             |
| <b>Total modifications</b>                              | <b>\$ 478</b>            | <b>\$ 999</b> | <b>\$ 1,302</b> |

<sup>(1)</sup> Includes other modifications such as term or payment extensions and repayment plans. During 2018, this included \$198 million of modifications that met the definition of a TDR related to the 2017 hurricanes, there were no such modifications in 2019 or 2017. These modifications were written down to their net realizable value less costs to sell or were fully insured as of December 31, 2018.

<sup>(2)</sup> Includes loans discharged in Chapter 7 bankruptcy with no change in repayment terms that are classified as TDRs.

The table below presents the carrying value of consumer real estate loans that entered into payment default during 2019, 2018 and 2017 that were modified in a TDR during the 12 months preceding payment default. A payment default for consumer real estate TDRs is recognized when a borrower has missed three monthly payments (not necessarily consecutively) since modification.

### Consumer Real Estate – TDRs Entering Payment Default that were Modified During the Preceding 12 Months

| (Dollars in millions)                                   | 2019          | 2018          | 2017          |
|---------------------------------------------------------|---------------|---------------|---------------|
| Modifications under government programs                 | \$ 26         | \$ 39         | \$ 81         |
| Modifications under proprietary programs                | 88            | 158           | 138           |
| Loans discharged in Chapter 7 bankruptcy <sup>(1)</sup> | 30            | 64            | 116           |
| Trial modifications <sup>(2)</sup>                      | 57            | 107           | 391           |
| <b>Total modifications</b>                              | <b>\$ 201</b> | <b>\$ 368</b> | <b>\$ 726</b> |

<sup>(1)</sup> Includes loans discharged in Chapter 7 bankruptcy with no change in repayment terms that are classified as TDRs.

<sup>(2)</sup> Includes trial modification offers to which the customer did not respond.

### Credit Card and Other Consumer

Impaired loans within the Credit Card and Other Consumer portfolio segment consist entirely of loans that have been modified in TDRs. The Corporation seeks to assist customers that are experiencing financial difficulty by modifying loans while ensuring compliance with federal and local laws and guidelines. Credit card and other consumer loan modifications generally involve reducing the interest rate on the account, placing the customer on a fixed payment plan not exceeding 60 months and canceling the customer's available line of credit, all of which are considered TDRs. The Corporation makes loan modifications directly with borrowers for debt held only by the Corporation (internal programs). Additionally, the Corporation makes loan modifications for borrowers working with third-party renegotiation agencies that

provide solutions to customers' entire unsecured debt structures (external programs). The Corporation classifies other secured consumer loans that have been discharged in Chapter 7 bankruptcy as TDRs which are written down to collateral value and placed on nonaccrual status no later than the time of discharge. For more information on the regulatory guidance on loans discharged in Chapter 7 bankruptcy, see Nonperforming Loans and Leases in this Note.

The following table provides the unpaid principal balance, carrying value and related allowance at December 31, 2019 and 2018 and the average carrying value for 2019, 2018 and 2017 on TDRs within the Credit Card and Other Consumer portfolio segment.

### Impaired Loans – Credit Card and Other Consumer

| (Dollars in millions)             | December 31, 2019        |                               |                   | December 31, 2018        |                               |                   | Average Carrying Value <sup>(2)</sup> |        |        |
|-----------------------------------|--------------------------|-------------------------------|-------------------|--------------------------|-------------------------------|-------------------|---------------------------------------|--------|--------|
|                                   | Unpaid Principal Balance | Carrying Value <sup>(1)</sup> | Related Allowance | Unpaid Principal Balance | Carrying Value <sup>(1)</sup> | Related Allowance | 2019                                  | 2018   | 2017   |
| <b>With no recorded allowance</b> |                          |                               |                   |                          |                               |                   |                                       |        |        |
| Direct/Indirect consumer          | \$ 73                    | \$ 32                         | \$ —              | \$ 72                    | \$ 33                         | \$ —              | \$ 33                                 | \$ 30  | \$ 21  |
| <b>With an allowance recorded</b> |                          |                               |                   |                          |                               |                   |                                       |        |        |
| Credit card <sup>(3)</sup>        | \$ 633                   | \$ 647                        | \$ 188            | \$ 522                   | \$ 533                        | \$ 154            | \$ 594                                | \$ 491 | \$ 511 |

<sup>(1)</sup> Includes accrued interest and fees.

<sup>(2)</sup> The related interest income recognized, which includes interest accrued and collected on the outstanding balances of accruing impaired loans as well as interest cash collections on nonaccruing impaired loans for which the principal was considered collectible, was not significant in 2019, 2018 and 2017.

<sup>(3)</sup> The average carrying value in 2017 includes \$47 million related to the non-U.S. credit card portfolio, which was sold in the second quarter of 2017.

The table below provides information on the Corporation's primary modification programs for the Credit Card and Other Consumer TDR portfolio at December 31, 2019 and 2018.

**Credit Card and Other Consumer – TDRs by Program Type at December 31**

| (Dollars in millions)                                     | Credit Card   |               | Direct/Indirect Consumer |              | Total TDRs by Program Type |               |
|-----------------------------------------------------------|---------------|---------------|--------------------------|--------------|----------------------------|---------------|
|                                                           | 2019          | 2018          | 2019                     | 2018         | 2019                       | 2018          |
| Internal programs                                         | \$ 339        | \$ 259        | \$ —                     | \$ —         | \$ 339                     | \$ 259        |
| External programs                                         | 308           | 273           | —                        | —            | 308                        | 273           |
| Other                                                     | —             | 1             | 32                       | 33           | 32                         | 34            |
| <b>Total</b>                                              | <b>\$ 647</b> | <b>\$ 533</b> | <b>\$ 32</b>             | <b>\$ 33</b> | <b>\$ 679</b>              | <b>\$ 566</b> |
| Percent of balances current or less than 30 days past due | 85%           | 85%           | 78%                      | 81%          | 84%                        | 85%           |

The table below provides information on the Corporation's Credit Card and Other Consumer TDR portfolio including the December 31, 2019, 2018 and 2017 unpaid principal balance, carrying value, and average pre- and post-modification interest rates of loans that were modified in TDRs during 2019, 2018 and 2017.

**Credit Card and Other Consumer – TDRs Entered into During 2019, 2018 and 2017**

| (Dollars in millions)    | Unpaid Principal Balance | Carrying Value <sup>(1)</sup> | Pre-Modification Interest Rate | Post-Modification Interest Rate |
|--------------------------|--------------------------|-------------------------------|--------------------------------|---------------------------------|
|                          | December 31, 2019        |                               |                                |                                 |
| Credit card              | \$ 340                   | \$ 355                        | 19.18%                         | 5.35%                           |
| Direct/Indirect consumer | 40                       | 21                            | 5.23                           | 5.21                            |
| <b>Total</b>             | <b>\$ 380</b>            | <b>\$ 376</b>                 | <b>18.42</b>                   | <b>5.34</b>                     |
|                          | December 31, 2018        |                               |                                |                                 |
| Credit card              | \$ 278                   | \$ 292                        | 19.49%                         | 5.24%                           |
| Direct/Indirect consumer | 42                       | 23                            | 5.10                           | 4.95                            |
| <b>Total</b>             | <b>\$ 320</b>            | <b>\$ 315</b>                 | <b>18.45</b>                   | <b>5.22</b>                     |
|                          | December 31, 2017        |                               |                                |                                 |
| Credit card              | \$ 203                   | \$ 213                        | 18.47%                         | 5.32%                           |
| Non-U.S. credit card     | 37                       | 22                            | 4.81                           | 4.30                            |
| <b>Total</b>             | <b>\$ 240</b>            | <b>\$ 235</b>                 | <b>17.17</b>                   | <b>5.22</b>                     |

<sup>(1)</sup> Includes accrued interest and fees.

Credit card and other consumer loans are deemed to be in payment default during the quarter in which a borrower misses the second of two consecutive payments. Payment defaults are one of the factors considered when projecting future cash flows in the calculation of the allowance for loan and lease losses for impaired credit card and other consumer loans. Based on historical experience, the Corporation estimates that 14 percent of new credit card TDRs and 20 percent of new direct/indirect consumer TDRs may be in payment default within 12 months after modification.

**Commercial Loans**

Impaired commercial loans include nonperforming loans and TDRs (both performing and nonperforming). Modifications of loans to commercial borrowers that are experiencing financial difficulty are designed to reduce the Corporation's loss exposure while providing the borrower with an opportunity to work through financial difficulties, often to avoid foreclosure or bankruptcy. Each modification is unique and reflects the individual circumstances of the borrower. Modifications that result in a TDR may include extensions of maturity at a concessionary (below market) rate of interest, payment forbearances or other actions designed to benefit the customer while mitigating the Corporation's risk exposure. Reductions in interest rates are rare. Instead, the interest rates are typically increased, although the increased rate may not represent a market rate of interest. Infrequently, concessions may also include principal forgiveness in connection

with foreclosure, short sale or other settlement agreements leading to termination or sale of the loan.

At the time of restructuring, the loans are remeasured to reflect the impact, if any, on projected cash flows resulting from the modified terms. If there was no forgiveness of principal and the interest rate was not decreased, the modification may have little or no impact on the allowance established for the loan. If a portion of the loan is deemed to be uncollectible, a charge-off may be recorded at the time of restructuring. Alternatively, a charge-off may have already been recorded in a previous period such that no charge-off is required at the time of modification. For more information on modifications for the U.S. small business commercial portfolio, see Credit Card and Other Consumer in this Note.

At December 31, 2019 and 2018, remaining commitments to lend additional funds to debtors whose terms have been modified in a commercial loan TDR were \$445 million and \$297 million. The balance of commercial TDRs in payment default was not significant at December 31, 2019 and 2018.

The table below provides information on impaired loans in the Commercial loan portfolio segment including the unpaid principal balance, carrying value and related allowance at December 31, 2019 and 2018, and the average carrying value for 2019, 2018 and 2017. Certain impaired commercial loans do not have a related allowance because the valuation of these impaired loans exceeded the carrying value, which is net of previously recorded charge-offs.

## Impaired Loans – Commercial

|                                               | Unpaid<br>Principal<br>Balance | Carrying<br>Value | Related<br>Allowance | Unpaid<br>Principal<br>Balance | Carrying<br>Value | Related<br>Allowance | Average Carrying Value <sup>(1)</sup> |          |          |
|-----------------------------------------------|--------------------------------|-------------------|----------------------|--------------------------------|-------------------|----------------------|---------------------------------------|----------|----------|
| (Dollars in millions)                         | December 31, 2019              |                   |                      | December 31, 2018              |                   |                      | 2019                                  | 2018     | 2017     |
| <b>With no recorded allowance</b>             |                                |                   |                      |                                |                   |                      |                                       |          |          |
| U.S. commercial                               | \$ 534                         | \$ 520            | \$ —                 | \$ 638                         | \$ 616            | \$ —                 | \$ 635                                | \$ 655   | \$ 772   |
| Non-U.S. commercial                           | 123                            | 123               | —                    | 93                             | 93                | —                    | 79                                    | 43       | 46       |
| Commercial real estate                        | 67                             | 58                | —                    | —                              | —                 | —                    | 96                                    | 44       | 69       |
| Commercial lease financing                    | 12                             | 12                | —                    | —                              | —                 | —                    | 5                                     | 3        | —        |
| <b>With an allowance recorded</b>             |                                |                   |                      |                                |                   |                      |                                       |          |          |
| U.S. commercial                               | \$ 1,776                       | \$ 1,574          | \$ 216               | \$ 1,437                       | \$ 1,270          | \$ 121               | \$ 1,316                              | \$ 1,162 | \$ 1,260 |
| Non-U.S. commercial                           | 113                            | 113               | 9                    | 155                            | 149               | 30                   | 218                                   | 327      | 463      |
| Commercial real estate                        | 322                            | 236               | 64                   | 247                            | 162               | 16                   | 149                                   | 46       | 73       |
| Commercial lease financing                    | 57                             | 51                | 1                    | 71                             | 71                | —                    | 73                                    | 42       | 8        |
| U.S. small business commercial <sup>(2)</sup> | 91                             | 77                | 30                   | 83                             | 72                | 29                   | 75                                    | 73       | 73       |
| <b>Total</b>                                  |                                |                   |                      |                                |                   |                      |                                       |          |          |
| U.S. commercial                               | \$ 2,310                       | \$ 2,094          | \$ 216               | \$ 2,075                       | \$ 1,886          | \$ 121               | \$ 1,951                              | \$ 1,817 | \$ 2,032 |
| Non-U.S. commercial                           | 236                            | 236               | 9                    | 248                            | 242               | 30                   | 297                                   | 370      | 509      |
| Commercial real estate                        | 389                            | 294               | 64                   | 247                            | 162               | 16                   | 245                                   | 90       | 142      |
| Commercial lease financing                    | 69                             | 63                | 1                    | 71                             | 71                | —                    | 78                                    | 45       | 8        |
| U.S. small business commercial <sup>(2)</sup> | 91                             | 77                | 30                   | 83                             | 72                | 29                   | 75                                    | 73       | 73       |

<sup>(1)</sup> The related interest income recognized, which includes interest accrued and collected on the outstanding balances of accruing impaired loans as well as interest cash collections on nonaccruing impaired loans for which the principal was considered collectible, was not significant in 2019, 2018 and 2017.

<sup>(2)</sup> Includes U.S. small business commercial renegotiated TDR loans and related allowance.

## Loans Held-for-sale

The Corporation had LHFS of \$9.2 billion and \$10.4 billion at December 31, 2019 and 2018. Cash and non-cash proceeds from sales and paydowns of loans originally classified as LHFS were \$30.6 billion, \$29.2 billion and \$41.3 billion for 2019, 2018 and 2017, respectively. Cash used for originations and purchases of LHFS totaled \$28.9 billion, \$28.1 billion and \$43.5 billion for 2019, 2018 and 2017, respectively.

## NOTE 6 Allowance for Credit Losses

The table below summarizes the changes in the allowance for credit losses by portfolio segment for 2019, 2018 and 2017.

|                                                              | Consumer<br>Real Estate | Credit Card and<br>Other Consumer | Commercial      | Total            |
|--------------------------------------------------------------|-------------------------|-----------------------------------|-----------------|------------------|
| (Dollars in millions)                                        |                         |                                   |                 |                  |
| <b>2019</b>                                                  |                         |                                   |                 |                  |
| <b>Allowance for loan and lease losses, January 1</b>        | \$ 928                  | \$ 3,874                          | \$ 4,799        | \$ 9,601         |
| Loans and leases charged off                                 | (522)                   | (4,302)                           | (822)           | (5,646)          |
| Recoveries of loans and leases previously charged off        | 927                     | 911                               | 160             | 1,998            |
| Net charge-offs                                              | 405                     | (3,391)                           | (662)           | (3,648)          |
| Provision for loan and lease losses                          | (680)                   | 3,512                             | 742             | 3,574            |
| Other <sup>(1)</sup>                                         | (107)                   | 1                                 | (5)             | (111)            |
| <b>Allowance for loan and lease losses, December 31</b>      | <b>546</b>              | <b>3,996</b>                      | <b>4,874</b>    | <b>9,416</b>     |
| <b>Reserve for unfunded lending commitments, January 1</b>   | —                       | —                                 | 797             | 797              |
| Provision for unfunded lending commitments                   | —                       | —                                 | 16              | 16               |
| <b>Reserve for unfunded lending commitments, December 31</b> | <b>—</b>                | <b>—</b>                          | <b>813</b>      | <b>813</b>       |
| <b>Allowance for credit losses, December 31</b>              | <b>\$ 546</b>           | <b>\$ 3,996</b>                   | <b>\$ 5,687</b> | <b>\$ 10,229</b> |
| <b>2018</b>                                                  |                         |                                   |                 |                  |
| <b>Allowance for loan and lease losses, January 1</b>        | \$ 1,720                | \$ 3,663                          | \$ 5,010        | \$ 10,393        |
| Loans and leases charged off                                 | (690)                   | (4,037)                           | (675)           | (5,402)          |
| Recoveries of loans and leases previously charged off        | 664                     | 823                               | 152             | 1,639            |
| Net charge-offs                                              | (26)                    | (3,214)                           | (523)           | (3,763)          |
| Provision for loan and lease losses                          | (492)                   | 3,441                             | 313             | 3,262            |
| Other <sup>(1)</sup>                                         | (274)                   | (16)                              | (1)             | (291)            |
| <b>Allowance for loan and lease losses, December 31</b>      | <b>928</b>              | <b>3,874</b>                      | <b>4,799</b>    | <b>9,601</b>     |
| <b>Reserve for unfunded lending commitments, January 1</b>   | —                       | —                                 | 777             | 777              |
| Provision for unfunded lending commitments                   | —                       | —                                 | 20              | 20               |
| <b>Reserve for unfunded lending commitments, December 31</b> | <b>—</b>                | <b>—</b>                          | <b>797</b>      | <b>797</b>       |
| <b>Allowance for credit losses, December 31</b>              | <b>\$ 928</b>           | <b>\$ 3,874</b>                   | <b>\$ 5,596</b> | <b>\$ 10,398</b> |
| <b>2017</b>                                                  |                         |                                   |                 |                  |
| <b>Allowance for loan and lease losses, January 1</b>        | \$ 2,750                | \$ 3,229                          | \$ 5,258        | \$ 11,237        |
| Loans and leases charged off                                 | (770)                   | (3,774)                           | (1,075)         | (5,619)          |
| Recoveries of loans and leases previously charged off        | 657                     | 809                               | 174             | 1,640            |
| Net charge-offs                                              | (113)                   | (2,965)                           | (901)           | (3,979)          |
| Provision for loan and lease losses                          | (710)                   | 3,437                             | 654             | 3,381            |
| Other <sup>(1)</sup>                                         | (207)                   | (38)                              | (1)             | (246)            |
| <b>Allowance for loan and lease losses, December 31</b>      | <b>1,720</b>            | <b>3,663</b>                      | <b>5,010</b>    | <b>10,393</b>    |
| <b>Reserve for unfunded lending commitments, January 1</b>   | —                       | —                                 | 762             | 762              |
| Provision for unfunded lending commitments                   | —                       | —                                 | 15              | 15               |
| <b>Reserve for unfunded lending commitments, December 31</b> | <b>—</b>                | <b>—</b>                          | <b>777</b>      | <b>777</b>       |
| <b>Allowance for credit losses, December 31</b>              | <b>\$ 1,720</b>         | <b>\$ 3,663</b>                   | <b>\$ 5,787</b> | <b>\$ 11,170</b> |

<sup>(1)</sup> Primarily represents write-offs of purchased credit-impaired loans, the net impact of portfolio sales, and transfers to LHFS.

The table below presents the allowance and the carrying value of outstanding loans and leases by portfolio segment at December 31, 2019 and 2018.

|                                                                       | Consumer<br>Real Estate | Credit Card and<br>Other Consumer | Commercial | Total    |
|-----------------------------------------------------------------------|-------------------------|-----------------------------------|------------|----------|
| December 31, 2019                                                     |                         |                                   |            |          |
| (Dollars in millions)                                                 |                         |                                   |            |          |
| <b>Impaired loans and troubled debt restructurings <sup>(1)</sup></b> |                         |                                   |            |          |
| Allowance for loan and lease losses                                   | \$ 139                  | \$ 188                            | \$ 320     | \$ 647   |
| Carrying value <sup>(2)</sup>                                         | 5,982                   | 679                               | 2,764      | 9,425    |
| Allowance as a percentage of carrying value                           | 2.32%                   | 27.69%                            | 11.58%     | 6.86%    |
| <b>Loans collectively evaluated for impairment</b>                    |                         |                                   |            |          |
| Allowance for loan and lease losses                                   | \$ 407                  | \$ 3,808                          | \$ 4,554   | \$ 8,769 |
| Carrying value <sup>(2, 3)</sup>                                      | 270,395                 | 188,119                           | 507,152    | 965,666  |
| Allowance as a percentage of carrying value <sup>(3)</sup>            | 0.15%                   | 2.02%                             | 0.90%      | 0.91%    |
| <b>Total</b>                                                          |                         |                                   |            |          |
| Allowance for loan and lease losses                                   | \$ 546                  | \$ 3,996                          | \$ 4,874   | \$ 9,416 |
| Carrying value <sup>(2, 3)</sup>                                      | 276,377                 | 188,798                           | 509,916    | 975,091  |
| Allowance as a percentage of carrying value <sup>(3)</sup>            | 0.20%                   | 2.12%                             | 0.96%      | 0.97%    |
| December 31, 2018                                                     |                         |                                   |            |          |
| <b>Impaired loans and troubled debt restructurings <sup>(1)</sup></b> |                         |                                   |            |          |
| Allowance for loan and lease losses                                   | \$ 258                  | \$ 154                            | \$ 196     | \$ 608   |
| Carrying value <sup>(2)</sup>                                         | 8,556                   | 566                               | 2,433      | 11,555   |
| Allowance as a percentage of carrying value                           | 3.02%                   | 27.21%                            | 8.06%      | 5.26%    |
| <b>Loans collectively evaluated for impairment</b>                    |                         |                                   |            |          |
| Allowance for loan and lease losses                                   | \$ 670                  | \$ 3,720                          | \$ 4,603   | \$ 8,993 |
| Carrying value <sup>(2, 3)</sup>                                      | 248,287                 | 189,140                           | 493,564    | 930,991  |
| Allowance as a percentage of carrying value <sup>(3)</sup>            | 0.27%                   | 1.97%                             | 0.93%      | 0.97%    |
| <b>Total</b>                                                          |                         |                                   |            |          |
| Allowance for loan and lease losses                                   | \$ 928                  | \$ 3,874                          | \$ 4,799   | \$ 9,601 |
| Carrying value <sup>(2, 3)</sup>                                      | 256,843                 | 189,706                           | 495,997    | 942,546  |
| Allowance as a percentage of carrying value <sup>(3)</sup>            | 0.36%                   | 2.04%                             | 0.97%      | 1.02%    |

<sup>(1)</sup> Impaired loans include nonperforming commercial loans and leases, as well as all TDRs, including both commercial and consumer TDRs. Impaired loans exclude nonperforming consumer loans unless they are TDRs, and all consumer and commercial loans accounted for under the fair value option.

<sup>(2)</sup> Amounts are presented gross of the allowance for loan and lease losses.

<sup>(3)</sup> Outstanding loan and lease balances and ratios do not include loans accounted for under the fair value option of \$3.3 billion and \$4.3 billion at December 31, 2019 and 2018.

## NOTE 7 Securitizations and Other Variable Interest Entities

The Corporation utilizes VIEs in the ordinary course of business to support its own and its customers' financing and investing needs. The Corporation routinely securitizes loans and debt securities using VIEs as a source of funding for the Corporation and as a means of transferring the economic risk of the loans or debt securities to third parties. The assets are transferred into a trust or other securitization vehicle such that the assets are legally isolated from the creditors of the Corporation and are not available to satisfy its obligations. These assets can only be used to settle obligations of the trust or other securitization vehicle. The Corporation also administers, structures or invests in other VIEs including CDOs, investment vehicles and other entities. For more information on the Corporation's use of VIEs, see Note 1 - Summary of Significant Accounting Principles.

The tables in this Note present the assets and liabilities of consolidated and unconsolidated VIEs at December 31, 2019 and 2018 in situations where the Corporation has continuing involvement with transferred assets or if the Corporation otherwise has a variable interest in the VIE. The tables also present the Corporation's maximum loss exposure at December 31, 2019 and 2018 resulting from its involvement with consolidated VIEs and unconsolidated VIEs in which the Corporation holds a variable interest. The Corporation's maximum loss exposure is based on the unlikely event that all of the assets in the VIEs become worthless and incorporates not only potential losses associated with assets recorded on the Consolidated Balance Sheet but also potential losses associated with off-balance sheet commitments, such as unfunded liquidity commitments and other contractual

arrangements. The Corporation's maximum loss exposure does not include losses previously recognized through write-downs of assets.

The Corporation invests in ABS issued by third-party VIEs with which it has no other form of involvement and enters into certain commercial lending arrangements that may also incorporate the use of VIEs, for example to hold collateral. These securities and loans are included in Note 4 - Securities or Note 5 - Outstanding Loans and Leases. In addition, the Corporation has used VIEs in connection with its funding activities.

The Corporation did not provide financial support to consolidated or unconsolidated VIEs during 2019, 2018 and 2017 that it was not previously contractually required to provide, nor does it intend to do so.

The Corporation had liquidity commitments, including written put options and collateral value guarantees, with certain unconsolidated VIEs of \$1.1 billion and \$218 million at December 31, 2019 and 2018.

### First-lien Mortgage Securitizations

As part of its mortgage banking activities, the Corporation securitizes a portion of the first-lien residential mortgage loans it originates or purchases from third parties, generally in the form of RMBS guaranteed by GSEs, FNMA and FHLMC (collectively the GSEs), or the Government National Mortgage Association (GNMA) primarily in the case of FHA-insured and U.S. Department of Veterans Affairs (VA)-guaranteed mortgage loans. Securitization usually occurs in conjunction with or shortly after origination or purchase, and the Corporation may also securitize loans held in its residential mortgage portfolio. In addition, the Corporation may, from time to time, securitize commercial mortgages it originates

or purchases from other entities. The Corporation typically services the loans it securitizes. Further, the Corporation may retain beneficial interests in the securitization trusts including senior and subordinate securities and equity tranches issued by the trusts. Except as described in Note 13 – Commitments and Contingencies,

the Corporation does not provide guarantees or recourse to the securitization trusts other than standard representations and warranties.

The table below summarizes select information related to first-lien mortgage securitizations for 2019, 2018 and 2017.

### First-lien Mortgage Securitizations

| (Dollars in millions)                                 | Residential Mortgage - Agency |          |           | Commercial Mortgage |          |          |
|-------------------------------------------------------|-------------------------------|----------|-----------|---------------------|----------|----------|
|                                                       | 2019                          | 2018     | 2017      | 2019                | 2018     | 2017     |
| Proceeds from loan sales <sup>(1)</sup>               | \$ 6,858                      | \$ 5,801 | \$ 16,161 | \$ 8,661            | \$ 6,991 | \$ 5,887 |
| Gains on securitizations <sup>(2)</sup>               | 27                            | 62       | 158       | 103                 | 101      | 91       |
| Repurchases from securitization trusts <sup>(3)</sup> | 881                           | 1,485    | 2,713     | —                   | —        | —        |

<sup>(1)</sup> The Corporation transfers residential mortgage loans to securitizations sponsored primarily by the GSEs or GNMA in the normal course of business and primarily receives RMBS in exchange. Substantially all of these securities are classified as Level 2 within the fair value hierarchy and are sold shortly after receipt.

<sup>(2)</sup> A majority of the first-lien residential mortgage loans securitized are initially classified as LHFS and accounted for under the fair value option. Gains recognized on these LHFS prior to securitization, which totaled \$64 million, \$71 million and \$243 million, net of hedges, during 2019, 2018 and 2017, respectively, are not included in the table above.

<sup>(3)</sup> The Corporation may have the option to repurchase delinquent loans out of securitization trusts, which reduces the amount of servicing advances it is required to make. The Corporation may also repurchase loans from securitization trusts to perform modifications. Repurchased loans include FHA-insured mortgages collateralizing GNMA securities.

The Corporation recognizes consumer MSRs from the sale or securitization of consumer real estate loans. The unpaid principal balance of loans serviced for investors, including residential mortgage and home equity loans, totaled \$192.1 billion and \$226.6 billion at December 31, 2019 and 2018. Servicing fee and ancillary fee income on serviced loans was \$585 million, \$710 million and \$893 million during 2019, 2018 and 2017. Servicing advances on serviced loans, including loans serviced for others and loans held for investment, were \$2.4 billion and \$3.3 billion

at December 31, 2019 and 2018. For more information on MSRs, see Note 21 – Fair Value Measurements.

During 2019, the Corporation deconsolidated agency residential mortgage securitization trusts with total assets of \$1.2 billion. There were no significant deconsolidations in 2018 or 2017.

The following table summarizes select information related to first-lien mortgage securitization trusts in which the Corporation held a variable interest at December 31, 2019 and 2018.

### First-lien Mortgage VIEs

|                                              | Residential Mortgage |            |          |          |            |          |           |           |           |           | Commercial Mortgage |  |
|----------------------------------------------|----------------------|------------|----------|----------|------------|----------|-----------|-----------|-----------|-----------|---------------------|--|
|                                              | Agency               |            | Prime    |          | Non-agency |          |           |           |           |           |                     |  |
|                                              |                      |            |          |          | Subprime   |          | Alt-A     |           |           |           |                     |  |
|                                              | December 31          |            |          |          |            |          |           |           |           |           |                     |  |
| (Dollars in millions)                        | 2019                 | 2018       | 2019     | 2018     | 2019       | 2018     | 2019      | 2018      | 2019      | 2018      |                     |  |
| Unconsolidated VIEs                          |                      |            |          |          |            |          |           |           |           |           |                     |  |
| Maximum loss exposure <sup>(1)</sup>         | \$ 12,554            | \$ 16,011  | \$ 340   | \$ 448   | \$ 1,622   | \$ 1,897 | \$ 98     | \$ 217    | \$ 1,036  | \$ 767    |                     |  |
| On-balance sheet assets                      |                      |            |          |          |            |          |           |           |           |           |                     |  |
| Senior securities                            |                      |            |          |          |            |          |           |           |           |           |                     |  |
| Trading account assets                       | \$ 627               | \$ 460     | \$ 5     | \$ 30    | \$ 54      | \$ 36    | \$ 24     | \$ 90     | \$ 65     | \$ 97     |                     |  |
| Debt securities carried at fair value        | 6,392                | 9,381      | 193      | 246      | 1,178      | 1,470    | 72        | 125       | —         | —         |                     |  |
| Held-to-maturity securities                  | 5,535                | 6,170      | —        | —        | —          | —        | —         | —         | 809       | 528       |                     |  |
| All other assets                             | —                    | —          | 2        | 3        | 49         | 37       | 2         | 2         | 38        | 40        |                     |  |
| Total retained positions                     | \$ 12,554            | \$ 16,011  | \$ 200   | \$ 279   | \$ 1,281   | \$ 1,543 | \$ 98     | \$ 217    | \$ 912    | \$ 665    |                     |  |
| Principal balance outstanding <sup>(2)</sup> | \$ 160,226           | \$ 187,512 | \$ 7,268 | \$ 8,954 | \$ 8,594   | \$ 8,719 | \$ 19,878 | \$ 23,467 | \$ 60,129 | \$ 43,593 |                     |  |
| Consolidated VIEs                            |                      |            |          |          |            |          |           |           |           |           |                     |  |
| Maximum loss exposure <sup>(1)</sup>         | \$ 10,857            | \$ 13,296  | \$ 5     | \$ 7     | \$ 44      | \$ —     | \$ —      | \$ —      | \$ —      | \$ 76     |                     |  |
| On-balance sheet assets                      |                      |            |          |          |            |          |           |           |           |           |                     |  |
| Trading account assets                       | \$ 780               | \$ 1,318   | \$ 116   | \$ 150   | \$ 149     | \$ —     | \$ —      | \$ —      | \$ —      | \$ 76     |                     |  |
| Loans and leases, net                        | 9,917                | 11,858     | —        | —        | —          | —        | —         | —         | —         | —         |                     |  |
| All other assets                             | 161                  | 143        | —        | —        | —          | —        | —         | —         | —         | —         |                     |  |
| Total assets                                 | \$ 10,858            | \$ 13,319  | \$ 116   | \$ 150   | \$ 149     | \$ —     | \$ —      | \$ —      | \$ —      | \$ 76     |                     |  |
| Total liabilities                            | \$ 4                 | \$ 26      | \$ 111   | \$ 143   | \$ 105     | \$ —     | \$ —      | \$ —      | \$ —      | \$ —      |                     |  |

<sup>(1)</sup> Maximum loss exposure includes obligations under loss-sharing reinsurance and other arrangements for non-agency residential mortgage and commercial mortgage securitizations, but excludes the reserve for representations and warranties obligations and corporate guarantees and also excludes servicing advances and other servicing rights and obligations. For more information, see Note 13 – Commitments and Contingencies and Note 21 – Fair Value Measurements.

<sup>(2)</sup> Principal balance outstanding includes loans where the Corporation was the transferor to securitization VIEs with which it has continuing involvement, which may include servicing the loans.

## Other Asset-backed Securitizations

The following table summarizes select information related to home equity, credit card and other asset-backed VIEs in which the Corporation held a variable interest at December 31, 2019 and 2018.

### Home Equity Loan, Credit Card and Other Asset-backed VIEs

|                                            | Home Equity <sup>(1)</sup> |                 | Credit Card <sup>(2, 3)</sup> |                  | Resecuritization Trusts |                  | Municipal Bond Trusts |                 |
|--------------------------------------------|----------------------------|-----------------|-------------------------------|------------------|-------------------------|------------------|-----------------------|-----------------|
|                                            | December 31                |                 | December 31                   |                  | December 31             |                  | December 31           |                 |
| (Dollars in millions)                      | 2019                       | 2018            | 2019                          | 2018             | 2019                    | 2018             | 2019                  | 2018            |
| <b>Unconsolidated VIEs</b>                 |                            |                 |                               |                  |                         |                  |                       |                 |
| Maximum loss exposure                      | \$ 412                     | \$ 908          | \$ —                          | \$ —             | \$ 7,526                | \$ 7,647         | \$ 3,701              | \$ 2,150        |
| On-balance sheet assets                    |                            |                 |                               |                  |                         |                  |                       |                 |
| Senior securities <sup>(4)</sup>           |                            |                 |                               |                  |                         |                  |                       |                 |
| Trading account assets                     | \$ —                       | \$ —            | \$ —                          | \$ —             | \$ 2,188                | \$ 1,419         | \$ —                  | \$ 26           |
| Debt securities earned at fair value       | 11                         | 27              | —                             | —                | 1,126                   | 1,337            | —                     | —               |
| Held-to-maturity securities                | —                          | —               | —                             | —                | 4,212                   | 4,891            | —                     | —               |
| <b>Total retained positions</b>            | <b>\$ 11</b>               | <b>\$ 27</b>    | <b>\$ —</b>                   | <b>\$ —</b>      | <b>\$ 7,526</b>         | <b>\$ 7,647</b>  | <b>\$ —</b>           | <b>\$ 26</b>    |
| <b>Total assets of VIEs <sup>(5)</sup></b> | <b>\$ 1,023</b>            | <b>\$ 1,813</b> | <b>\$ —</b>                   | <b>\$ —</b>      | <b>\$ 21,234</b>        | <b>\$ 16,949</b> | <b>\$ 4,395</b>       | <b>\$ 2,829</b> |
| <b>Consolidated VIEs</b>                   |                            |                 |                               |                  |                         |                  |                       |                 |
| Maximum loss exposure                      | \$ 64                      | \$ 85           | \$ 17,915                     | \$ 18,800        | \$ 54                   | \$ 128           | \$ 2,856              | \$ 1,540        |
| On-balance sheet assets                    |                            |                 |                               |                  |                         |                  |                       |                 |
| Trading account assets                     | \$ —                       | \$ —            | \$ —                          | \$ —             | \$ 73                   | \$ 366           | \$ 2,480              | \$ 1,553        |
| Loans and leases                           | 122                        | 133             | 26,985                        | 29,906           | —                       | —                | —                     | —               |
| Allowance for loan and lease losses        | (2)                        | (5)             | (800)                         | (901)            | —                       | —                | —                     | —               |
| All other assets                           | 3                          | 4               | 119                           | 136              | —                       | —                | 176                   | 1               |
| <b>Total assets</b>                        | <b>\$ 123</b>              | <b>\$ 132</b>   | <b>\$ 26,304</b>              | <b>\$ 29,141</b> | <b>\$ 73</b>            | <b>\$ 366</b>    | <b>\$ 2,656</b>       | <b>\$ 1,554</b> |
| On-balance sheet liabilities               |                            |                 |                               |                  |                         |                  |                       |                 |
| Short-term borrowings                      | \$ —                       | \$ —            | \$ —                          | \$ —             | \$ —                    | \$ —             | \$ 2,175              | \$ 742          |
| Long-term debt                             | 64                         | 55              | 8,372                         | 10,321           | 19                      | 238              | —                     | 12              |
| All other liabilities                      | —                          | —               | 17                            | 20               | —                       | —                | —                     | —               |
| <b>Total liabilities</b>                   | <b>\$ 64</b>               | <b>\$ 55</b>    | <b>\$ 8,389</b>               | <b>\$ 10,341</b> | <b>\$ 19</b>            | <b>\$ 238</b>    | <b>\$ 2,175</b>       | <b>\$ 754</b>   |

<sup>(1)</sup> For unconsolidated home equity loan VIEs, the maximum loss exposure includes outstanding trust certificates issued by trusts in rapid amortization, net of recorded reserves. For both consolidated and unconsolidated home equity loan VIEs, the maximum loss exposure excludes the reserve for representations and warranties obligations and corporate guarantees. For more information, see Note 13 - Commitments and Contingencies.

<sup>(2)</sup> At December 31, 2019 and 2018, loans and leases in the consolidated credit card trust included \$10.5 billion and \$11.0 billion of seller's interest.

<sup>(3)</sup> At December 31, 2019 and 2018, all other assets in the consolidated credit card trust included unbilled accrued interest and fees.

<sup>(4)</sup> The retained senior securities were valued using quoted market prices or observable market inputs (Level 2 of the fair value hierarchy).

<sup>(5)</sup> Total assets of VIEs includes loans the Corporation transferred with which it has continuing involvement, which may include servicing the loan.

### Home Equity Loans

The Corporation retains interests, primarily senior securities, in home equity securitization trusts to which it transferred home equity loans. In addition, the Corporation may be obligated to provide subordinate funding to the trusts during a rapid amortization event. This obligation is included in the maximum loss exposure in the table above. The charges that will ultimately be recorded as a result of the rapid amortization events depend on the undrawn portion of the home equity lines of credit (HELOCs), performance of the loans, the amount of subsequent draws and the timing of related cash flows.

### Credit Card Securitizations

The Corporation securitizes originated and purchased credit card loans. The Corporation's continuing involvement with the securitization trust includes servicing the receivables, retaining an undivided interest (seller's interest) in the receivables, and holding certain retained interests including subordinate interests in accrued interest and fees on the securitized receivables.

During 2019, 2018 and 2017, new senior debt securities issued to third-party investors from the credit card securitization trust were \$1.3 billion, \$4.0 billion and \$3.1 billion, respectively.

At December 31, 2019 and 2018, the Corporation held subordinate securities issued by the credit card securitization trust with a notional principal amount of \$7.4 billion and \$7.7 billion. These securities serve as a form of credit enhancement to the senior debt securities and have a stated interest rate of zero percent. During 2019, 2018 and 2017, the credit card securitization trust issued \$202 million, \$650 million and \$500 million, respectively, of these subordinate securities.

### Resecuritization Trusts

The Corporation transfers securities, typically MBS, into resecuritization VIEs at the request of customers seeking securities with specific characteristics. Generally, there are no significant ongoing activities performed in a resecuritization trust, and no single investor has the unilateral ability to liquidate the trust.

The Corporation resecuritized \$24.4 billion, \$22.8 billion and \$25.1 billion of securities during 2019, 2018 and 2017, respectively. Securities transferred into resecuritization VIEs were measured at fair value with changes in fair value recorded in market making and similar activities prior to the resecuritization and, accordingly, no gain or loss on sale was recorded. During 2019, 2018 and 2017, resecuritization proceeds included securities with an initial fair value of \$5.2 billion, \$4.1 billion and \$3.3 billion, respectively. Substantially all of the other securities received as resecuritization proceeds were classified as trading securities and were categorized as Level 2 within the fair value hierarchy.

### Municipal Bond Trusts

The Corporation administers municipal bond trusts that hold highly-rated, long-term, fixed-rate municipal bonds. The trusts obtain financing by issuing floating-rate trust certificates that reprice on a weekly or other short-term basis to third-party investors.

The Corporation's liquidity commitments to unconsolidated municipal bond trusts, including those for which the Corporation was transferor, totaled \$3.7 billion and \$2.1 billion at December 31, 2019 and 2018. The weighted-average remaining life of bonds held in the trusts at December 31, 2019 was 10.0 years. There were no significant write-downs or downgrades of assets or issuers during 2019, 2018 and 2017.

## Other Variable Interest Entities

The table below summarizes select information related to other VIEs in which the Corporation held a variable interest at December 31, 2019 and 2018.

### Other VIEs

|                                       | Consolidated      | Unconsolidated   | Total             | Consolidated      | Unconsolidated   | Total            |
|---------------------------------------|-------------------|------------------|-------------------|-------------------|------------------|------------------|
|                                       | December 31, 2019 |                  |                   | December 31, 2018 |                  |                  |
| (Dollars in millions)                 |                   |                  |                   |                   |                  |                  |
| <b>Maximum loss exposure</b>          | <b>\$ 4,055</b>   | <b>\$ 26,326</b> | <b>\$ 30,381</b>  | <b>\$ 4,177</b>   | <b>\$ 24,498</b> | <b>\$ 28,675</b> |
| On-balance sheet assets               |                   |                  |                   |                   |                  |                  |
| Trading account assets                | \$ 2,213          | \$ 549           | \$ 2,762          | \$ 2,335          | \$ 860           | \$ 3,195         |
| Debt securities carried at fair value | —                 | 74               | 74                | —                 | 84               | 84               |
| Loans and leases                      | 1,810             | 3,214            | 5,024             | 1,949             | 3,940            | 5,889            |
| Allowance for loan and lease losses   | (2)               | (38)             | (40)              | (2)               | (30)             | (32)             |
| All other assets                      | 81                | 20,547           | 20,628            | 53                | 18,885           | 18,938           |
| <b>Total</b>                          | <b>\$ 4,102</b>   | <b>\$ 24,346</b> | <b>\$ 28,448</b>  | <b>\$ 4,335</b>   | <b>\$ 23,739</b> | <b>\$ 28,074</b> |
| On-balance sheet liabilities          |                   |                  |                   |                   |                  |                  |
| Long-term debt                        | \$ 46             | \$ —             | \$ 46             | \$ 152            | \$ —             | \$ 152           |
| All other liabilities                 | 2                 | 5,087            | 5,089             | 7                 | 4,231            | 4,238            |
| <b>Total</b>                          | <b>\$ 48</b>      | <b>\$ 5,087</b>  | <b>\$ 5,135</b>   | <b>\$ 159</b>     | <b>\$ 4,231</b>  | <b>\$ 4,390</b>  |
| <b>Total assets of VIEs</b>           | <b>\$ 4,102</b>   | <b>\$ 98,491</b> | <b>\$ 102,593</b> | <b>\$ 4,335</b>   | <b>\$ 94,746</b> | <b>\$ 99,081</b> |

### Customer VIEs

Customer VIEs include credit-linked, equity-linked and commodity-linked note VIEs, repackaging VIEs and asset acquisition VIEs, which are typically created on behalf of customers who wish to obtain market or credit exposure to a specific company, index, commodity or financial instrument.

The Corporation's maximum loss exposure to consolidated and unconsolidated customer VIEs totaled \$2.2 billion and \$2.1 billion at December 31, 2019 and 2018, including the notional amount of derivatives to which the Corporation is a counterparty, net of losses previously recorded, and the Corporation's investment, if any, in securities issued by the VIEs.

### Collateralized Debt Obligation VIEs

The Corporation receives fees for structuring CDO VIEs, which hold diversified pools of fixed-income securities, typically corporate debt or ABS, which the CDO VIEs fund by issuing multiple tranches of debt and equity securities. CDOs are generally managed by third-party portfolio managers. The Corporation typically transfers assets to these CDOs, holds securities issued by the CDOs and may be a derivative counterparty to the CDOs. The Corporation's maximum loss exposure to consolidated and unconsolidated CDOs totaled \$304 million and \$421 million at December 31, 2019 and 2018.

### Investment VIEs

The Corporation sponsors, invests in or provides financing, which may be in connection with the sale of assets, to a variety of investment VIEs that hold loans, real estate, debt securities or other financial instruments and are designed to provide the desired investment profile to investors or the Corporation. At December 31, 2019 and 2018, the Corporation's consolidated investment VIEs had total assets of \$104 million and \$270 million. The Corporation also held investments in unconsolidated VIEs with total assets of \$32.4 billion and \$37.7 billion at December 31, 2019 and 2018. The Corporation's maximum loss exposure associated with both consolidated and unconsolidated investment VIEs totaled \$6.4 billion and \$7.2 billion at December 31, 2019 and 2018 comprised primarily of on-balance sheet assets less non-recourse liabilities.

### Leveraged Lease Trusts

The Corporation's net investment in consolidated leveraged lease trusts totaled \$1.7 billion and \$1.8 billion at December 31, 2019 and 2018. The trusts hold long-lived equipment such as rail cars, power generation and distribution equipment, and commercial aircraft. The Corporation structures the trusts and holds a significant residual interest. The net investment represents the Corporation's maximum loss exposure to the trusts in the unlikely event that the leveraged lease investments become worthless. Debt issued by the leveraged lease trusts is non-recourse to the Corporation.

### Tax Credit VIEs

The Corporation holds investments in unconsolidated limited partnerships and similar entities that construct, own and operate affordable housing, wind and solar projects. An unrelated third party is typically the general partner or managing member and has control over the significant activities of the VIE. The Corporation earns a return primarily through the receipt of tax credits allocated to the projects. The maximum loss exposure included in the Other VIEs table was \$18.9 billion and \$17.0 billion at December 31, 2019 and 2018. The Corporation's risk of loss is generally mitigated by policies requiring that the project qualify for the expected tax credits prior to making its investment.

The Corporation's investments in affordable housing partnerships, which are reported in other assets on the Consolidated Balance Sheet, totaled \$10.0 billion and \$8.9 billion, including unfunded commitments to provide capital contributions of \$4.3 billion and \$3.8 billion at December 31, 2019 and 2018. The unfunded commitments are expected to be paid over the next five years. During 2019, 2018 and 2017, the Corporation recognized tax credits and other tax benefits from investments in affordable housing partnerships of \$1.0 billion, \$981 million and \$1.0 billion and reported pretax losses in other income of \$882 million, \$798 million and \$766 million, respectively. Tax credits are recognized as part of the Corporation's annual effective tax rate used to determine tax expense in a given quarter. Accordingly, the portion of a year's expected tax benefits recognized in any given quarter may differ from 25 percent. The Corporation may from time to time be asked to invest additional amounts to support a troubled affordable housing project. Such additional investments have not been and are not expected to be significant.

## NOTE 8 Goodwill and Intangible Assets

### Goodwill

The table below presents goodwill balances by business segment and *All Other* at December 31, 2019 and 2018. The reporting units utilized for goodwill impairment testing are the operating segments or one level below.

#### Goodwill

|                                       | December 31      |                  |
|---------------------------------------|------------------|------------------|
|                                       | 2019             | 2018             |
| (Dollars in millions)                 |                  |                  |
| Consumer Banking                      | \$ 30,123        | \$ 30,123        |
| Global Wealth & Investment Management | 9,677            | 9,677            |
| Global Banking                        | 23,923           | 23,923           |
| Global Markets                        | 5,182            | 5,182            |
| All Other                             | 46               | 46               |
| <b>Total goodwill</b>                 | <b>\$ 68,951</b> | <b>\$ 68,951</b> |

During 2019, the Corporation completed its annual goodwill impairment test as of June 30, 2019 using qualitative assessments for all applicable reporting units. Based on the results of the annual goodwill impairment test, the Corporation determined there was no impairment. For more information on the use of qualitative assessments, see *Note 1 - Summary of Significant Accounting Principles*.

### Intangible Assets

At December 31, 2019 and 2018, the net carrying value of intangible assets was \$1.7 billion and \$1.8 billion. At December 31, 2019 and 2018, intangible assets included \$1.6 billion of intangible assets associated with trade names, substantially all of which had an indefinite life and, accordingly, are not being amortized. Amortization of intangibles expense was \$112 million, \$538 million and \$621 million for 2019, 2018 and 2017, respectively.

## NOTE 9 Leases

The Corporation enters into both lessor and lessee arrangements. For more information on lease accounting, see *Note 1 - Summary of Significant Accounting Principles*, and on lease financing receivables, see *Note 5 - Outstanding Loans and Leases*.

### Lessor Arrangements

The Corporation's lessor arrangements primarily consist of operating, sales-type and direct financing leases for equipment. Lease agreements may include options to renew and for the lessee to purchase the leased equipment at the end of the lease term.

At December 31, 2019, the total net investment in sales-type and direct financing leases was \$21.9 billion, comprised of \$19.3 billion in lease receivables and \$2.6 billion in unguaranteed residuals. In certain cases, the Corporation obtains third-party residual value insurance to reduce its residual asset risk. The carrying value of residual assets with third-party residual value insurance for at least a portion of the asset value was \$5.8 billion.

For 2019, total lease income was \$1.7 billion, consisting of \$797 million from sales-type and direct financing leases and \$891 million from operating leases.

### Lessee Arrangements

The Corporation's lessee arrangements predominantly consist of operating leases for premises and equipment; the Corporation's

financing leases are not significant. Right-of-use assets were \$9.7 billion and lease liabilities were \$10.1 billion at December 31, 2019. The weighted-average discount rate used to calculate the present value of future minimum lease payments was four percent.

Lease terms may contain renewal and extension options and early termination features. Generally, these options do not impact the lease term because the Corporation is not reasonably certain that it will exercise the options. The weighted-average lease term was 8.2 years at December 31, 2019.

The table below provides the components of lease cost and supplemental information for 2019.

#### Lease Cost and Supplemental Information for 2019

|                                        |           |              |
|----------------------------------------|-----------|--------------|
| (Dollars in millions)                  |           |              |
| Operating lease cost                   | \$        | 2,085        |
| Variable lease cost <sup>(1)</sup>     |           | 498          |
| <b>Total lease cost <sup>(2)</sup></b> | <b>\$</b> | <b>2,583</b> |

|                                                                                             |    |              |
|---------------------------------------------------------------------------------------------|----|--------------|
| Right-of-use assets obtained in exchange for new operating lease liabilities <sup>(3)</sup> | \$ | 931          |
| <b>Operating cash flows from operating leases <sup>(4)</sup></b>                            |    | <b>2,009</b> |

<sup>(1)</sup> Primarily consists of payments for common area maintenance and property taxes.

<sup>(2)</sup> Amounts are recorded in occupancy and equipment expense in the Consolidated Statement of Income.

<sup>(3)</sup> Represents non-cash activity and, accordingly, is not reflected in the Consolidated Statement of Cash Flows.

<sup>(4)</sup> Represents cash paid for amounts included in the measurement of lease liabilities.

### Maturity Analysis

The maturities of lessor and lessee arrangements outstanding at December 31, 2019 are presented in the table below based on undiscounted cash flows.

#### Maturities of Lessor and Lessee Arrangements

|                                    | Lessor            |                                                       | Lessee <sup>(1)</sup> |               |
|------------------------------------|-------------------|-------------------------------------------------------|-----------------------|---------------|
|                                    | Operating Leases  | Sales-type and Direct Financing Leases <sup>(2)</sup> | Operating Leases      |               |
| (Dollars in millions)              | December 31, 2019 |                                                       |                       |               |
| 2020                               | \$ 843            | \$ 4,657                                              | \$                    | 1,966         |
| 2021                               | 746               | 4,887                                                 |                       | 1,763         |
| 2022                               | 651               | 4,259                                                 |                       | 1,502         |
| 2023                               | 530               | 3,416                                                 |                       | 1,240         |
| 2024                               | 397               | 1,939                                                 |                       | 1,098         |
| Thereafter                         | 1,057             | 1,910                                                 |                       | 4,225         |
| Total undiscounted cash flows      | \$ 4,224          | 21,068                                                |                       | 11,794        |
| Less: Net present value adjustment |                   | 1,756                                                 |                       | 1,701         |
| <b>Total <sup>(3)</sup></b>        |                   | <b>\$ 19,312</b>                                      | <b>\$</b>             | <b>10,093</b> |

<sup>(1)</sup> Excludes \$1.5 billion in commitments under lessee arrangements that have not yet commenced with lease terms that will begin in 2020.

<sup>(2)</sup> Includes \$15.1 billion in commercial lease financing receivables and \$4.2 billion in direct/indirect consumer lease financing receivables.

<sup>(3)</sup> Represents lease receivables for lessor arrangements and lease liabilities for lessee arrangements.

At December 31, 2018, operating lease commitments under lessee arrangements were \$2.4 billion, \$2.2 billion, \$2.0 billion, \$1.7 billion and \$1.3 billion for 2019 through 2023, respectively, and \$6.2 billion in the aggregate for all years thereafter. These amounts include variable lease payments and commitments under leases that have not yet commenced, both of which are excluded from the lessee maturity analysis presented in the table above.

## NOTE 10 Deposits

The table below presents information about the Corporation's time deposits of \$100 thousand or more at December 31, 2019 and 2018. The Corporation also had aggregate time deposits of \$15.8 billion and \$16.4 billion in denominations that met or exceeded the Federal Deposit Insurance Corporation (FDIC) insurance limit at December 31, 2019 and 2018.

### Time Deposits of \$100 Thousand or More

|                                                          | December 31, 2019    |                                    |            |           | December 31, 2018 |
|----------------------------------------------------------|----------------------|------------------------------------|------------|-----------|-------------------|
|                                                          | Three Months or Less | Over Three Months to Twelve Months | Thereafter | Total     | Total             |
| (Dollars in millions)                                    |                      |                                    |            |           |                   |
| U.S. certificates of deposit and other time deposits     | \$ 16,115            | \$ 21,351                          | \$ 2,273   | \$ 39,739 | \$ 29,505         |
| Non-U.S. certificates of deposit and other time deposits | 7,108                | 4,821                              | 1,105      | 13,034    | 10,792            |

The scheduled contractual maturities for total time deposits at December 31, 2019 are presented in the table below.

### Contractual Maturities of Total Time Deposits

| (Dollars in millions) | U.S.      | Non-U.S.  | Total     |
|-----------------------|-----------|-----------|-----------|
| Due in 2020           | \$ 56,351 | \$ 12,000 | \$ 68,351 |
| Due in 2021           | 3,503     | 101       | 3,604     |
| Due in 2022           | 990       | 18        | 1,008     |
| Due in 2023           | 280       | 15        | 295       |
| Due in 2024           | 187       | 981       | 1,168     |
| Thereafter            | 212       | 35        | 247       |
| Total time deposits   | \$ 61,523 | \$ 13,150 | \$ 74,673 |

## NOTE 11 Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash

The table below presents federal funds sold or purchased, securities financing agreements (which include securities borrowed or purchased under agreements to resell and securities loaned or sold under agreements to repurchase) and short-term borrowings. The Corporation elects to account for certain securities financing agreements and short-term borrowings under the fair value option. For more information on the fair value option, see Note 22 – Fair Value Option.

|                                                                                             | 2019       |       | 2018       |       |
|---------------------------------------------------------------------------------------------|------------|-------|------------|-------|
|                                                                                             | Amount     | Rate  | Amount     | Rate  |
| (Dollars in millions)                                                                       |            |       |            |       |
| <b>Federal funds sold and securities borrowed or purchased under agreements to resell</b>   |            |       |            |       |
| Average during year                                                                         | \$ 279,610 | 1.73% | \$ 251,328 | 1.26% |
| Maximum month-end balance during year                                                       | 281,684    | n/a   | 279,350    | n/a   |
| <b>Federal funds purchased and securities loaned or sold under agreements to repurchase</b> |            |       |            |       |
| Average during year                                                                         | \$ 201,797 | 2.31% | \$ 193,681 | 1.80% |
| Maximum month-end balance during year                                                       | 203,063    | n/a   | 201,089    | n/a   |
| <b>Short-term borrowings</b>                                                                |            |       |            |       |
| Average during year                                                                         | 24,301     | 2.42  | 36,021     | 2.69  |
| Maximum month-end balance during year                                                       | 36,538     | n/a   | 52,480     | n/a   |

n/a = not applicable

Bank of America, N.A. maintains a global program to offer up to a maximum of \$75 billion outstanding at any one time, of bank notes with fixed or floating rates and maturities of at least seven days from the date of issue. Short-term bank notes outstanding under this program totaled \$11.7 billion and \$12.1 billion at December 31, 2019 and 2018. These short-term bank notes, along with Federal Home Loan Bank advances, U.S. Treasury tax and loan notes, and term federal funds purchased, are included in short-term borrowings on the Consolidated Balance Sheet.

### Offsetting of Securities Financing Agreements

The Corporation enters into securities financing agreements to accommodate customers (also referred to as "matched-book transactions"), obtain securities to cover short positions and finance inventory positions. Substantially all of the Corporation's securities financing activities are transacted under legally enforceable master repurchase agreements or legally enforceable master securities lending agreements that give the Corporation,

in the event of default by the counterparty, the right to liquidate securities held and to offset receivables and payables with the same counterparty. The Corporation offsets securities financing transactions with the same counterparty on the Consolidated Balance Sheet where it has such a legally enforceable master netting agreement and the transactions have the same maturity date.

The Securities Financing Agreements table presents securities financing agreements included on the Consolidated Balance Sheet in federal funds sold and securities borrowed or purchased under agreements to resell, and in federal funds purchased and securities loaned or sold under agreements to repurchase at December 31, 2019 and 2018. Balances are presented on a gross basis, prior to the application of counterparty netting. Gross assets and liabilities are adjusted on an aggregate basis to take into consideration the effects of legally enforceable master netting agreements. For more information on the offsetting of derivatives, see Note 3 – Derivatives.

## Securities Financing Agreements

|                                                                            | Gross Assets/<br>Liabilities <sup>(1)</sup> | Amounts Offset      | Net Balance<br>Sheet Amount | Financial<br>Instruments <sup>(2)</sup> | Net Assets/<br>Liabilities |
|----------------------------------------------------------------------------|---------------------------------------------|---------------------|-----------------------------|-----------------------------------------|----------------------------|
| (Dollars in millions)                                                      | December 31, 2019                           |                     |                             |                                         |                            |
| Securities borrowed or purchased under agreements to resell <sup>(3)</sup> | \$ 434,257                                  | \$ (159,660)        | \$ 274,597                  | \$ (244,486)                            | \$ 30,111                  |
| Securities loaned or sold under agreements to repurchase                   | \$ 324,769                                  | \$ (159,660)        | \$ 165,109                  | \$ (141,482)                            | \$ 23,627                  |
| Other <sup>(4)</sup>                                                       | 15,346                                      | —                   | 15,346                      | (15,346)                                | —                          |
| <b>Total</b>                                                               | <b>\$ 340,115</b>                           | <b>\$ (159,660)</b> | <b>\$ 180,455</b>           | <b>\$ (156,828)</b>                     | <b>\$ 23,627</b>           |
|                                                                            | December 31, 2018                           |                     |                             |                                         |                            |
| Securities borrowed or purchased under agreements to resell <sup>(3)</sup> | \$ 366,274                                  | \$ (106,865)        | \$ 259,409                  | \$ (240,790)                            | \$ 18,619                  |
| Securities loaned or sold under agreements to repurchase                   | \$ 293,853                                  | \$ (106,865)        | \$ 186,988                  | \$ (176,740)                            | \$ 10,248                  |
| Other <sup>(4)</sup>                                                       | 19,906                                      | —                   | 19,906                      | (19,906)                                | —                          |
| <b>Total</b>                                                               | <b>\$ 313,759</b>                           | <b>\$ (106,865)</b> | <b>\$ 206,894</b>           | <b>\$ (196,646)</b>                     | <b>\$ 10,248</b>           |

<sup>(1)</sup> Includes activity where uncertainty exists as to the enforceability of certain master netting agreements under bankruptcy laws in some countries or industries.

<sup>(2)</sup> Includes securities collateral received or pledged under repurchase or securities lending agreements where there is a legally enforceable master netting agreement. These amounts are not offset on the Consolidated Balance Sheet, but are shown as a reduction to derive a net asset or liability. Securities collateral received or pledged where the legal enforceability of the master netting agreements is uncertain is excluded from the table.

<sup>(3)</sup> Excludes repurchase activity of \$12.9 billion and \$11.5 billion reported in loans and leases on the Consolidated Balance Sheet at December 31, 2019 and 2018.

<sup>(4)</sup> Balance is reported in accrued expenses and other liabilities on the Consolidated Balance Sheet and relates to transactions where the Corporation acts as the lender in a securities lending agreement and receives securities that can be pledged as collateral or sold. In these transactions, the Corporation recognizes an asset at fair value, representing the securities received, and a liability, representing the obligation to return those securities.

## Repurchase Agreements and Securities Loaned Transactions Accounted for as Secured Borrowings

The following tables present securities sold under agreements to repurchase and securities loaned by remaining contractual term to maturity and class of collateral pledged. Included in "Other" are transactions where the Corporation acts as the lender in a

securities lending agreement and receives securities that can be pledged as collateral or sold. Certain agreements contain a right to substitute collateral and/or terminate the agreement prior to maturity at the option of the Corporation or the counterparty. Such agreements are included in the table below based on the remaining contractual term to maturity.

## Remaining Contractual Maturity

|                                                | Overnight and<br>Continuous | 30 Days or Less   | After 30 Days<br>Through 90 Days | Greater than<br>90 Days <sup>(1)</sup> | Total             |
|------------------------------------------------|-----------------------------|-------------------|----------------------------------|----------------------------------------|-------------------|
| (Dollars in millions)                          | December 31, 2019           |                   |                                  |                                        |                   |
| Securities sold under agreements to repurchase | \$ 129,455                  | \$ 122,685        | \$ 25,322                        | \$ 21,922                              | \$ 299,384        |
| Securities loaned                              | 18,766                      | 3,329             | 1,241                            | 2,049                                  | 25,385            |
| Other                                          | 15,346                      | —                 | —                                | —                                      | 15,346            |
| <b>Total</b>                                   | <b>\$ 163,567</b>           | <b>\$ 126,014</b> | <b>\$ 26,563</b>                 | <b>\$ 23,971</b>                       | <b>\$ 340,115</b> |
|                                                | December 31, 2018           |                   |                                  |                                        |                   |
| Securities sold under agreements to repurchase | \$ 139,017                  | \$ 81,917         | \$ 34,204                        | \$ 21,476                              | \$ 276,614        |
| Securities loaned                              | 7,753                       | 4,197             | 1,783                            | 3,506                                  | 17,239            |
| Other                                          | 19,906                      | —                 | —                                | —                                      | 19,906            |
| <b>Total</b>                                   | <b>\$ 166,676</b>           | <b>\$ 86,114</b>  | <b>\$ 35,987</b>                 | <b>\$ 24,982</b>                       | <b>\$ 313,759</b> |

<sup>(1)</sup> No agreements have maturities greater than three years.

## Class of Collateral Pledged

|                                               | Securities Sold<br>Under Agreements<br>to Repurchase | Securities<br>Loaned | Other            | Total             |
|-----------------------------------------------|------------------------------------------------------|----------------------|------------------|-------------------|
| (Dollars in millions)                         | December 31, 2019                                    |                      |                  |                   |
| U.S. government and agency securities         | \$ 173,533                                           | \$ 1                 | \$ —             | \$ 173,534        |
| Corporate securities, trading loans and other | 10,467                                               | 2,014                | 258              | 12,739            |
| Equity securities                             | 14,933                                               | 20,026               | 15,024           | 49,983            |
| Non-U.S. sovereign debt                       | 96,576                                               | 3,344                | 64               | 99,984            |
| Mortgage trading loans and ABS                | 3,875                                                | —                    | —                | 3,875             |
| <b>Total</b>                                  | <b>\$ 299,384</b>                                    | <b>\$ 25,385</b>     | <b>\$ 15,346</b> | <b>\$ 340,115</b> |
|                                               | December 31, 2018                                    |                      |                  |                   |
| U.S. government and agency securities         | \$ 164,664                                           | \$ —                 | \$ —             | \$ 164,664        |
| Corporate securities, trading loans and other | 11,400                                               | 2,163                | 287              | 13,850            |
| Equity securities                             | 14,090                                               | 10,869               | 19,572           | 44,531            |
| Non-U.S. sovereign debt                       | 81,329                                               | 4,207                | 47               | 85,583            |
| Mortgage trading loans and ABS                | 5,131                                                | —                    | —                | 5,131             |
| <b>Total</b>                                  | <b>\$ 276,614</b>                                    | <b>\$ 17,239</b>     | <b>\$ 19,906</b> | <b>\$ 313,759</b> |

Under repurchase agreements, the Corporation is required to post collateral with a market value equal to or in excess of the principal amount borrowed. For securities loaned transactions, the Corporation receives collateral in the form of cash, letters of credit or other securities. To determine whether the market value of the underlying collateral remains sufficient, collateral is generally valued daily, and the Corporation may be required to deposit additional collateral or may receive or return collateral pledged when appropriate. Repurchase agreements and securities loaned transactions are generally either overnight, continuous (i.e., no stated term) or short-term. The Corporation manages liquidity risks related to these agreements by sourcing funding from a diverse

group of counterparties, providing a range of securities collateral and pursuing longer durations, when appropriate.

### Restricted Cash

At December 31, 2019 and 2018, the Corporation held restricted cash included within cash and cash equivalents on the Consolidated Balance Sheet of \$24.4 billion and \$22.6 billion, predominantly related to cash held on deposit with the Federal Reserve Bank and non-U.S. central banks to meet reserve requirements and cash segregated in compliance with securities regulations.

## NOTE 12 Long-term Debt

Long-term debt consists of borrowings having an original maturity of one year or more. The table below presents the balance of long-term debt at December 31, 2019 and 2018, and the related contractual rates and maturity dates as of December 31, 2019.

| (Dollars in millions)                                             | Weighted-average Rate | Interest Rates | Maturity Dates | December 31       |                   |
|-------------------------------------------------------------------|-----------------------|----------------|----------------|-------------------|-------------------|
|                                                                   |                       |                |                | 2019              | 2018              |
| <b>Notes issued by Bank of America Corporation <sup>(1)</sup></b> |                       |                |                |                   |                   |
| Senior notes:                                                     |                       |                |                |                   |                   |
| Fixed                                                             | 3.30 %                | 0.25 - 8.05 %  | 2020 - 2050    | \$ 140,265        | \$ 120,548        |
| Floating                                                          | 1.81                  | 0.25 - 6.68    | 2020 - 2044    | 19,552            | 25,574            |
| Senior structured notes                                           |                       |                |                | 16,941            | 13,815            |
| Subordinated notes:                                               |                       |                |                |                   |                   |
| Fixed                                                             | 4.89                  | 2.94 - 8.57    | 2021 - 2045    | 21,632            | 20,843            |
| Floating                                                          | 2.74                  | 2.56 - 2.89    | 2022 - 2026    | 782               | 1,742             |
| Junior subordinated notes:                                        |                       |                |                |                   |                   |
| Fixed                                                             | 6.71                  | 6.45 - 8.05    | 2027 - 2066    | 736               | 732               |
| Floating <sup>(2)</sup>                                           | 2.71                  | 2.71           | 2056           | 1                 | 1                 |
| <b>Total notes issued by Bank of America Corporation</b>          |                       |                |                | <b>199,909</b>    | <b>183,255</b>    |
| <b>Notes issued by Bank of America, N.A.</b>                      |                       |                |                |                   |                   |
| Senior notes:                                                     |                       |                |                |                   |                   |
| Fixed                                                             | 3.34                  | 3.34           | 2023           | 508               | —                 |
| Floating                                                          | 2.18                  | 1.99 - 2.51    | 2020 - 2041    | 6,519             | 1,770             |
| Subordinated notes                                                | 6.00                  | 6.00           | 2036           | 1,744             | 1,617             |
| Advances from Federal Home Loan Banks:                            |                       |                |                |                   |                   |
| Fixed                                                             | 4.98                  | 0.01 - 7.72    | 2020 - 2034    | 112               | 130               |
| Floating                                                          | 1.79                  | 1.77 - 1.84    | 2020           | 2,500             | 14,751            |
| Securitizations and other BANA VIEs <sup>(3)</sup>                |                       |                |                | 8,373             | 10,326            |
| Other                                                             |                       |                |                | 402               | 442               |
| <b>Total notes issued by Bank of America, N.A.</b>                |                       |                |                | <b>20,158</b>     | <b>29,036</b>     |
| <b>Other debt</b>                                                 |                       |                |                |                   |                   |
| Structured liabilities                                            |                       |                |                | 20,442            | 16,483            |
| Nonbank VIEs <sup>(3)</sup>                                       |                       |                |                | 347               | 618               |
| <b>Total other debt</b>                                           |                       |                |                | <b>20,789</b>     | <b>17,101</b>     |
| <b>Total long-term debt</b>                                       |                       |                |                | <b>\$ 240,856</b> | <b>\$ 229,392</b> |

<sup>(1)</sup> Includes total loss-absorbing capacity compliant debt

<sup>(2)</sup> Includes amounts related to trust preferred securities. For more information, see Trust Preferred Securities in this Note

<sup>(3)</sup> Represents liabilities of consolidated VIEs included in total long-term debt on the Consolidated Balance Sheet.

During 2019, the Corporation issued \$52.5 billion of long-term debt consisting of \$29.3 billion of notes issued by Bank of America Corporation, \$10.9 billion of notes issued by Bank of America, N.A. and \$12.3 billion of other debt, substantially all of which was structured liabilities. During 2018, the Corporation issued \$64.4 billion of long-term debt consisting of \$30.7 billion of notes issued by Bank of America Corporation, \$18.7 billion of notes issued by Bank of America, N.A. and \$15.0 billion of other debt, substantially all of which was structured liabilities.

During 2019, the Corporation had total long-term debt maturities and redemptions in the aggregate of \$50.6 billion consisting of \$21.1 billion for Bank of America Corporation, \$19.9 billion for Bank of America, N.A. and \$9.6 billion of other debt. During 2018, the Corporation had total long-term debt maturities and redemptions in the aggregate of \$53.3 billion consisting of \$29.8 billion for Bank of America Corporation, \$11.2 billion for Bank of America, N.A. and \$12.3 billion of other debt.

Bank of America Corporation and Bank of America, N.A. maintain various U.S. and non-U.S. debt programs to offer both senior and subordinated notes. The notes may be denominated in U.S. dollars or foreign currencies. At December 31, 2019 and 2018, the amount of foreign currency-denominated debt translated into U.S. dollars included in total long-term debt was \$49.6 billion and \$48.6 billion. Foreign currency contracts may be used to convert certain foreign currency-denominated debt into U.S. dollars.

At December 31, 2019, long-term debt of consolidated VIEs in the table above included debt from credit card, residential mortgage, home equity, other VIEs and ABS of \$8.4 billion, \$217 million, \$64 million, \$46 million and \$19 million, respectively. Long-term debt of VIEs is collateralized by the assets of the VIEs. For more information, see Note 7 – Securitizations and Other Variable Interest Entities.

The weighted-average effective interest rates for total long-term debt (excluding senior structured notes), total fixed-rate debt and total floating-rate debt were 3.26 percent, 3.55 percent and 1.92 percent, respectively, at December 31, 2019, and 3.29 percent, 3.66 percent and 2.26 percent, respectively, at December 31, 2018. The Corporation's ALM activities maintain an overall interest rate risk management strategy that incorporates the use of interest rate contracts to manage fluctuations in earnings that are caused by interest rate volatility. The Corporation's goal is to manage interest rate sensitivity so that movements in interest rates do not significantly adversely affect earnings and capital. The weighted-average rates are the contractual interest rates on the debt and do not reflect the impacts of derivative transactions.

Debt outstanding of \$5.7 billion at December 31, 2019 was issued by BofA Finance LLC, a 100 percent owned finance

subsidiary of Bank of America Corporation, the parent company, and is fully and unconditionally guaranteed by the parent company.

The table below shows the carrying value for aggregate annual contractual maturities of long-term debt as of December 31, 2019. Included in the table are certain structured notes issued by the Corporation that contain provisions whereby the borrowings are redeemable at the option of the holder (put options) at specified dates prior to maturity. Other structured notes have coupon or repayment terms linked to the performance of debt or equity securities, indices, currencies or commodities, and the maturity may be accelerated based on the value of a referenced index or security. In both cases, the Corporation or a subsidiary may be required to settle the obligation for cash or other securities prior to the contractual maturity date. These borrowings are reflected in the table as maturing at their contractual maturity date.

### Long-term Debt by Maturity

| (Dollars in millions)                              | 2020             | 2021             | 2022             | 2023             | 2024             | Thereafter        | Total             |
|----------------------------------------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
| <b>Bank of America Corporation</b>                 |                  |                  |                  |                  |                  |                   |                   |
| Senior notes                                       | \$ 9,312         | \$ 15,978        | \$ 14,875        | \$ 23,045        | \$ 17,236        | \$ 79,371         | \$ 159,817        |
| Senior structured notes                            | 822              | 453              | 2,232            | 288              | 547              | 12,599            | 16,941            |
| Subordinated notes                                 | —                | 360              | 386              | —                | 3,213            | 18,455            | 22,414            |
| Junior subordinated notes <sup>(1)</sup>           | —                | —                | —                | —                | —                | 737               | 737               |
| <b>Total Bank of America Corporation</b>           | <b>10,134</b>    | <b>16,791</b>    | <b>17,493</b>    | <b>23,333</b>    | <b>20,996</b>    | <b>111,162</b>    | <b>199,909</b>    |
| <b>Bank of America, N.A.</b>                       |                  |                  |                  |                  |                  |                   |                   |
| Senior notes                                       | 3,000            | 3,499            | —                | 509              | —                | 19                | 7,027             |
| Subordinated notes                                 | —                | —                | —                | —                | —                | 1,744             | 1,744             |
| Advances from Federal Home Loan Banks              | 2,509            | 2                | 3                | 1                | —                | 97                | 2,612             |
| Securitizations and other Bank VIEs <sup>(2)</sup> | 3,099            | 4,080            | 1,185            | 9                | —                | —                 | 8,373             |
| Other                                              | 134              | 55               | —                | 130              | —                | 83                | 402               |
| <b>Total Bank of America, N.A.</b>                 | <b>8,742</b>     | <b>7,636</b>     | <b>1,188</b>     | <b>649</b>       | <b>—</b>         | <b>1,943</b>      | <b>20,158</b>     |
| <b>Other debt</b>                                  |                  |                  |                  |                  |                  |                   |                   |
| Structured liabilities                             | 5,275            | 1,884            | 1,057            | 1,372            | 745              | 10,109            | 20,442            |
| Nonbank VIEs <sup>(2)</sup>                        | —                | —                | —                | 1                | —                | 346               | 347               |
| <b>Total other debt</b>                            | <b>5,275</b>     | <b>1,884</b>     | <b>1,057</b>     | <b>1,373</b>     | <b>745</b>       | <b>10,455</b>     | <b>20,789</b>     |
| <b>Total long-term debt</b>                        | <b>\$ 24,151</b> | <b>\$ 26,311</b> | <b>\$ 19,738</b> | <b>\$ 25,355</b> | <b>\$ 21,741</b> | <b>\$ 123,560</b> | <b>\$ 240,856</b> |

<sup>(1)</sup> Includes amounts related to trust preferred securities. For more information, see Trust Preferred Securities in this Note.

<sup>(2)</sup> Represents liabilities of consolidated VIEs included in total long-term debt on the Consolidated Balance Sheet

### Trust Preferred Securities

At December 31, 2019, trust preferred securities (Trust Securities) with a carrying value of \$1 million, issued by BAC Capital Trust XV (the Trust), a 100 percent owned, non-consolidated finance subsidiary of the Corporation, were issued and outstanding. The Trust Securities are mandatorily redeemable preferred security obligations of the Trust. The sole asset of the Trust is a junior subordinated deferrable interest note of the Corporation (the Note).

Periodic cash payments and payments upon liquidation or redemption with respect to Trust Securities are guaranteed by the Corporation to the extent of funds held by the Trust (the Preferred Securities Guarantee). The Preferred Securities Guarantee, when taken together with the Corporation's other obligations including its obligations under the Note, generally will constitute a full and unconditional guarantee, on a subordinated basis, by the Corporation of payments due on the Trust Securities.

### NOTE 13 Commitments and Contingencies

In the normal course of business, the Corporation enters into a number of off-balance sheet commitments. These commitments expose the Corporation to varying degrees of credit and market risk and are subject to the same credit and market risk limitation

reviews as those instruments recorded on the Consolidated Balance Sheet.

### Credit Extension Commitments

The Corporation enters into commitments to extend credit such as loan commitments, SBLCs and commercial letters of credit to meet the financing needs of its customers. The following table includes the notional amount of unfunded legally binding lending commitments net of amounts distributed (i.e., syndicated or participated) to other financial institutions. The distributed amounts were \$10.6 billion and \$10.7 billion at December 31, 2019 and 2018. At December 31, 2019, the carrying value of these commitments, excluding commitments accounted for under the fair value option, was \$829 million, including deferred revenue of \$16 million and a reserve for unfunded lending commitments of \$813 million. At December 31, 2018, the comparable amounts were \$813 million, \$16 million and \$797 million, respectively. The carrying value of these commitments is classified in accrued expenses and other liabilities on the Consolidated Balance Sheet.

Legally binding commitments to extend credit generally have specified rates and maturities. Certain of these commitments have adverse change clauses that help to protect the Corporation against deterioration in the borrower's ability to pay.

The table below includes the notional amount of commitments of \$4.4 billion and \$3.1 billion at December 31, 2019 and 2018 that are accounted for under the fair value option. However, the table excludes cumulative net fair value of \$90 million and \$169 million at December 31, 2019 and 2018 on these commitments,

which is classified in accrued expenses and other liabilities. For more information regarding the Corporation's loan commitments accounted for under the fair value option, see *Note 22 – Fair Value Option*.

### Credit Extension Commitments

|                                                                   | Expire in One<br>Year or Less | Expire After One<br>Year Through<br>Three Years | Expire After Three<br>Years Through<br>Five Years | Expire After<br>Five Years | Total             |
|-------------------------------------------------------------------|-------------------------------|-------------------------------------------------|---------------------------------------------------|----------------------------|-------------------|
| (Dollars in millions)                                             |                               |                                                 |                                                   |                            |                   |
| December 31, 2019                                                 |                               |                                                 |                                                   |                            |                   |
| <b>Notional amount of credit extension commitments</b>            |                               |                                                 |                                                   |                            |                   |
| Loan commitments <sup>(1)</sup>                                   | \$ 97,454                     | \$ 148,000                                      | \$ 173,699                                        | \$ 24,487                  | \$ 443,640        |
| Home equity lines of credit                                       | 1,137                         | 1,948                                           | 6,351                                             | 34,134                     | 43,570            |
| Standby letters of credit and financial guarantees <sup>(2)</sup> | 21,311                        | 11,512                                          | 3,712                                             | 408                        | 36,943            |
| Letters of credit <sup>(3)</sup>                                  | 1,156                         | 254                                             | 65                                                | 25                         | 1,500             |
| Legally binding commitments                                       | 121,058                       | 161,714                                         | 183,827                                           | 59,054                     | 525,653           |
| Credit card lines <sup>(4)</sup>                                  | 376,067                       | —                                               | —                                                 | —                          | 376,067           |
| <b>Total credit extension commitments</b>                         | <b>\$ 497,125</b>             | <b>\$ 161,714</b>                               | <b>\$ 183,827</b>                                 | <b>\$ 59,054</b>           | <b>\$ 901,720</b> |
| December 31, 2018                                                 |                               |                                                 |                                                   |                            |                   |
| <b>Notional amount of credit extension commitments</b>            |                               |                                                 |                                                   |                            |                   |
| Loan commitments <sup>(1)</sup>                                   | \$ 84,910                     | \$ 142,271                                      | \$ 155,298                                        | \$ 22,683                  | \$ 405,162        |
| Home equity lines of credit                                       | 2,578                         | 2,249                                           | 3,530                                             | 34,702                     | 43,059            |
| Standby letters of credit and financial guarantees <sup>(2)</sup> | 22,571                        | 9,702                                           | 2,457                                             | 1,074                      | 35,804            |
| Letters of credit <sup>(3)</sup>                                  | 1,168                         | 84                                              | 69                                                | 57                         | 1,378             |
| Legally binding commitments                                       | 111,227                       | 154,306                                         | 161,354                                           | 58,516                     | 485,403           |
| Credit card lines <sup>(4)</sup>                                  | 371,658                       | —                                               | —                                                 | —                          | 371,658           |
| <b>Total credit extension commitments</b>                         | <b>\$ 482,885</b>             | <b>\$ 154,306</b>                               | <b>\$ 161,354</b>                                 | <b>\$ 58,516</b>           | <b>\$ 857,061</b> |

<sup>(1)</sup> At December 31, 2019 and 2018, \$5.1 billion and \$4.3 billion of these loan commitments are held in the form of a security.

<sup>(2)</sup> The notional amounts of SBLs and financial guarantees classified as investment grade and non-investment grade based on the credit quality of the underlying reference name within the instrument were \$27.9 billion and \$8.6 billion at December 31, 2019, and \$28.3 billion and \$7.1 billion at December 31, 2018. Amounts in the table include consumer SBLs of \$413 million and \$372 million at December 31, 2019 and 2018.

<sup>(3)</sup> At December 31, 2019 and 2018, included are letters of credit of \$1.4 billion and \$422 million related to certain liquidity commitments of VIEs. For more information, see *Note 7 – Securitizations and Other Variable Interest Entities*.

<sup>(4)</sup> Includes business card unused lines of credit.

### Other Commitments

At December 31, 2019 and 2018, the Corporation had commitments to purchase loans (e.g., residential mortgage and commercial real estate) of \$86 million and \$329 million, which upon settlement will be included in loans or LHFS, and commitments to purchase commercial loans of \$1.1 billion and \$463 million, which upon settlement will be included in trading account assets.

At December 31, 2019 and 2018, the Corporation had commitments to purchase commodities, primarily liquefied natural gas, of \$830 million and \$1.3 billion, which upon settlement will be included in trading account assets.

At December 31, 2019 and 2018, the Corporation had commitments to enter into resale and forward-dated resale and securities borrowing agreements of \$97.2 billion and \$59.7 billion, and commitments to enter into forward-dated repurchase and securities lending agreements of \$24.9 billion and \$21.2 billion. These commitments expire primarily within the next 12 months.

At December 31, 2019 and 2018, the Corporation had a commitment to originate or purchase up to \$3.3 billion and \$3.0 billion on a rolling 12-month basis, of auto loans and leases from a strategic partner. This commitment extends through November 2022 and can be terminated with 12 months prior notice.

### Other Guarantees

#### Bank-owned Life Insurance Book Value Protection

The Corporation sells products that offer book value protection to insurance carriers who offer group life insurance policies to corporations, primarily banks. At December 31, 2019 and 2018, the notional amount of these guarantees totaled \$7.3 billion and

\$9.8 billion. At December 31, 2019 and 2018, the Corporation's maximum exposure related to these guarantees totaled \$1.1 billion and \$1.5 billion, with estimated maturity dates between 2033 and 2039.

#### Indemnifications

In the ordinary course of business, the Corporation enters into various agreements that contain indemnifications, such as tax indemnifications, whereupon payment may become due if certain external events occur, such as a change in tax law. The indemnification clauses are often standard contractual terms and were entered into in the normal course of business based on an assessment that the risk of loss would be remote. These agreements typically contain an early termination clause that permits the Corporation to exit the agreement upon these events. The maximum potential future payment under indemnification agreements is difficult to assess for several reasons, including the occurrence of an external event, the inability to predict future changes in tax and other laws, the difficulty in determining how such laws would apply to parties in contracts, the absence of exposure limits contained in standard contract language and the timing of any early termination clauses. Historically, any payments made under these guarantees have been de minimis. The Corporation has assessed the probability of making such payments in the future as remote.

#### Merchant Services

In accordance with credit and debit card association rules, the Corporation sponsors merchant processing servicers that process credit and debit card transactions on behalf of various merchants. If a merchant processor fails to meet its obligation regarding

disputed transactions, then the Corporation could be held liable. In 2019 and 2018, the sponsored entities processed \$916.6 billion and \$874.3 billion of transactions and recorded losses of \$24 million and \$31 million.

At December 31, 2019 and 2018, the maximum potential exposure for sponsored transactions totaled \$384.2 billion and \$348.1 billion. However, the Corporation believes that the maximum potential exposure is not representative of the actual potential loss exposure and does not expect to make material payments in connection with these guarantees.

A significant portion of the Corporation's merchant processing activity is performed by a joint venture, formed in 2009, in which the Corporation holds a 49 percent ownership interest. The carrying value of the Corporation's investment was \$640 million and \$2.8 billion at December 31, 2019 and 2018. The joint venture is accounted for as an equity method investment and reported in *All Other*. On July 29, 2019, the Corporation gave notice to the joint venture partner of the termination of the joint venture upon the conclusion of its current term in June 2020. As a result, the Corporation incurred a non-cash, pretax impairment charge in 2019 of \$2.1 billion, included in other general operating expense.

#### **Exchange and Clearing House Member Guarantees**

The Corporation is a member of various securities and derivative exchanges and clearinghouses, both in the U.S. and other countries. As a member, the Corporation may be required to pay a pro-rata share of the losses incurred by some of these organizations as a result of another member default and under other loss scenarios. The Corporation's potential obligations may be limited to its membership interests in such exchanges and clearinghouses, to the amount (or multiple) of the Corporation's contribution to the guarantee fund or, in limited instances, to the full pro-rata share of the residual losses after applying the guarantee fund. The Corporation's maximum potential exposure under these membership agreements is difficult to estimate; however, the Corporation has assessed the probability of making any such payments as remote.

#### **Prime Brokerage and Securities Clearing Services**

In connection with its prime brokerage and clearing businesses, the Corporation performs securities clearance and settlement services with other brokerage firms and clearinghouses on behalf of its clients. Under these arrangements, the Corporation stands ready to meet the obligations of its clients with respect to securities transactions. The Corporation's obligations in this respect are secured by the assets in the clients' accounts and the accounts of their customers as well as by any proceeds received from the transactions cleared and settled by the Corporation on behalf of clients or their customers. The Corporation's maximum potential exposure under these arrangements is difficult to estimate; however, the potential for the Corporation to incur material losses pursuant to these arrangements is remote.

#### **Other Guarantees**

The Corporation has entered into additional guarantee agreements and commitments, including sold risk participation swaps, liquidity facilities, lease-end obligation agreements, partial credit guarantees on certain leases, real estate joint venture guarantees, divested business commitments and sold put options that require gross settlement. The maximum potential future payments under these agreements are approximately \$8.7 billion and \$5.9 billion at December 31, 2019 and 2018. The estimated maturity dates of these obligations extend up to 2049. The Corporation has made

no material payments under these guarantees. For more information on maximum potential future payments under VIE-related liquidity commitments, see Note 7 – *Securizations and Other Variable Interest Entities*.

During 2019, the Corporation recognized a loss of \$210 million in other income under its indemnity obligation in connection with the 2017 sale of its non-U.S. consumer credit card business (payment protection insurance).

In the normal course of business, the Corporation periodically guarantees the obligations of its affiliates in a variety of transactions including ISDA-related transactions and non-ISDA related transactions such as commodities trading, repurchase agreements, prime brokerage agreements and other transactions.

#### **Guarantees of Certain Long-term Debt**

The Corporation, as the parent company, fully and unconditionally guarantees the securities issued by BofA Finance LLC, a 100 percent owned finance subsidiary of the Corporation, and effectively provides for the full and unconditional guarantee of trust securities issued by certain statutory trust companies that are 100 percent owned finance subsidiaries of the Corporation.

#### **Representations and Warranties Obligations and Corporate Guarantees**

The Corporation securitizes first-lien residential mortgage loans generally in the form of RMBS guaranteed by the GSEs or by GNMA in the case of FHA-insured, VA-guaranteed and Rural Housing Service-guaranteed mortgage loans, and sells pools of first-lien residential mortgage loans in the form of whole loans. In addition, in prior years, legacy companies and certain subsidiaries sold pools of first-lien residential mortgage loans and home equity loans as private-label securitizations or in the form of whole loans. In connection with these transactions, the Corporation or certain of its subsidiaries or legacy companies make and have made various representations and warranties. Breaches of these representations and warranties have resulted in and may continue to result in the requirement to repurchase mortgage loans or to otherwise make whole or provide indemnification or other remedies to sponsors, investors, securitization trusts, guarantors, insurers or other parties (collectively, repurchases).

#### **Unresolved Repurchase Claims**

Unresolved representations and warranties repurchase claims represent the notional amount of repurchase claims made by counterparties, typically the outstanding principal balance or the unpaid principal balance at the time of default. In the case of first-lien mortgages, the claim amount is often significantly greater than the expected loss amount due to the benefit of collateral and, in some cases, mortgage insurance or mortgage guarantee payments.

The notional amount of unresolved repurchase claims at December 31, 2019 and 2018 was \$10.7 billion and \$14.4 billion. These balances included \$3.7 billion and \$6.2 billion at December 31, 2019 and 2018 of claims related to loans in specific private-label securitization groups or tranches where the Corporation owns substantially all of the outstanding securities or will otherwise realize the benefit of any repurchase claims paid. The balance for 2019 also includes \$1.6 billion of repurchase claims related to a single monoline insurer and is the subject of litigation.

During 2019, the Corporation received \$461 million in new repurchase claims that were not time-barred. During 2019, \$4.2 billion in claims were resolved, including \$2.1 billion of claims that were deemed time-barred.

### **Reserve and Related Provision**

The reserve for representations and warranties obligations and corporate guarantees was \$1.8 billion and \$2.0 billion at December 31, 2019 and 2018 and is included in accrued expenses and other liabilities on the Consolidated Balance Sheet and the related provision is included in other income in the Consolidated Statement of Income. The representations and warranties reserve represents the Corporation's best estimate of probable incurred losses, is based on our experience in previous negotiations, and is subject to judgment, a variety of assumptions, and known or unknown uncertainties. Future representations and warranties losses may occur in excess of the amounts recorded for these exposures; however, the Corporation does not expect such amounts to be material to the Corporation's financial condition and liquidity. See Litigation and Regulatory Matters in this Note below for the Corporation's combined range of possible loss in excess of the reserve for representations and warranties, and the accrued liability for litigation.

### **Litigation and Regulatory Matters**

In the ordinary course of business, the Corporation and its subsidiaries are routinely defendants in or parties to many pending and threatened legal, regulatory and governmental actions and proceedings. In view of the inherent difficulty of predicting the outcome of such matters, particularly where the claimants seek very large or indeterminate damages or where the matters present novel legal theories or involve a large number of parties, the Corporation generally cannot predict the eventual outcome of the pending matters, timing of the ultimate resolution of these matters, or eventual loss, fines or penalties related to each pending matter.

In accordance with applicable accounting guidance, the Corporation establishes an accrued liability when those matters present loss contingencies that are both probable and estimable. In such cases, there may be an exposure to loss in excess of any amounts accrued. As a matter develops, the Corporation, in conjunction with any outside counsel handling the matter, evaluates on an ongoing basis whether such matter presents a loss contingency that is probable and estimable. Once the loss contingency is deemed to be both probable and estimable, the Corporation will establish an accrued liability and record a corresponding amount of litigation-related expense. The Corporation continues to monitor the matter for further developments that could affect the amount of the accrued liability that has been previously established. Excluding expenses of internal and external legal service providers, litigation-related expense of \$681 million and \$469 million was recognized in 2019 and 2018.

For a limited number of the matters disclosed in this Note for which a loss, whether in excess of a related accrued liability or where there is no accrued liability, is reasonably possible in future periods, the Corporation is able to estimate a range of possible loss. In determining whether it is possible to estimate a range of possible loss, the Corporation reviews and evaluates its matters on an ongoing basis, in conjunction with any outside counsel handling the matter, in light of potentially relevant factual and legal developments. With respect to the matters disclosed in this Note, in cases in which the Corporation possesses sufficient appropriate information to estimate a range of possible loss, that estimate is aggregated and disclosed below. There may be other disclosed matters for which a loss is probable or reasonably possible but such an estimate of the range of possible loss may not be possible. For such matters disclosed in this Note, where an estimate of the

range of possible loss is possible, as well as for representations and warranties exposures, management currently estimates the aggregate range of reasonably possible loss for these exposures is \$0 to \$1.6 billion in excess of the accrued liability, if any.

The estimated range of possible loss, as well as the Corporation's accrued liability, is based upon currently available information and is subject to significant judgment, a variety of assumptions and known and unknown uncertainties. The matters underlying the estimated range of possible loss and liability accrual are unpredictable and will change from time to time, and actual losses may vary significantly from the current estimate and accrual. The estimated range of possible loss does not represent the Corporation's maximum loss exposure.

Information is provided below regarding the nature of the litigation and associated claimed damages. Based on current knowledge, and taking into account accrued liabilities, management does not believe that loss contingencies arising from pending matters, including the matters described herein, will have a material adverse effect on the consolidated financial condition or liquidity of the Corporation. However, in light of the significant judgment, variety of assumptions and uncertainties involved in these matters, some of which are beyond the Corporation's control, and the very large or indeterminate damages sought in some of these matters, an adverse outcome in one or more of these matters could be material to the Corporation's business or results of operations for any particular reporting period, or cause significant reputational harm.

### **Ambac Bond Insurance Litigation**

Ambac Assurance Corporation and the Segregated Account of Ambac Assurance Corporation (together, Ambac) have filed four separate lawsuits against the Corporation and its subsidiaries relating to bond insurance policies Ambac provided on certain securitized pools of HELOCs, first-lien subprime home equity loans, fixed-rate second-lien mortgage loans and negative amortization pay option adjustable-rate mortgage loans. Ambac alleges that they have paid or will pay claims as a result of defaults in the underlying loans and asserts that the defendants misrepresented the characteristics of the underlying loans and/or breached certain contractual representations and warranties regarding the underwriting and servicing of the loans. In those actions where the Corporation is named as a defendant, Ambac contends the Corporation is liable on various successor and vicarious liability theories. These actions are at various procedural stages with material developments provided below.

### **Ambac v. Countrywide I**

The Corporation, Countrywide and other Countrywide entities are named as defendants in an action filed on September 28, 2010 in New York Supreme Court. Ambac asserts claims for fraudulent inducement as well as breach of contract and seeks damages in excess of \$2.2 billion, plus punitive damages.

On May 16, 2017, the First Department issued its decisions on the parties' cross-appeals of the trial court's October 22, 2015 summary judgment rulings. Ambac appealed the First Department's rulings requiring Ambac to prove all of the elements of its fraudulent inducement claim, including justifiable reliance and loss causation; restricting Ambac's sole remedy for its breach of contract claims to the repurchase protocol of cure, repurchase or substitution of any materially defective loan; and dismissing Ambac's claim for reimbursements of attorneys' fees. On June 27, 2018, the New York Court of Appeals affirmed the First Department rulings that Ambac appealed.

#### **Ambac v. Countrywide II**

On December 30, 2014, Ambac filed a complaint in New York Supreme Court against the same defendants, claiming fraudulent inducement against Countrywide, and successor and vicarious liability against the Corporation. Ambac seeks damages in excess of \$600 million, plus punitive damages. On December 19, 2016, the Court granted in part and denied in part Countrywide's motion to dismiss the complaint.

#### **Ambac v. Countrywide IV**

On July 21, 2015, Ambac filed an action in New York Supreme Court against Countrywide asserting the same claims for fraudulent inducement that Ambac asserted in the now-dismissed *Ambac v. Countrywide III*. The complaint seeks damages in excess of \$350 million, plus punitive damages.

#### **Ambac v. First Franklin**

On April 16, 2012, Ambac filed an action against BANA, First Franklin and various Merrill Lynch entities, including Merrill Lynch, Pierce, Fenner & Smith Incorporated, in New York Supreme Court relating to guaranty insurance Ambac provided on a First Franklin securitization sponsored by Merrill Lynch. The complaint alleges *fraudulent inducement and breach of contract, including breach of contract claims against BANA based upon its servicing of the loans in the securitization*. Ambac seeks as damages hundreds of millions of dollars that Ambac alleges it has paid or will pay in claims.

#### **Deposit Insurance Assessment**

On January 9, 2017, the FDIC filed suit against BANA in the U.S. District Court for the District of Columbia alleging failure to pay a December 15, 2016 invoice for additional deposit insurance assessments and interest in the amount of \$542 million for the quarters ending June 30, 2013 through December 31, 2014. On April 7, 2017, the FDIC amended its complaint to add a claim for additional deposit insurance and interest in the amount of \$583 million for the quarters ending March 31, 2012 through March 31, 2013. The FDIC asserts these claims based on BANA's alleged underreporting of counterparty exposures that resulted in underpayment of assessments for those quarters and its Enforcement Section is also conducting a parallel investigation related to the same alleged reporting error. BANA disagrees with the FDIC's interpretation of the regulations as they existed during the relevant time period and is defending itself against the FDIC's claims. Pending final resolution, BANA has pledged security satisfactory to the FDIC related to the disputed additional assessment amounts.

On March 27, 2018, the U.S. District Court for the District of Columbia denied BANA's partial motion to dismiss certain of the FDIC's claims.

#### **Interchange Litigation**

In 2005, a group of merchants filed a series of putative class actions and individual actions directed at interchange fees associated with Visa and MasterCard payment card transactions. These actions, which were consolidated in the U.S. District Court for the Eastern District of New York under the caption *In re Payment Card Interchange Fee and Merchant Discount Anti-Trust Litigation*, named Visa, MasterCard, the Corporation, BANA and other banks as defendants. Plaintiffs alleged antitrust claims and sought compensatory and treble damages as well as injunctive relief.

In 2018, defendants reached a settlement of the putative Rule 23(b)(3) damages class. Defendants agreed to pay an additional amount to participating class members by contribution to the escrow fund established as part of the settlement previously rejected by the U.S. Court of Appeals for the Second Circuit. The

Corporation's additional contribution was not material. The District Court granted final approval of the settlement in December 2019. Beginning in January 2020, a number of class members who objected to the settlement appealed to the U.S. Court of Appeals for the Second Circuit.

#### **LIBOR, Other Reference Rates, Foreign Exchange (FX) and Bond Trading Matters**

Government authorities in the U.S. and various international jurisdictions continue to conduct investigations of, to make inquiries of, and to pursue proceedings against, the Corporation and its subsidiaries regarding FX and other reference rates as well as government, sovereign, supranational and agency bonds in connection with conduct and systems and controls. The Corporation is cooperating with these inquiries and investigations, and responding to the proceedings.

#### **LIBOR**

The Corporation, BANA and certain Merrill Lynch entities have been named as defendants along with most of the other London Interbank Offered Rate (LIBOR) panel banks in a number of individual and putative class actions by persons alleging they sustained losses on U.S. dollar LIBOR-based financial instruments as a result of collusion or manipulation by defendants regarding the setting of U.S. dollar LIBOR. Plaintiffs assert a variety of claims, including antitrust, Commodity Exchange Act, Racketeer Influenced and Corrupt Organizations (RICO), Securities Exchange Act of 1934, common law fraud and breach of contract claims, and seek compensatory, treble and punitive damages, and injunctive relief. All cases naming the Corporation and its affiliates relating to U.S. dollar LIBOR are pending in the U.S. District Court for the Southern District of New York.

The District Court has dismissed all RICO claims, and dismissed all manipulation claims based on alleged trader conduct against Bank of America entities. The District Court has also substantially limited the scope of antitrust, Commodity Exchange Act and various other claims, including by dismissing in their entirety certain individual and putative class plaintiffs' antitrust claims for lack of standing and/or personal jurisdiction. Plaintiffs whose antitrust claims were dismissed by the District Court are pursuing appeals in the Second Circuit. Certain individual and putative class actions remain pending in the District Court against the Corporation, BANA and certain Merrill Lynch entities.

On February 28, 2018, the District Court denied certification of proposed classes of lending institutions and persons that transacted in eurodollar futures, and the U.S. Court of Appeals for the Second Circuit subsequently denied petitions filed by those plaintiffs for interlocutory appeals of those rulings. Also on February 28, 2018, the District Court granted certification of a class of persons that purchased OTC swaps and notes that referenced U.S. dollar LIBOR from one of the U.S. dollar LIBOR panel banks, limited to claims under Section 1 of the Sherman Act. The U.S. Court of Appeals for the Second Circuit subsequently denied a petition filed by the defendants for interlocutory appeal of that ruling.

#### **Mortgage Appraisal Litigation**

The Corporation, Countrywide and certain affiliates are named as defendants in two consolidated putative class action lawsuits filed in the U.S. District Court for the Central District of California (Waldrop and Williams, et al.). Plaintiffs allege that Countrywide and a former Countrywide subsidiary, LandSafe Appraisal Services, Inc., arranged for and completed appraisals that were not in compliance with applicable laws and appraisal standards. Plaintiffs assert a RICO claim and seek, among other forms of relief, compensatory and treble damages. On February 8, 2018,

the District Court granted plaintiffs' motion for class certification. On May 22, 2018, the U.S. Court of Appeals for the Ninth Circuit denied defendants' petition for permission to file an interlocutory appeal of the District Court's ruling granting class certification.

On January 21, 2020, the parties agreed to resolve the litigation for an amount that is not material to the Corporation, and which was fully accrued as of December 31, 2019. The agreement is subject to court approval.

#### U.S. Bank - Harborview and SURF/OWNIT Repurchase Litigation

Beginning in 2011, U.S. Bank, National Association (U.S. Bank), as trustee for the HarborView Mortgage Loan Trust 2005-10 and various SURF/OWNIT RMBS trusts filed complaints against the Corporation, Countrywide entities, Merrill Lynch entities and other affiliates in New York Supreme Court alleging breaches of representations and warranties. The defendants and certain certificate-holders in the trusts agreed to settle the respective matters in amounts not material to the Corporation, subject to acceptance by U.S. Bank. The litigations have been stayed pending finalization of the settlements.

### NOTE 14 Shareholders' Equity

#### Common Stock

##### Declared Quarterly Cash Dividends on Common Stock <sup>(1)</sup>

| Declaration Date | Record Date       | Payment Date       | Dividend Per Share |
|------------------|-------------------|--------------------|--------------------|
| January 29, 2020 | March 6, 2020     | March 27, 2020     | \$ 0.18            |
| October 22, 2019 | December 6, 2019  | December 27, 2019  | 0.18               |
| July 25, 2019    | September 6, 2019 | September 27, 2019 | 0.18               |
| April 24, 2019   | June 7, 2019      | June 28, 2019      | 0.15               |
| January 30, 2019 | March 1, 2019     | March 29, 2019     | 0.15               |

<sup>(1)</sup> In 2019, and through February 19, 2020

The cash dividends paid per share of common stock were \$0.66, \$0.54 and \$0.39 for 2019, 2018 and 2017, respectively.

The following table summarizes common stock repurchases during 2019, 2018 and 2017.

##### Common Stock Repurchase Summary

| (in millions)                                                    | 2019     | 2018     | 2017     |
|------------------------------------------------------------------|----------|----------|----------|
| Total share repurchases, including CCAR capital plan repurchases | 956      | 676      | 509      |
| Purchase price of shares repurchased and retired                 |          |          |          |
| CCAR capital plan repurchases                                    | \$25,644 | \$16,754 | \$ 9,347 |
| Other authorized repurchases                                     | 2,500    | 3,340    | 3,467    |
| Total shares repurchased                                         | \$28,144 | \$20,094 | \$12,814 |

On June 28, 2018, following the non-objection of the Board of Governors of the Federal Reserve System (Federal Reserve) to the Corporation's 2018 Comprehensive Capital Analysis and Review (CCAR) capital plan, the Corporation's Board of Directors (Board) authorized the repurchase of approximately \$20.6 billion in common stock from July 1, 2018 through June 30, 2019, which included approximately \$600 million in repurchases to offset shares awarded under equity-based compensation plans during the same period. On February 7, 2019, following approval by the Federal Reserve, the Board authorized the repurchase of an additional \$2.5 billion of common stock by June 30, 2019.

On June 27, 2019, following the Federal Reserve's non-objection to the Corporation's 2019 CCAR capital plan, the Board authorized the repurchase of approximately \$30.9 billion in

common stock from July 1, 2019 through June 30, 2020, which includes approximately \$900 million in repurchases to offset shares awarded under equity-based compensation plans during the same period.

During 2019, the Corporation repurchased 956 million shares of common stock in connection with the Board's 2018 and 2019 repurchase authorizations, which reduced shareholders' equity by \$28.1 billion.

In connection with employee stock plans, in 2019, the Corporation issued 91 million shares of its common stock and, to satisfy tax withholding obligations, repurchased 35 million shares of its common stock. At December 31, 2019, the Corporation had reserved 579 million unissued shares of common stock for future issuances under employee stock plans, convertible notes and preferred stock.

#### Preferred Stock

The cash dividends declared on preferred stock were \$1.4 billion, \$1.5 billion and \$1.6 billion for 2019, 2018 and 2017, respectively.

On June 20, 2019, the Corporation issued 40,000 shares of 5.125% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series JJ for \$1.0 billion. On June 25, 2019, the Corporation issued 55,900 shares of 5.375% Non-Cumulative Preferred Stock, Series KK for \$1.4 billion. On September 17, 2019, the Corporation issued 52,400 shares of 5.000% Non-Cumulative Preferred Stock, Series LL for \$1.3 billion. Additionally, on January 24, 2020, the Corporation issued 44,000 shares of 4.300% Fixed-to-Floating Rate Non-Cumulative Preferred Stock, Series MM for \$1.1 billion.

In 2019, the Corporation fully redeemed Series V and Series W preferred stock for \$2.6 billion. Additionally, on January 27, 2020, the Corporation fully redeemed Series Y preferred stock for \$1.1 billion.

All series of preferred stock in the Preferred Stock Summary table have a par value of \$0.01 per share, are not subject to the operation of a sinking fund, have no participation rights, and with the exception of the Series L Preferred Stock, are not convertible. The holders of the Series B Preferred Stock and Series 1 through 5 Preferred Stock have general voting rights and vote together with the common stock. The holders of the other series included in the table have no general voting rights. All outstanding series of preferred stock of the Corporation have preference over the Corporation's common stock with respect to the payment of dividends and distribution of the Corporation's assets in the event of a liquidation or dissolution. With the exception of the Series B, F, G and T Preferred Stock, if any dividend payable on these series is in arrears for three or more semi-annual or six or more quarterly dividend periods, as applicable (whether consecutive or not), the holders of these series and any other class or series of preferred stock ranking equally as to payment of dividends and upon which equivalent voting rights have been conferred and are exercisable (voting as a single class) will be entitled to vote for the election of two additional directors. These voting rights terminate when the Corporation has paid in full dividends on these series for at least two semi-annual or four quarterly dividend periods, as applicable, following the dividend arrearage.

The 7.25% Non-Cumulative Perpetual Convertible Preferred Stock, Series L (Series L Preferred Stock) does not have early redemption/call rights. Each share of the Series L Preferred Stock may be converted at any time, at the option of the holder, into 20 shares of the Corporation's common stock plus cash in lieu of fractional shares. The Corporation may cause some or all of the Series L Preferred Stock, at its option, at any time or from time to time, to be converted into shares of common stock at the then-applicable conversion rate if, for 20 trading days during any period

of 30 consecutive trading days, the closing price of common stock exceeds 130 percent of the then-applicable conversion price of the Series L Preferred Stock. If a conversion of Series L Preferred Stock occurs at the option of the holder, subsequent to a dividend

record date but prior to the dividend payment date, the Corporation will still pay any accrued dividends payable.

The table below presents a summary of perpetual preferred stock outstanding at December 31, 2019.

## Preferred Stock Summary

(Dollars in millions, except as noted)

| Series                                 | Description                                | Initial Issuance Date | Total Shares Outstanding | Liquidation Preference per Share (in dollars) | Carrying Value | Per Annum Dividend Rate                                                | Dividend per Share (in dollars) | Annual Dividend | Redemption Period <sup>(1)</sup> |
|----------------------------------------|--------------------------------------------|-----------------------|--------------------------|-----------------------------------------------|----------------|------------------------------------------------------------------------|---------------------------------|-----------------|----------------------------------|
| Series B                               | 7% Cumulative Redeemable                   | June 1997             | 7,110                    | \$ 100                                        | \$ 1           | 7.00%                                                                  | \$ 7.00                         | \$ —            | n/a                              |
| Series E <sup>(2)</sup>                | Floating Rate Non-Cumulative               | November 2006         | 12,691                   | 25,000                                        | 317            | 3-mo. LIBOR + 35 bps <sup>(3)</sup>                                    | 1.01                            | 13              | On or after November 15, 2011    |
| Series F                               | Floating Rate Non-Cumulative               | March 2012            | 1,409                    | 100,000                                       | 141            | 3-mo. LIBOR + 40 bps <sup>(3)</sup>                                    | 4,055.56                        | 6               | On or after March 15, 2012       |
| Series G                               | Adjustable Rate Non-Cumulative             | March 2012            | 4,926                    | 100,000                                       | 493            | 3-mo. LIBOR + 40 bps <sup>(3)</sup>                                    | 4,055.56                        | 20              | On or after March 15, 2012       |
| Series L                               | 7.25% Non-Cumulative Perpetual Convertible | January 2008          | 3,080,182                | 1,000                                         | 3,080          | 7.25%                                                                  | 72.50                           | 223             | n/a                              |
| Series T                               | 6% Non-cumulative                          | September 2011        | 354                      | 100,000                                       | 35             | 6.00%                                                                  | 6,000.00                        | 2               | After May 7, 2019                |
| Series U <sup>(4)</sup>                | Fixed-to-Floating Rate Non-Cumulative      | May 2013              | 40,000                   | 25,000                                        | 1,000          | 5.2% to, but excluding, 6/1/23; 3-mo. LIBOR + 313.5 bps thereafter     | 52.00                           | 52              | On or after June 1, 2023         |
| Series X <sup>(4)</sup>                | Fixed-to-Floating Rate Non-Cumulative      | September 2014        | 80,000                   | 25,000                                        | 2,000          | 6.250% to, but excluding, 9/5/24; 3-mo. LIBOR + 370.5 bps thereafter   | 62.50                           | 125             | On or after September 5, 2024    |
| Series Y <sup>(2)</sup>                | 6.500% Non-Cumulative                      | January 2015          | 44,000                   | 25,000                                        | 1,100          | 6.500%                                                                 | 1.63                            | 72              | On or after January 27, 2020     |
| Series Z <sup>(4)</sup>                | Fixed-to-Floating Rate Non-Cumulative      | October 2014          | 56,000                   | 25,000                                        | 1,400          | 6.500% to, but excluding, 10/23/24; 3-mo. LIBOR + 417.4 bps thereafter | 65.00                           | 91              | On or after October 23, 2024     |
| Series AA <sup>(4)</sup>               | Fixed-to-Floating Rate Non-Cumulative      | March 2015            | 76,000                   | 25,000                                        | 1,900          | 6.100% to, but excluding, 3/17/25; 3-mo. LIBOR + 389.8 bps thereafter  | 61.00                           | 116             | On or after March 17, 2025       |
| Series CC <sup>(2)</sup>               | 6.200% Non-Cumulative                      | January 2016          | 44,000                   | 25,000                                        | 1,100          | 6.200%                                                                 | 1.55                            | 68              | On or after January 29, 2021     |
| Series DD <sup>(4)</sup>               | Fixed-to-Floating Rate Non-Cumulative      | March 2016            | 40,000                   | 25,000                                        | 1,000          | 6.300% to, but excluding, 3/10/26; 3-mo. LIBOR + 455.3 bps thereafter  | 63.00                           | 63              | On or after March 10, 2026       |
| Series EE <sup>(2)</sup>               | 6.000% Non-Cumulative                      | April 2016            | 36,000                   | 25,000                                        | 900            | 6.000%                                                                 | 1.50                            | 54              | On or after April 25, 2021       |
| Series FF <sup>(4)</sup>               | Fixed-to-Floating Rate Non-Cumulative      | March 2018            | 94,000                   | 25,000                                        | 2,350          | 5.875% to, but excluding, 3/15/28; 3-mo. LIBOR + 293.1 bps thereafter  | 58.75                           | 138             | On or after March 15, 2028       |
| Series GG <sup>(2)</sup>               | 6.000% Non-Cumulative                      | May 2018              | 54,000                   | 25,000                                        | 1,350          | 6.000%                                                                 | 1.50                            | 81              | On or after May 16, 2023         |
| Series HH <sup>(2)</sup>               | 5.875% Non-Cumulative                      | July 2018             | 34,160                   | 25,000                                        | 854            | 5.875%                                                                 | 1.47                            | 50              | On or after July 24, 2023        |
| Series JJ <sup>(4)</sup>               | Fixed-to-Floating Rate Non-Cumulative      | June 2019             | 40,000                   | 25,000                                        | 1,000          | 5.125% to, but excluding, 6/20/24; 3-mo. LIBOR + 329.2 bps thereafter  | 25.63                           | 26              | On or after June 20, 2024        |
| Series KK <sup>(2)</sup>               | 5.375% Non-Cumulative                      | June 2019             | 55,900                   | 25,000                                        | 1,398          | 5.375%                                                                 | 0.67                            | 38              | On or after June 25, 2024        |
| Series LL <sup>(2)</sup>               | 5.000% Non-Cumulative                      | September 2019        | 52,400                   | 25,000                                        | 1,310          | 5.000%                                                                 | 0.31                            | 16              | On or after September 17, 2024   |
| Series 1 <sup>(5)</sup>                | Floating Rate Non-Cumulative               | November 2004         | 3,275                    | 30,000                                        | 98             | 3-mo. LIBOR + 75 bps <sup>(6)</sup>                                    | 0.82                            | 3               | On or after November 28, 2009    |
| Series 2 <sup>(5)</sup>                | Floating Rate Non-Cumulative               | March 2005            | 9,967                    | 30,000                                        | 299            | 3-mo. LIBOR + 65 bps <sup>(6)</sup>                                    | 0.81                            | 10              | On or after November 28, 2009    |
| Series 4 <sup>(5)</sup>                | Floating Rate Non-Cumulative               | November 2005         | 7,010                    | 30,000                                        | 210            | 3-mo. LIBOR + 75 bps <sup>(3)</sup>                                    | 1.01                            | 9               | On or after November 28, 2010    |
| Series 5 <sup>(5)</sup>                | Floating Rate Non-Cumulative               | March 2007            | 14,056                   | 30,000                                        | 422            | 3-mo. LIBOR + 50 bps <sup>(3)</sup>                                    | 1.01                            | 17              | On or after May 21, 2012         |
| Issuance costs and certain adjustments |                                            |                       |                          | (357)                                         |                |                                                                        |                                 |                 |                                  |
| Total                                  |                                            |                       | 3,887,440                | \$ 23,401                                     |                |                                                                        |                                 |                 |                                  |

<sup>(1)</sup> The Corporation may redeem series of preferred stock on or after the redemption date, in whole or in part, at its option, at the liquidation preference plus declared and unpaid dividends. Series B and Series L Preferred Stock do not have early redemption/call rights.

<sup>(2)</sup> Ownership is held in the form of depositary shares, each representing a 1/1,000th interest in a share of preferred stock, paying a quarterly cash dividend, if and when declared.

<sup>(3)</sup> Subject to 4.00% minimum rate per annum.

<sup>(4)</sup> Ownership is held in the form of depositary shares, each representing a 1/25th interest in a share of preferred stock, paying a semi-annual cash dividend, if and when declared, until the first redemption date at which time, it adjusts to a quarterly cash dividend, if and when declared, thereafter.

<sup>(5)</sup> Ownership is held in the form of depositary shares, each representing a 1/1,200th interest in a share of preferred stock, paying a quarterly cash dividend, if and when declared.

<sup>(6)</sup> Subject to 3.00% minimum rate per annum.

n/a = not applicable

## NOTE 15 Accumulated Other Comprehensive Income (Loss)

The table below presents the changes in accumulated OCI after-tax for 2019, 2018 and 2017.

| (Dollars in millions)                             | Debt Securities | Debit Valuation Adjustments | Derivatives | Employee Benefit Plans | Foreign Currency | Total       |
|---------------------------------------------------|-----------------|-----------------------------|-------------|------------------------|------------------|-------------|
| <b>Balance, December 31, 2016</b>                 | \$ (1,267)      | \$ (767)                    | \$ (895)    | \$ (3,480)             | \$ (879)         | \$ (7,288)  |
| Net change                                        | 61              | (293)                       | 64          | 288                    | 86               | 206         |
| <b>Balance, December 31, 2017</b>                 | \$ (1,206)      | \$ (1,060)                  | \$ (831)    | \$ (3,192)             | \$ (793)         | \$ (7,082)  |
| Accounting change related to certain tax effects  | (393)           | (220)                       | (189)       | (707)                  | 239              | (1,270)     |
| Cumulative adjustment for hedge accounting change | —               | —                           | 57          | —                      | —                | 57          |
| Net change                                        | (3,953)         | 749                         | (53)        | (405)                  | (254)            | (3,916)     |
| <b>Balance, December 31, 2018</b>                 | \$ (5,552)      | \$ (531)                    | \$ (1,016)  | \$ (4,304)             | \$ (808)         | \$ (12,211) |
| Net change                                        | 5,875           | (963)                       | 616         | 136                    | (86)             | 5,578       |
| <b>Balance, December 31, 2019</b>                 | \$ 323          | \$ (1,494)                  | \$ (400)    | \$ (4,168)             | \$ (894)         | \$ (6,633)  |

The table below presents the net change in fair value recorded in accumulated OCI, net realized gains and losses reclassified into earnings and other changes for each component of OCI pre- and after-tax for 2019, 2018 and 2017.

| (Dollars in millions)                                                    | Pretax          | Tax effect        | After-tax       | Pretax            | Tax effect      | After-tax         | Pretax            | Tax effect      | After-tax     |
|--------------------------------------------------------------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-------------------|-------------------|-----------------|---------------|
|                                                                          | 2019            |                   |                 | 2018              |                 |                   | 2017              |                 |               |
| <b>Debt securities:</b>                                                  |                 |                   |                 |                   |                 |                   |                   |                 |               |
| Net increase (decrease) in fair value                                    | \$ 8,020        | \$ (2,000)        | \$ 6,020        | \$ (5,189)        | \$ 1,329        | \$ (3,860)        | \$ 240            | \$ 14           | \$ 254        |
| Net realized (gains) reclassified into earnings <sup>(1)</sup>           | (193)           | 48                | (145)           | (123)             | 30              | (93)              | (304)             | 111             | (193)         |
| <b>Net change</b>                                                        | <b>7,827</b>    | <b>(1,952)</b>    | <b>5,875</b>    | <b>(5,312)</b>    | <b>1,359</b>    | <b>(3,953)</b>    | <b>(64)</b>       | <b>125</b>      | <b>61</b>     |
| <b>Debit valuation adjustments:</b>                                      |                 |                   |                 |                   |                 |                   |                   |                 |               |
| Net increase (decrease) in fair value                                    | (1,276)         | 289               | (987)           | 952               | (224)           | 728               | (490)             | 171             | (319)         |
| Net realized losses reclassified into earnings <sup>(1)</sup>            | 18              | 6                 | 24              | 26                | (5)             | 21                | 42                | (16)            | 26            |
| <b>Net change</b>                                                        | <b>(1,258)</b>  | <b>295</b>        | <b>(963)</b>    | <b>978</b>        | <b>(229)</b>    | <b>749</b>        | <b>(448)</b>      | <b>155</b>      | <b>(293)</b>  |
| <b>Derivatives</b>                                                       |                 |                   |                 |                   |                 |                   |                   |                 |               |
| Net increase (decrease) in fair value                                    | 692             | (156)             | 536             | (232)             | 74              | (158)             | (50)              | 1               | (49)          |
| Reclassifications into earnings:                                         |                 |                   |                 |                   |                 |                   |                   |                 |               |
| Net interest income                                                      | 104             | (26)              | 78              | 165               | (40)            | 125               | 327               | (122)           | 205           |
| Compensation and benefits expense                                        | 2               | —                 | 2               | (27)              | 7               | (20)              | (148)             | 56              | (92)          |
| Net realized losses reclassified into earnings                           | 106             | (26)              | 80              | 138               | (33)            | 105               | 179               | (66)            | 113           |
| <b>Net change</b>                                                        | <b>798</b>      | <b>(182)</b>      | <b>616</b>      | <b>(94)</b>       | <b>41</b>       | <b>(53)</b>       | <b>129</b>        | <b>(65)</b>     | <b>64</b>     |
| <b>Employee benefit plans:</b>                                           |                 |                   |                 |                   |                 |                   |                   |                 |               |
| Net increase (decrease) in fair value                                    | 41              | (21)              | 20              | (703)             | 164             | (539)             | 223               | (55)            | 168           |
| Net actuarial losses and other reclassified into earnings <sup>(2)</sup> | 150             | (36)              | 114             | 171               | (46)            | 125               | 179               | (61)            | 118           |
| Settlements, curtailments and other                                      | 3               | (1)               | 2               | 11                | (2)             | 9                 | 3                 | (1)             | 2             |
| <b>Net change</b>                                                        | <b>194</b>      | <b>(58)</b>       | <b>136</b>      | <b>(521)</b>      | <b>116</b>      | <b>(405)</b>      | <b>405</b>        | <b>(117)</b>    | <b>288</b>    |
| <b>Foreign currency</b>                                                  |                 |                   |                 |                   |                 |                   |                   |                 |               |
| Net (decrease) in fair value                                             | (13)            | (52)              | (65)            | (8)               | (195)           | (203)             | (439)             | 430             | (9)           |
| Net realized (gains) losses reclassified into earnings <sup>(3)</sup>    | (110)           | 89                | (21)            | (149)             | 98              | (51)              | (606)             | 701             | 95            |
| <b>Net change</b>                                                        | <b>(123)</b>    | <b>37</b>         | <b>(86)</b>     | <b>(157)</b>      | <b>(97)</b>     | <b>(254)</b>      | <b>(1,045)</b>    | <b>1,131</b>    | <b>86</b>     |
| <b>Total other comprehensive income (loss)</b>                           | <b>\$ 7,438</b> | <b>\$ (1,860)</b> | <b>\$ 5,578</b> | <b>\$ (5,106)</b> | <b>\$ 1,190</b> | <b>\$ (3,916)</b> | <b>\$ (1,023)</b> | <b>\$ 1,229</b> | <b>\$ 206</b> |

<sup>(1)</sup> Reclassifications of pretax debt securities and DVA are recorded in other income in the Consolidated Statement of Income

<sup>(2)</sup> Reclassifications of pretax employee benefit plan costs are recorded in other general operating expense in the Consolidated Statement of Income

<sup>(3)</sup> Reclassifications of pretax debt securities, DVA and foreign currency (gains) losses are recorded in other income in the Consolidated Statement of Income

## NOTE 16 Earnings Per Common Share

The calculation of EPS and diluted EPS for 2019, 2018 and 2017 is presented below. For more information on the calculation of EPS, see Note 1 – Summary of Significant Accounting Principles.

| (In millions, except per share information)                             | 2019           | 2018           | 2017           |
|-------------------------------------------------------------------------|----------------|----------------|----------------|
| <b>Earnings per common share</b>                                        |                |                |                |
| Net income                                                              | \$ 27,430      | \$ 28,147      | \$ 18,232      |
| Preferred stock dividends                                               | (1,432)        | (1,451)        | (1,614)        |
| Net income applicable to common shareholders                            | \$ 25,998      | \$ 26,696      | \$ 16,618      |
| Average common shares issued and outstanding                            | 9,390.5        | 10,096.5       | 10,195.6       |
| <b>Earnings per common share</b>                                        | <b>\$ 2.77</b> | <b>\$ 2.64</b> | <b>\$ 1.63</b> |
| <b>Diluted earnings per common share</b>                                |                |                |                |
| Net income applicable to common shareholders                            | \$ 25,998      | \$ 26,696      | \$ 16,618      |
| Add preferred stock dividends due to assumed conversions <sup>(1)</sup> | —              | —              | 186            |
| Net income allocated to common shareholders                             | \$ 25,998      | \$ 26,696      | \$ 16,804      |
| Average common shares issued and outstanding                            | 9,390.5        | 10,096.5       | 10,195.6       |
| Dilutive potential common shares <sup>(2)</sup>                         | 52.4           | 140.4          | 582.8          |
| Total diluted average common shares issued and outstanding              | 9,442.9        | 10,236.9       | 10,778.4       |
| <b>Diluted earnings per common share</b>                                | <b>\$ 2.75</b> | <b>\$ 2.61</b> | <b>\$ 1.56</b> |

<sup>(1)</sup> Represents the Series T dividends under the "if-converted" method prior to conversion  
<sup>(2)</sup> Includes incremental dilutive shares from RSUs, restricted stock and warrants

For 2019, 2018 and 2017, 62 million average dilutive potential common shares associated with the Series L preferred stock were not included in the diluted share count because the result would have been antidilutive under the "if-converted" method. For 2018 and 2017, average options to purchase four million and 21 million shares of common stock were outstanding but not included in the computation of EPS because the result would have been antidilutive under the treasury stock method. For 2017, average warrants to purchase 122 million shares of common stock were outstanding but not included in the computation of EPS because the result would have been antidilutive under the treasury stock method. These warrants expired on October 29, 2018. For 2019, 2018 and 2017, average warrants to purchase three million, 136 million and 143 million shares of common stock, respectively, were included in the diluted EPS calculation under the treasury stock method. Substantially all of these warrants were exercised on or before their expiration date of January 16, 2019.

## NOTE 17 Regulatory Requirements and Restrictions

The Federal Reserve, Office of the Comptroller of the Currency (OCC) and FDIC (collectively, U.S. banking regulators) jointly establish regulatory capital adequacy guidelines, including Basel 3, for U.S. banking organizations. As a financial holding company, the Corporation is subject to capital adequacy rules issued by the

Federal Reserve. The Corporation's banking entity affiliates are subject to capital adequacy rules issued by the OCC.

The Corporation and its primary banking entity affiliate, BANA, are Advanced approaches institutions under Basel 3. As Advanced approaches institutions, the Corporation and its banking entity affiliates are required to report regulatory risk-based capital ratios and risk-weighted assets under both the Standardized and Advanced approaches. The approach that yields the lower ratio is used to assess capital adequacy, including under the Prompt Corrective Action (PCA) framework. At December 31, 2019 and 2018, Common equity tier 1 and Tier 1 capital ratios were lower under the Standardized approach whereas the Advanced approaches yielded a lower result for the Total capital ratio.

The Corporation is required to maintain a minimum supplementary leverage ratio (SLR) of 3.0 percent plus a leverage buffer of 2.0 percent in order to avoid certain restrictions on capital distributions and discretionary bonus payments. The Corporation's insured depository institution subsidiaries are required to maintain a minimum 6.0 percent SLR to be considered well capitalized under the PCA framework.

The following table presents capital ratios and related information in accordance with Basel 3 Standardized and Advanced approaches as measured at December 31, 2019 and 2018 for the Corporation and BANA.

## Regulatory Capital under Basel 3

|                                                                | Bank of America Corporation |                     |                                   | Bank of America, N.A. |                     |                                   |
|----------------------------------------------------------------|-----------------------------|---------------------|-----------------------------------|-----------------------|---------------------|-----------------------------------|
|                                                                | Standardized Approach       | Advanced Approaches | Regulatory Minimum <sup>(1)</sup> | Standardized Approach | Advanced Approaches | Regulatory Minimum <sup>(2)</sup> |
| December 31, 2019                                              |                             |                     |                                   |                       |                     |                                   |
| <b>Risk-based capital metrics:</b>                             |                             |                     |                                   |                       |                     |                                   |
| Common equity tier 1 capital                                   | \$ 166,760                  | \$ 166,760          |                                   | \$ 154,626            | \$ 154,626          |                                   |
| Tier 1 capital                                                 | 188,492                     | 188,492             |                                   | 154,626               | 154,626             |                                   |
| Total capital <sup>(3)</sup>                                   | 221,230                     | 213,098             |                                   | 166,567               | 158,665             |                                   |
| Risk-weighted assets (in billions)                             | 1,493                       | 1,447               |                                   | 1,241                 | 991                 |                                   |
| Common equity tier 1 capital ratio                             | 11.2%                       | 11.5%               | 9.5%                              | 12.5%                 | 15.6%               | 7.0%                              |
| Tier 1 capital ratio                                           | 12.6                        | 13.0                | 11.0                              | 12.5                  | 15.6                | 8.5                               |
| Total capital ratio                                            | 14.8                        | 14.7                | 13.0                              | 13.4                  | 16.0                | 10.5                              |
| <b>Leverage-based metrics:</b>                                 |                             |                     |                                   |                       |                     |                                   |
| Adjusted quarterly average assets (in billions) <sup>(4)</sup> | \$ 2,374                    | \$ 2,374            |                                   | \$ 1,780              | \$ 1,780            |                                   |
| Tier 1 leverage ratio                                          | 7.9%                        | 7.9%                | 4.0                               | 8.7%                  | 8.7%                | 5.0                               |
| SLR leverage exposure (in billions)                            |                             | \$ 2,946            |                                   |                       | \$ 2,177            |                                   |
| SLR                                                            |                             | 6.4%                | 5.0                               |                       | 7.1%                | 6.0                               |
| December 31, 2018                                              |                             |                     |                                   |                       |                     |                                   |
| <b>Risk-based capital metrics:</b>                             |                             |                     |                                   |                       |                     |                                   |
| Common equity tier 1 capital                                   | \$ 167,272                  | \$ 167,272          |                                   | \$ 149,824            | \$ 149,824          |                                   |
| Tier 1 capital                                                 | 189,038                     | 189,038             |                                   | 149,824               | 149,824             |                                   |
| Total capital <sup>(3)</sup>                                   | 221,304                     | 212,878             |                                   | 161,760               | 153,627             |                                   |
| Risk-weighted assets (in billions)                             | 1,437                       | 1,409               |                                   | 1,195                 | 959                 |                                   |
| Common equity tier 1 capital ratio                             | 11.6%                       | 11.9%               | 8.25%                             | 12.5%                 | 15.6%               | 6.5%                              |
| Tier 1 capital ratio                                           | 13.2                        | 13.4                | 9.75                              | 12.5                  | 15.6                | 8.0                               |
| Total capital ratio                                            | 15.4                        | 15.1                | 11.75                             | 13.5                  | 16.0                | 10.0                              |
| <b>Leverage-based metrics:</b>                                 |                             |                     |                                   |                       |                     |                                   |
| Adjusted quarterly average assets (in billions) <sup>(4)</sup> | \$ 2,258                    | \$ 2,258            |                                   | \$ 1,719              | \$ 1,719            |                                   |
| Tier 1 leverage ratio                                          | 8.4%                        | 8.4%                | 4.0                               | 8.7%                  | 8.7%                | 5.0                               |
| SLR leverage exposure (in billions)                            |                             | \$ 2,791            |                                   |                       | \$ 2,112            |                                   |
| SLR                                                            |                             | 6.8%                | 5.0                               |                       | 7.1%                | 6.0                               |

<sup>(1)</sup> The capital conservation buffer and global systemically important bank surcharge were 2.5 percent at December 31, 2019 and 1.875 percent at December 31, 2018. The countercyclical capital buffer for both periods was zero. The SLR minimum includes a leverage buffer of 2.0 percent.

<sup>(2)</sup> Risk-based capital regulatory minimums at December 31, 2019 are the minimum ratios under Basel 3 including a capital conservation buffer of 2.5 percent. The regulatory minimums for the leverage ratios as of both period ends and risk-based capital ratios as of December 31, 2018 are the percent required to be considered well capitalized under the PCA framework.

<sup>(3)</sup> Total capital under the Advanced approaches differs from the Standardized approach due to differences in the amount permitted in Tier 2 capital related to the qualifying allowance for credit losses.

<sup>(4)</sup> Reflects total average assets adjusted for certain Tier 1 capital deductions.

The capital adequacy rules issued by the U.S. banking regulators require institutions to meet the established minimums outlined in the table above. Failure to meet the minimum requirements can lead to certain mandatory and discretionary actions by regulators that could have a material adverse impact on the Corporation's financial position. At December 31, 2019 and 2018, the Corporation and its banking entity affiliates were well capitalized.

### Other Regulatory Matters

The Federal Reserve requires the Corporation's bank subsidiaries to maintain reserve requirements based on a percentage of certain deposit liabilities. The average daily reserve balance requirements, in excess of vault cash, maintained by the Corporation with the Federal Reserve Bank were \$14.6 billion and \$11.4 billion for 2019 and 2018. At December 31, 2019 and 2018, the Corporation had cash and cash equivalents in the amount of \$6.3 billion and \$5.8 billion, and securities with a fair value of \$14.7 billion and \$16.6 billion that were segregated in compliance with securities regulations. Cash held on deposit with the Federal Reserve Bank to meet reserve requirements and cash and cash equivalents segregated in compliance with securities regulations are components of restricted cash. For more information, see *Note 11 – Federal Funds Sold or Purchased, Securities Financing Agreements, Short-term Borrowings and Restricted Cash*. In

addition, at December 31, 2019 and 2018, the Corporation had cash deposited with clearing organizations of \$7.6 billion and \$8.1 billion primarily recorded in other assets on the Consolidated Balance Sheet.

### Bank Subsidiary Distributions

The primary sources of funds for cash distributions by the Corporation to its shareholders are capital distributions received from its bank subsidiaries, BANA and Bank of America California, N.A. In 2019, the Corporation received dividends of \$20.5 billion from BANA and \$215 million from Bank of America California, N.A. In addition, BANA returned capital of \$8.0 billion to the Corporation in 2019.

The amount of dividends that a subsidiary bank may declare in a calendar year without OCC approval is the subsidiary bank's net profits for that year combined with its retained net profits for the preceding two years. Retained net profits, as defined by the OCC, consist of net income less dividends declared during the period. In 2020, BANA can declare and pay dividends of approximately \$9.4 billion to the Corporation plus an additional amount equal to its retained net profits for 2020 up to the date of any such dividend declaration. Bank of America California, N.A. can pay dividends of \$94 million in 2020 plus an additional amount equal to its retained net profits for 2020 up to the date of any such dividend declaration.

## NOTE 18 Employee Benefit Plans

### Pension and Postretirement Plans

The Corporation sponsors a qualified noncontributory trustee pension plan (Qualified Pension Plan), a number of noncontributory nonqualified pension plans, and postretirement health and life plans that cover eligible employees. Non-U.S. pension plans sponsored by the Corporation vary based on the country and local practices.

The Qualified Pension Plan has a balance guarantee feature for account balances with participant-selected investments, applied at the time a benefit payment is made from the plan that effectively provides principal protection for participant balances transferred and certain compensation credits. The Corporation is responsible for funding any shortfall on the guarantee feature.

Benefits earned under the Qualified Pension Plan have been frozen. Thereafter, the cash balance accounts continue to earn investment credits or interest credits in accordance with the terms of the plan document.

The Corporation has an annuity contract that guarantees the payment of benefits vested under a terminated U.S. pension plan (Other Pension Plan). The Corporation, under a supplemental agreement, may be responsible for, or benefit from actual experience and investment performance of the annuity assets. The Corporation made no contribution under this agreement in 2019 or 2018. Contributions may be required in the future under this agreement.

The Corporation's noncontributory, nonqualified pension plans are unfunded and provide supplemental defined pension benefits to certain eligible employees.

In addition to retirement pension benefits, certain benefits-eligible employees may become eligible to continue participation as retirees in health care and/or life insurance plans sponsored by the Corporation. These plans are referred to as the Postretirement Health and Life Plans.

The Pension and Postretirement Plans table summarizes the changes in the fair value of plan assets, changes in the projected benefit obligation (PBO), the funded status of both the accumulated benefit obligation (ABO) and the PBO, and the weighted-average assumptions used to determine benefit obligations for the pension plans and postretirement plans at December 31, 2019 and 2018. The estimate of the Corporation's PBO associated with these plans considers various actuarial assumptions, including assumptions for mortality rates and discount rates. The discount rate assumptions are derived from a cash flow matching technique that utilizes rates that are based on Aa-rated corporate bonds with cash flows that match estimated benefit payments of each of the plans. The decreases in the weighted-average discount rates in 2019 resulted in increases to the PBO of approximately \$2.2 billion at December 31, 2019. The increases in the weighted-average discount rates in 2018 resulted in decreases to the PBO of approximately \$1.3 billion at December 31, 2018. Significant gains and losses related to changes in the PBO for 2019 and 2018 primarily resulted from changes in the discount rate.

### Pension and Postretirement Plans <sup>(1)</sup>

| (Dollars in millions)                                   | Qualified Pension Plan |                  | Non-U.S. Pension Plans |                 | Nonqualified and Other Pension Plans |                 | Postretirement Health and Life Plans |                 |
|---------------------------------------------------------|------------------------|------------------|------------------------|-----------------|--------------------------------------|-----------------|--------------------------------------|-----------------|
|                                                         | 2019                   | 2018             | 2019                   | 2018            | 2019                                 | 2018            | 2019                                 | 2018            |
| <b>Fair value, January 1</b>                            | <b>\$ 16,178</b>       | <b>\$ 19,708</b> | <b>\$ 2,461</b>        | <b>\$ 2,943</b> | <b>\$ 2,584</b>                      | <b>\$ 2,724</b> | <b>\$ 262</b>                        | <b>\$ 300</b>   |
| Actual return on plan assets                            | 3,187                  | (550)            | 273                    | (181)           | 228                                  | 8               | 5                                    | 5               |
| Company contributions                                   | —                      | —                | 20                     | 22              | 91                                   | 91              | 24                                   | 43              |
| Plan participant contributions                          | —                      | —                | 1                      | 1               | —                                    | —               | 103                                  | 115             |
| Settlements and curtailments                            | —                      | —                | (42)                   | (107)           | —                                    | —               | —                                    | —               |
| Benefits paid                                           | (1,090)                | (980)            | (108)                  | (52)            | (237)                                | (239)           | (185)                                | (214)           |
| Federal subsidy on benefits paid                        | n/a                    | n/a              | n/a                    | n/a             | n/a                                  | n/a             | —                                    | 3               |
| Foreign currency exchange rate changes                  | n/a                    | n/a              | 91                     | (165)           | n/a                                  | n/a             | n/a                                  | n/a             |
| <b>Fair value, December 31</b>                          | <b>\$ 20,276</b>       | <b>\$ 18,178</b> | <b>\$ 2,696</b>        | <b>\$ 2,461</b> | <b>\$ 2,666</b>                      | <b>\$ 2,584</b> | <b>\$ 199</b>                        | <b>\$ 252</b>   |
| <b>Change in projected benefit obligation</b>           |                        |                  |                        |                 |                                      |                 |                                      |                 |
| Projected benefit obligation, January 1                 | \$ 14,144              | \$ 15,706        | \$ 2,589               | \$ 2,814        | \$ 2,779                             | \$ 3,047        | \$ 928                               | \$ 1,056        |
| Service cost                                            | —                      | —                | 17                     | 19              | 1                                    | 1               | 5                                    | 6               |
| Interest cost                                           | 593                    | 563              | 65                     | 65              | 113                                  | 105             | 38                                   | 36              |
| Plan participant contributions                          | —                      | —                | 1                      | 1               | —                                    | —               | 103                                  | 115             |
| Plan amendments                                         | —                      | —                | 2                      | 13              | —                                    | —               | —                                    | —               |
| Settlements and curtailments                            | —                      | —                | (42)                   | (107)           | —                                    | —               | —                                    | —               |
| Actuarial loss (gain)                                   | 1,714                  | (1,145)          | 288                    | (29)            | 263                                  | (135)           | 99                                   | (73)            |
| Benefits paid                                           | (1,090)                | (980)            | (108)                  | (52)            | (237)                                | (239)           | (185)                                | (214)           |
| Federal subsidy on benefits paid                        | n/a                    | n/a              | n/a                    | n/a             | n/a                                  | n/a             | —                                    | 3               |
| Foreign currency exchange rate changes                  | n/a                    | n/a              | 75                     | (135)           | n/a                                  | n/a             | 1                                    | (1)             |
| <b>Projected benefit obligation, December 31</b>        | <b>\$ 15,361</b>       | <b>\$ 14,144</b> | <b>\$ 2,887</b>        | <b>\$ 2,589</b> | <b>\$ 2,919</b>                      | <b>\$ 2,779</b> | <b>\$ 989</b>                        | <b>\$ 928</b>   |
| <b>Amounts recognized on Consolidated Balance Sheet</b> |                        |                  |                        |                 |                                      |                 |                                      |                 |
| Other assets                                            | \$ 4,914               | \$ 4,034         | \$ 364                 | \$ 316          | \$ 733                               | \$ 754          | \$ —                                 | \$ —            |
| Accrued expenses and other liabilities                  | —                      | —                | (555)                  | (444)           | (986)                                | (949)           | (790)                                | (676)           |
| <b>Net amount recognized, December 31</b>               | <b>\$ 4,914</b>        | <b>\$ 4,034</b>  | <b>\$ (191)</b>        | <b>\$ (128)</b> | <b>\$ (253)</b>                      | <b>\$ (195)</b> | <b>\$ (790)</b>                      | <b>\$ (676)</b> |
| <b>Funded status, December 31</b>                       |                        |                  |                        |                 |                                      |                 |                                      |                 |
| Accumulated benefit obligation                          | \$ 15,361              | \$ 14,144        | \$ 2,841               | \$ 2,542        | \$ 2,919                             | \$ 2,778        | n/a                                  | n/a             |
| Overfunded (unfunded) status of ABO                     | 4,914                  | 4,034            | (145)                  | (81)            | (253)                                | (194)           | n/a                                  | n/a             |
| Provision for future salaries                           | —                      | —                | 46                     | 47              | —                                    | 1               | n/a                                  | n/a             |
| <b>Projected benefit obligation</b>                     | <b>15,361</b>          | <b>14,144</b>    | <b>2,887</b>           | <b>2,589</b>    | <b>2,919</b>                         | <b>2,779</b>    | <b>\$ 989</b>                        | <b>\$ 928</b>   |
| <b>Weighted-average assumptions, December 31</b>        |                        |                  |                        |                 |                                      |                 |                                      |                 |
| Discount rate                                           | 3.32%                  | 4.32%            | 1.81%                  | 2.60%           | 3.20%                                | 4.26%           | 3.27%                                | 4.25%           |
| Rate of compensation increase                           | n/a                    | n/a              | 4.10                   | 4.49            | 4.00                                 | 4.00            | n/a                                  | n/a             |
| Interest-crediting rate                                 | 5.06                   | 5.18             | 1.53                   | 1.47            | 4.52                                 | 4.50            | n/a                                  | n/a             |

(1) The measurement date for all of the above plans was December 31 of each year reported.

n/a = not applicable

The Corporation's estimate of its contributions to be made to the Non-U.S. Pension Plans, Nonqualified and Other Pension Plans, and Postretirement Health and Life Plans in 2020 is \$21 million, \$92 million and \$15 million, respectively. The Corporation does not expect to make a contribution to the Qualified Pension Plan in 2020. It is the policy of the Corporation to fund no less than the

minimum funding amount required by the Employee Retirement Income Security Act of 1974 (ERISA).

Pension Plans with ABO and PBO in excess of plan assets as of December 31, 2019 and 2018 are presented in the table below. For these plans, funding strategies vary due to legal requirements and local practices.

#### Plans with ABO and PBO in Excess of Plan Assets

| (Dollars in millions)     | Non-U.S. Pension Plans |        | Nonqualified and Other Pension Plans |        |
|---------------------------|------------------------|--------|--------------------------------------|--------|
|                           | 2019                   | 2018   | 2019                                 | 2018   |
| PBO                       | \$ 744                 | \$ 615 | \$ 988                               | \$ 950 |
| ABO                       | 720                    | 605    | 988                                  | 949    |
| Fair value of plan assets | 191                    | 173    | 1                                    | 1      |

#### Components of Net Periodic Benefit Cost

| (Dollars in millions)                                                                      | Qualified Pension Plan |                 |                 | Non-U.S. Pension Plans |                |                |
|--------------------------------------------------------------------------------------------|------------------------|-----------------|-----------------|------------------------|----------------|----------------|
|                                                                                            | 2019                   | 2018            | 2017            | 2019                   | 2018           | 2017           |
| <b>Components of net periodic benefit cost (income)</b>                                    |                        |                 |                 |                        |                |                |
| Service cost                                                                               | \$ —                   | \$ —            | \$ —            | \$ 17                  | \$ 19          | \$ 24          |
| Interest cost                                                                              | 593                    | 563             | 606             | 65                     | 65             | 72             |
| Expected return on plan assets                                                             | (1,088)                | (1,136)         | (1,068)         | (99)                   | (126)          | (136)          |
| Amortization of net actuarial loss                                                         | 135                    | 147             | 154             | 6                      | 10             | 8              |
| Other                                                                                      | —                      | —               | —               | 4                      | 12             | (7)            |
| <b>Net periodic benefit cost (income)</b>                                                  | <b>\$ (360)</b>        | <b>\$ (426)</b> | <b>\$ (308)</b> | <b>\$ (7)</b>          | <b>\$ (20)</b> | <b>\$ (39)</b> |
| <b>Weighted-average assumptions used to determine net cost for years ended December 31</b> |                        |                 |                 |                        |                |                |
| Discount rate                                                                              | 4.32%                  | 3.68%           | 4.16%           | 2.60%                  | 2.39%          | 2.56%          |
| Expected return on plan assets                                                             | 6.00                   | 6.00            | 6.00            | 4.13                   | 4.37           | 4.73           |
| Rate of compensation increase                                                              | n/a                    | n/a             | n/a             | 4.49                   | 4.31           | 4.51           |

| (Dollars in millions)                                                                      | Nonqualified and Other Pension Plans |              |              | Postretirement Health and Life Plans |             |              |
|--------------------------------------------------------------------------------------------|--------------------------------------|--------------|--------------|--------------------------------------|-------------|--------------|
|                                                                                            | 2019                                 | 2018         | 2017         | 2019                                 | 2018        | 2017         |
| <b>Components of net periodic benefit cost (income)</b>                                    |                                      |              |              |                                      |             |              |
| Service cost                                                                               | \$ 1                                 | \$ 1         | \$ 1         | \$ 5                                 | \$ 6        | \$ 6         |
| Interest cost                                                                              | 113                                  | 105          | 117          | 38                                   | 36          | 43           |
| Expected return on plan assets                                                             | (95)                                 | (84)         | (95)         | (5)                                  | (6)         | —            |
| Amortization of net actuarial loss (gain)                                                  | 34                                   | 43           | 34           | (24)                                 | (27)        | (21)         |
| Other                                                                                      | —                                    | —            | —            | (2)                                  | (3)         | 4            |
| <b>Net periodic benefit cost (income)</b>                                                  | <b>\$ 53</b>                         | <b>\$ 65</b> | <b>\$ 57</b> | <b>\$ 12</b>                         | <b>\$ 6</b> | <b>\$ 32</b> |
| <b>Weighted-average assumptions used to determine net cost for years ended December 31</b> |                                      |              |              |                                      |             |              |
| Discount rate                                                                              | 4.26%                                | 3.58%        | 4.01%        | 4.25%                                | 3.58%       | 3.99%        |
| Expected return on plan assets                                                             | 3.73                                 | 3.19         | 3.50         | 2.00                                 | 2.00        | n/a          |
| Rate of compensation increase                                                              | 4.00                                 | 4.00         | 4.00         | n/a                                  | n/a         | n/a          |

n/a = not applicable

The asset valuation method used to calculate the expected return on plan assets component of net periodic benefit cost for the Qualified Pension Plan recognizes 60 percent of the prior year's market gains or losses at the next measurement date with the remaining 40 percent spread equally over the subsequent four years.

Gains and losses for all benefit plans except postretirement health care are recognized in accordance with the standard amortization provisions of the applicable accounting guidance. Net periodic postretirement health and life expense was determined using the "projected unit credit" actuarial method. For the Postretirement Health and Life Plans, 50 percent of the unrecognized gain or loss at the beginning of the year (or at subsequent remeasurement) is recognized on a level basis during the year.

Assumed health care cost trend rates affect the postretirement benefit obligation and benefit cost reported for the Postretirement Health and Life Plans. The assumed health care cost trend rate used to measure the expected cost of benefits covered by the Postretirement Health and Life Plans is 6.50 percent for 2020, reducing in steps to 5.00 percent in 2026 and later years.

The Corporation's net periodic benefit cost (income) recognized for the plans is sensitive to the discount rate and expected return on plan assets. For the Qualified Pension Plan, Non-U.S. Pension Plans, Nonqualified and Other Pension Plans, and Postretirement Health and Life Plans, a 25 bp decline in discount rates and expected return on assets would not have had a significant impact on the net periodic benefit cost for 2019.

### Pretax Amounts included in Accumulated OCI and OCI

| (Dollars in millions)                                        | Qualified Pension Plan |          | Non-U.S. Pension Plans |        | Nonqualified and Other Pension Plans |          | Postretirement Health and Life Plans |         | Total    |          |
|--------------------------------------------------------------|------------------------|----------|------------------------|--------|--------------------------------------|----------|--------------------------------------|---------|----------|----------|
|                                                              | 2019                   | 2018     | 2019                   | 2018   | 2019                                 | 2018     | 2019                                 | 2018    | 2019     | 2018     |
| Net actuarial loss (gain)                                    | \$ 3,865               | \$ 4,386 | \$ 559                 | \$ 454 | \$ 1,008                             | \$ 912   | \$ 48                                | \$ (75) | \$ 5,480 | \$ 5,677 |
| Prior service cost (credits)                                 | —                      | —        | 18                     | 18     | —                                    | —        | (6)                                  | (9)     | 12       | 9        |
| Amounts recognized in accumulated OCI                        | \$ 3,865               | \$ 4,386 | \$ 577                 | \$ 472 | \$ 1,008                             | \$ 912   | \$ 42                                | \$ (84) | \$ 5,492 | \$ 5,686 |
| Current year actuarial loss (gain)                           | \$ (385)               | \$ 541   | \$ 110                 | \$ 270 | \$ 130                               | \$ (59)  | \$ 99                                | \$ (73) | \$ (46)  | \$ 679   |
| Amortization of actuarial gain (loss) and prior service cost | (135)                  | (147)    | (7)                    | (11)   | (34)                                 | (43)     | 26                                   | 30      | (150)    | (171)    |
| Current year prior service cost (credit)                     | —                      | —        | 2                      | 13     | —                                    | —        | —                                    | —       | 2        | 13       |
| Amounts recognized in OCI                                    | \$ (520)               | \$ 394   | \$ 105                 | \$ 272 | \$ 96                                | \$ (102) | \$ 125                               | \$ (43) | \$ (194) | \$ 521   |

### Plan Assets

The Qualified Pension Plan has been established as a retirement vehicle for participants, and trusts have been established to secure benefits promised under the Qualified Pension Plan. The Corporation's policy is to invest the trust assets in a prudent manner for the exclusive purpose of providing benefits to participants and defraying reasonable expenses of administration. The Corporation's investment strategy is designed to provide a total return that, over the long term, increases the ratio of assets to liabilities. The strategy attempts to maximize the investment return on assets at a level of risk deemed appropriate by the Corporation while complying with ERISA and any applicable regulations and laws. The investment strategy utilizes asset allocation as a principal determinant for establishing the risk/return profile of the assets. Asset allocation ranges are established, periodically reviewed and adjusted as funding levels and liability characteristics change. Active and passive investment managers are employed to help enhance the risk/return profile of the assets. An additional aspect of the investment strategy used to minimize risk (part of the asset allocation plan) includes matching the exposure of participant-selected investment measures.

The assets of the Non-U.S. Pension Plans are primarily attributable to a U.K. pension plan. This U.K. pension plan's assets are invested prudently so that the benefits promised to members are provided with consideration given to the nature and the duration

of the plans' liabilities. The selected asset allocation strategy is designed to achieve a higher return than the lowest risk strategy.

The expected rate of return on plan assets assumption was developed through analysis of historical market returns, historical asset class volatility and correlations, current market conditions, anticipated future asset allocations, the funds' past experience, and expectations on potential future market returns. The expected return on plan assets assumption is determined using the calculated market-related value for the Qualified Pension Plan and the Other Pension Plan and the fair value for the Non-U.S. Pension Plans and Postretirement Health and Life Plans. The expected return on plan assets assumption represents a long-term average view of the performance of the assets in the Qualified Pension Plan, the Non-U.S. Pension Plans, the Other Pension Plan, and Postretirement Health and Life Plans, a return that may or may not be achieved during any one calendar year. The Other Pension Plan is invested solely in an annuity contract which is primarily invested in fixed-income securities structured such that asset maturities match the duration of the plan's obligations.

The target allocations for 2020 by asset category for the Qualified Pension Plan, Non-U.S. Pension Plans, and Nonqualified and Other Pension Plans are presented in the following table. Equity securities for the Qualified Pension Plan include common stock of the Corporation in the amounts of \$315 million (1.55 percent of total plan assets) and \$221 million (1.22 percent of total plan assets) at December 31, 2019 and 2018.

### 2020 Target Allocation

| Asset Category    | Percentage             |                        |                                      |
|-------------------|------------------------|------------------------|--------------------------------------|
|                   | Qualified Pension Plan | Non-U.S. Pension Plans | Nonqualified and Other Pension Plans |
| Equity securities | 15 - 50%               | 5 - 30%                | 0 - 5%                               |
| Debt securities   | 45 - 80%               | 40 - 70%               | 95 - 100%                            |
| Real estate       | 0 - 10%                | 0 - 15%                | 0 - 5%                               |
| Other             | 0 - 5%                 | 10 - 40%               | 0 - 5%                               |

### Fair Value Measurements

For more information on fair value measurements, including descriptions of Level 1, 2 and 3 of the fair value hierarchy and the valuation methods employed by the Corporation, see Note 1 - Summary of Significant Accounting Principles and Note 21 - Fair Value Measurements. Combined plan investment assets measured at fair value by level and in total at December 31, 2019 and 2018 are summarized in the Fair Value Measurements table.

## Fair Value Measurements

|                                                    | Level 1           | Level 2          | Level 3         | Total            | Level 1           | Level 2          | Level 3         | Total            |
|----------------------------------------------------|-------------------|------------------|-----------------|------------------|-------------------|------------------|-----------------|------------------|
| (Dollars in millions)                              | December 31, 2019 |                  |                 |                  | December 31, 2018 |                  |                 |                  |
| <b>Cash and short-term investments</b>             |                   |                  |                 |                  |                   |                  |                 |                  |
| Money market and interest-bearing cash             | \$ 1,426          | \$ —             | \$ —            | \$ 1,426         | \$ 1,530          | \$ —             | \$ —            | \$ 1,530         |
| Cash and cash equivalent commingled/mutual funds   | —                 | 250              | —               | 250              | —                 | 644              | —               | 644              |
| <b>Fixed income</b>                                |                   |                  |                 |                  |                   |                  |                 |                  |
| U.S. government and agency securities              | 4,403             | 890              | 8               | 5,301            | 3,637             | 805              | 9               | 4,451            |
| Corporate debt securities                          | —                 | 3,676            | —               | 3,676            | —                 | 2,852            | —               | 2,852            |
| Asset-backed securities                            | —                 | 2,684            | —               | 2,684            | —                 | 2,119            | —               | 2,119            |
| Non-U S debt securities                            | 748               | 1,015            | —               | 1,763            | 539               | 961              | —               | 1,500            |
| Fixed income commingled/mutual funds               | 804               | 1,439            | —               | 2,243            | 933               | 1,177            | —               | 2,110            |
| <b>Equity</b>                                      |                   |                  |                 |                  |                   |                  |                 |                  |
| Common and preferred equity securities             | 4,655             | —                | —               | 4,655            | 4,414             | —                | —               | 4,414            |
| Equity commingled/mutual funds                     | 147               | 1,355            | —               | 1,502            | 288               | 1,275            | —               | 1,563            |
| Public real estate investment trusts               | 91                | —                | —               | 91               | 104               | —                | —               | 104              |
| <b>Real estate</b>                                 |                   |                  |                 |                  |                   |                  |                 |                  |
| Private real estate                                | —                 | —                | —               | —                | —                 | —                | 5               | 5                |
| Real estate commingled/mutual funds                | —                 | 18               | 927             | 945              | —                 | 13               | 885             | 898              |
| <b>Limited partnerships</b>                        |                   |                  |                 |                  |                   |                  |                 |                  |
|                                                    | —                 | 173              | 90              | 263              | —                 | 158              | 82              | 240              |
| <b>Other investments <sup>(1)</sup></b>            |                   |                  |                 |                  |                   |                  |                 |                  |
|                                                    | 11                | 390              | 636             | 1,037            | 93                | 364              | 588             | 1,045            |
| <b>Total plan investment assets, at fair value</b> | <b>\$ 12,285</b>  | <b>\$ 11,890</b> | <b>\$ 1,661</b> | <b>\$ 25,836</b> | <b>\$ 11,538</b>  | <b>\$ 10,368</b> | <b>\$ 1,569</b> | <b>\$ 23,475</b> |

<sup>(1)</sup> Other investments include commodity and balanced funds of \$233 million and \$305 million, insurance annuity contracts of \$614 million and \$562 million and other various investments of \$190 million and \$178 million at December 31, 2019 and 2018.

The Level 3 Fair Value Measurements table presents a reconciliation of all plan investment assets measured at fair value using significant unobservable inputs (Level 3) during 2019, 2018 and 2017.

## Level 3 Fair Value Measurements

|                                       | Balance<br>January 1 | Actual Return on<br>Plan Assets Still<br>Held at the<br>Reporting Date | Purchases, Sales<br>and Settlements | Balance<br>December 31 |
|---------------------------------------|----------------------|------------------------------------------------------------------------|-------------------------------------|------------------------|
| (Dollars in millions)                 |                      |                                                                        |                                     |                        |
| <b>2019</b>                           |                      |                                                                        |                                     |                        |
| <b>Fixed income</b>                   |                      |                                                                        |                                     |                        |
| U.S. government and agency securities | \$ 9                 | \$ —                                                                   | \$ (1)                              | \$ 8                   |
| <b>Real estate</b>                    |                      |                                                                        |                                     |                        |
| Private real estate                   | 5                    | —                                                                      | (5)                                 | —                      |
| Real estate commingled/mutual funds   | 885                  | 33                                                                     | 9                                   | 927                    |
| <b>Limited partnerships</b>           |                      |                                                                        |                                     |                        |
|                                       | 82                   | —                                                                      | 8                                   | 90                     |
| <b>Other investments</b>              |                      |                                                                        |                                     |                        |
|                                       | 588                  | 6                                                                      | 42                                  | 636                    |
| <b>Total</b>                          | <b>\$ 1,569</b>      | <b>\$ 39</b>                                                           | <b>\$ 53</b>                        | <b>\$ 1,661</b>        |
| <b>2018</b>                           |                      |                                                                        |                                     |                        |
| <b>Fixed income</b>                   |                      |                                                                        |                                     |                        |
| U.S. government and agency securities | \$ 9                 | \$ —                                                                   | \$ —                                | \$ 9                   |
| <b>Real estate</b>                    |                      |                                                                        |                                     |                        |
| Private real estate                   | 93                   | (7)                                                                    | (81)                                | 5                      |
| Real estate commingled/mutual funds   | 831                  | 52                                                                     | 2                                   | 885                    |
| <b>Limited partnerships</b>           |                      |                                                                        |                                     |                        |
|                                       | 85                   | (12)                                                                   | 9                                   | 82                     |
| <b>Other investments</b>              |                      |                                                                        |                                     |                        |
|                                       | 74                   | —                                                                      | 514                                 | 588                    |
| <b>Total</b>                          | <b>\$ 1,092</b>      | <b>\$ 33</b>                                                           | <b>\$ 444</b>                       | <b>\$ 1,569</b>        |
| <b>2017</b>                           |                      |                                                                        |                                     |                        |
| <b>Fixed income</b>                   |                      |                                                                        |                                     |                        |
| U.S. government and agency securities | \$ 10                | \$ —                                                                   | \$ (1)                              | \$ 9                   |
| <b>Real estate</b>                    |                      |                                                                        |                                     |                        |
| Private real estate                   | 150                  | 8                                                                      | (65)                                | 93                     |
| Real estate commingled/mutual funds   | 748                  | 63                                                                     | 20                                  | 831                    |
| <b>Limited partnerships</b>           |                      |                                                                        |                                     |                        |
|                                       | 38                   | 14                                                                     | 33                                  | 85                     |
| <b>Other investments</b>              |                      |                                                                        |                                     |                        |
|                                       | 83                   | 5                                                                      | (14)                                | 74                     |
| <b>Total</b>                          | <b>\$ 1,029</b>      | <b>\$ 90</b>                                                           | <b>\$ (27)</b>                      | <b>\$ 1,092</b>        |

## Projected Benefit Payments

Benefit payments projected to be made from the Qualified Pension Plan, Non-U.S. Pension Plans, Nonqualified and Other Pension Plans, and Postretirement Health and Life Plans are presented in the table below.

### Projected Benefit Payments

| (Dollars in millions) | Qualified Pension Plan <sup>(1)</sup> | Non-U.S. Pension Plans <sup>(2)</sup> | Nonqualified and Other Pension Plans <sup>(2)</sup> | Postretirement Health and Life Plans <sup>(3)</sup> |
|-----------------------|---------------------------------------|---------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| 2020                  | \$ 917                                | \$ 108                                | \$ 242                                              | \$ 83                                               |
| 2021                  | 926                                   | 107                                   | 245                                                 | 80                                                  |
| 2022                  | 927                                   | 110                                   | 232                                                 | 77                                                  |
| 2023                  | 917                                   | 116                                   | 230                                                 | 74                                                  |
| 2024                  | 924                                   | 126                                   | 223                                                 | 72                                                  |
| 2025 - 2029           | 4,409                                 | 594                                   | 1,011                                               | 313                                                 |

<sup>(1)</sup> Benefit payments expected to be made from the plan's assets.

<sup>(2)</sup> Benefit payments expected to be made from a combination of the plans' and the Corporation's assets.

<sup>(3)</sup> Benefit payments (net of retiree contributions) expected to be made from a combination of the plans' and the Corporation's assets.

## Defined Contribution Plans

The Corporation maintains qualified and non-qualified defined contribution retirement plans. The Corporation recorded expense of \$1.0 billion in each of 2019, 2018 and 2017 related to the qualified defined contribution plans. At December 31, 2019 and 2018, 189 million and 212 million shares of the Corporation's common stock were held by these plans. Payments to the plans for dividends on common stock were \$133 million, \$115 million and \$86 million in 2019, 2018 and 2017, respectively.

Certain non-U.S. employees are covered under defined contribution pension plans that are separately administered in accordance with local laws.

## NOTE 19 Stock-based Compensation Plans

The Corporation administers a number of equity compensation plans, with awards being granted predominantly from the Bank of America Key Employee Equity Plan (KEEP). On April 24, 2019, Bank of America's shareholders approved an amendment to the KEEP to increase the number of shares available for grant by 150 million. Subsequent to this amendment, 600 million shares of the Corporation's common stock are authorized to be used for grants of awards.

During 2019 and 2018, the Corporation granted 94 million and 71 million RSU awards to certain employees under the KEEP. These RSUs were authorized to settle predominantly in shares of common stock of the Corporation. Certain RSUs will be settled in cash or contain settlement provisions that subject these awards to variable accounting whereby compensation expense is adjusted to fair value based on changes in the share price of the Corporation's common stock up to the settlement date. Of the RSUs granted in 2019 and 2018, 71 million and 63 million will vest predominantly over three years with most vesting occurring in one-third increments on each of the first three anniversaries of the grant date provided that the employee remains continuously employed with the Corporation during that time, and will be expensed ratably over the vesting period, net of estimated forfeitures, for non-retirement eligible employees based on the grant-date fair value of the shares. For RSUs granted to employees who are retirement eligible, the awards are deemed authorized as of the beginning of the year preceding the grant date when the incentive award plans are generally approved. As a result, the estimated value is expensed ratably over the year preceding the grant date. Additionally, 23 million and eight million of the RSUs granted in 2019 and 2018 will vest predominantly over four years with most vesting occurring in one-fourth increments on each of the first four

anniversaries of the grant date provided that the employee remains continuously employed with the Corporation during that time, and will be expensed ratably over the vesting period, net of estimated forfeitures, based on the grant-date fair value of the shares.

The compensation cost for the stock-based plans was \$2.1 billion, \$1.8 billion and \$2.2 billion and the related income tax benefit was \$511 million, \$433 million and \$829 million for 2019, 2018 and 2017, respectively.

## Restricted Stock/Units

The table below presents the status at December 31, 2019 of the share-settled restricted stock/units and changes during 2019.

### Stock-settled Restricted Stock/Units

|                                         | Shares/Units       | Weighted-average Grant Date Fair Value |
|-----------------------------------------|--------------------|----------------------------------------|
| Outstanding at January 1, 2019          | 165,621,246        | \$ 23.22                               |
| Granted                                 | 91,164,482         | 27.72                                  |
| Vested                                  | (92,215,549)       | 19.30                                  |
| Canceled                                | (6,660,864)        | 27.49                                  |
| <b>Outstanding at December 31, 2019</b> | <b>157,909,315</b> | <b>27.93</b>                           |

The table below presents the status at December 31, 2019 of the cash-settled RSUs and changes during 2019.

### Cash-settled Restricted Units

|                                         | Units            |
|-----------------------------------------|------------------|
| Outstanding at January 1, 2019          | 2,609,122        |
| Granted                                 | 2,455,177        |
| Vested                                  | (3,006,707)      |
| Canceled                                | (93,170)         |
| <b>Outstanding at December 31, 2019</b> | <b>1,964,422</b> |

At December 31, 2019, there was an estimated \$1.6 billion of total unrecognized compensation cost related to certain share-based compensation awards that is expected to be recognized over a period of up to four years, with a weighted-average period of 2.2 years. The total fair value of restricted stock vested in 2019, 2018 and 2017 was \$2.6 billion, \$2.3 billion and \$1.3 billion, respectively. In 2019, 2018 and 2017, the amount of cash paid to settle equity-based awards for all equity compensation plans was \$84 million, \$1.3 billion and \$1.9 billion, respectively.

## NOTE 20 Income Taxes

The components of income tax expense for 2019, 2018 and 2017 are presented in the table below.

### Income Tax Expense

| (Dollars in millions)              | 2019            | 2018            | 2017             |
|------------------------------------|-----------------|-----------------|------------------|
| <b>Current income tax expense</b>  |                 |                 |                  |
| U.S. federal                       | \$ 1,136        | \$ 816          | \$ 1,310         |
| U.S. state and local               | 901             | 1,377           | 557              |
| Non-U.S.                           | 852             | 1,203           | 939              |
| Total current expense              | 2,889           | 3,396           | 2,806            |
| <b>Deferred income tax expense</b> |                 |                 |                  |
| U.S. federal                       | 2,001           | 2,579           | 7,238            |
| U.S. state and local               | 223             | 240             | 835              |
| Non-U.S.                           | 211             | 222             | 102              |
| Total deferred expense             | 2,435           | 3,041           | 8,175            |
| <b>Total income tax expense</b>    | <b>\$ 5,324</b> | <b>\$ 6,437</b> | <b>\$ 10,981</b> |

Total income tax expense does not reflect the tax effects of items that are included in OCI each period. For more information, see Note 15 – *Accumulated Other Comprehensive Income (Loss)*. Other tax effects included in OCI each period resulted in an expense of \$1.9 billion in 2019 and a benefit of \$1.2 billion in both 2018 and 2017.

### Reconciliation of Income Tax Expense

| (Dollars in millions)                            | Amount          | Percent      | Amount          | Percent      | Amount           | Percent      |
|--------------------------------------------------|-----------------|--------------|-----------------|--------------|------------------|--------------|
|                                                  | 2019            |              | 2018            |              | 2017             |              |
| Expected U.S. federal income tax expense         | \$ 6,878        | 21.0%        | \$ 7,263        | 21.0%        | \$ 10,225        | 35.0%        |
| Increase (decrease) in taxes resulting from:     |                 |              |                 |              |                  |              |
| State tax expense, net of federal benefit        | 1,283           | 3.9          | 1,367           | 4.0          | 881              | 3.0          |
| Affordable housing/energy/other credits          | (2,365)         | (7.2)        | (1,888)         | (5.5)        | (1,406)          | (4.8)        |
| Changes in prior-period UTBs, including interest | (613)           | (1.9)        | 144             | 0.4          | 133              | 0.5          |
| Tax-exempt income, including dividends           | (433)           | (1.3)        | (413)           | (1.2)        | (672)            | (2.3)        |
| Stock-based compensation                         | (225)           | (0.7)        | (257)           | (0.7)        | (236)            | (0.8)        |
| Rate differential on non-U.S. earnings           | 504             | 1.5          | 98              | 0.3          | (272)            | (0.9)        |
| Nondeductible expenses                           | 290             | 0.9          | 302             | 0.9          | 97               | 0.3          |
| Tax law changes                                  | —               | —            | —               | —            | 2,281            | 7.8          |
| Other                                            | 5               | 0.1          | (179)           | (0.6)        | (50)             | (0.2)        |
| <b>Total income tax expense</b>                  | <b>\$ 5,324</b> | <b>16.3%</b> | <b>\$ 6,437</b> | <b>18.6%</b> | <b>\$ 10,981</b> | <b>37.6%</b> |

The reconciliation of the beginning unrecognized tax benefits (UTB) balance to the ending balance is presented in the following table.

### Reconciliation of the Change in Unrecognized Tax Benefits

| (Dollars in millions)                                                  | 2019            | 2018            | 2017            |
|------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| <b>Balance, January 1</b>                                              | <b>\$ 2,197</b> | <b>\$ 1,773</b> | <b>\$ 875</b>   |
| Increases related to positions taken during the current year           | 238             | 395             | 292             |
| Increases related to positions taken during prior years <sup>(1)</sup> | 401             | 406             | 750             |
| Decreases related to positions taken during prior years <sup>(1)</sup> | (1,102)         | (371)           | (122)           |
| Settlements                                                            | (541)           | (6)             | (17)            |
| Expiration of statute of limitations                                   | (18)            | —               | (5)             |
| <b>Balance, December 31</b>                                            | <b>\$ 1,175</b> | <b>\$ 2,197</b> | <b>\$ 1,773</b> |

<sup>(1)</sup> The sum of the positions taken during prior years differs from the \$(613) million, \$144 million and \$133 million in the Reconciliation of Income Tax Expense table due to temporary items, state items and jurisdictional offsets, as well as the inclusion of interest in the Reconciliation of Income Tax Expense table

Income tax expense for 2019, 2018 and 2017 varied from the amount computed by applying the statutory income tax rate to income before income taxes. The Corporation's federal statutory tax rate was 21 percent for 2019 and 2018, and 35 percent for 2017. A reconciliation of the expected U.S. federal income tax expense, calculated by applying the federal statutory tax rate, to the Corporation's actual income tax expense, and the effective tax rates for 2019, 2018 and 2017 are presented in the table below.

On December 22, 2017, the President signed into law the Tax Act which made significant changes to federal income tax law including, among other things, reducing the statutory corporate income tax rate to 21 percent from 35 percent and changing the taxation of the Corporation's non-U.S. business activities. The impact on net income in 2017 was \$2.9 billion, driven by \$2.3 billion in income tax expense, largely from a lower valuation of certain U.S. deferred tax assets and liabilities. The change in the statutory tax rate also impacted the Corporation's tax-advantaged energy investments, resulting in a downward valuation adjustment of \$946 million recorded in other income and a related income tax benefit of \$347 million, which when netted against the \$2.3 billion, resulted in a net impact on income tax expense of \$1.9 billion.

At December 31, 2019, 2018 and 2017, the balance of the Corporation's UTBs which would, if recognized, affect the Corporation's effective tax rate was \$814 million, \$1.6 billion and \$1.2 billion, respectively. Included in the UTB balance are some items the recognition of which would not affect the effective tax rate, such as the tax effect of certain temporary differences, the portion of gross state UTBs that would be offset by the tax benefit of the associated federal deduction and the portion of gross non-U.S. UTBs that would be offset by tax reductions in other jurisdictions.

It is reasonably possible that the UTB balance may decrease by as much as \$64 million during the next 12 months, since resolved items will be removed from the balance whether their resolution results in payment or recognition.

The Corporation recognized an interest benefit of \$19 million in 2019 and interest expense of \$43 million and \$1 million in 2018 and 2017. At December 31, 2019 and 2018, the Corporation's accrual for interest and penalties that related to income taxes, net of taxes and remittances, was \$147 million and \$218 million.

The Corporation files income tax returns in more than 100 state and non-U.S. jurisdictions each year. The IRS and other tax authorities in countries and states in which the Corporation has

significant business operations examine tax returns periodically (continuously in some jurisdictions). The following table summarizes the status of examinations by major jurisdiction for the Corporation and various subsidiaries at December 31, 2019.

#### Tax Examination Status

|                | Years under Examination <sup>(1)</sup> | Status at December 31 2019 |
|----------------|----------------------------------------|----------------------------|
| United States  | 2017-2018                              | To begin in 2020           |
| California     | 2012-2017                              | Field examination          |
| New York       | 2016-2018                              | Field examination          |
| United Kingdom | 2018                                   | Field examination          |

<sup>(1)</sup> All tax years subsequent to the years shown remain subject to examination.

Significant components of the Corporation's net deferred tax assets and liabilities at December 31, 2019 and 2018 are presented in the following table.

#### Deferred Tax Assets and Liabilities

| (Dollars in millions)                                 | December 31 |           |
|-------------------------------------------------------|-------------|-----------|
|                                                       | 2019        | 2018      |
| <b>Deferred tax assets</b>                            |             |           |
| Net operating loss carryforwards                      | \$ 7,417    | \$ 7,993  |
| Allowance for credit losses                           | 2,354       | 2,400     |
| Lease liability                                       | 2,321       | —         |
| Security, loan and debt valuations                    | 1,860       | 1,818     |
| Accrued expenses                                      | 1,719       | 1,875     |
| Employee compensation and retirement benefits         | 1,622       | 1,564     |
| Credit carryforwards                                  | 183         | 623       |
| Available-for-sale securities                         | —           | 1,854     |
| Other                                                 | 1,203       | 1,037     |
| Gross deferred tax assets                             | 18,679      | 19,164    |
| Valuation allowance                                   | (1,989)     | (1,569)   |
| Total deferred tax assets, net of valuation allowance | 16,690      | 17,595    |
| <b>Deferred tax liabilities</b>                       |             |           |
| Equipment lease financing                             | 2,933       | 2,684     |
| Right-to-use asset                                    | 2,246       | —         |
| Tax credit investments                                | 1,577       | 940       |
| Fixed assets                                          | 1,505       | 1,104     |
| Available-for-sale securities                         | 100         | —         |
| Other                                                 | 1,885       | 2,126     |
| Gross deferred tax liabilities                        | 10,246      | 6,854     |
| Net deferred tax assets                               | \$ 6,444    | \$ 10,741 |

The table below summarizes the deferred tax assets and related valuation allowances recognized for the net operating loss (NOL) and tax credit carryforwards at December 31, 2019.

#### Net Operating Loss and Tax Credit Carryforward Deferred Tax Assets

| (Dollars in millions)                             | Deferred Tax Asset | Valuation Allowance | Net Deferred Tax Asset | First Year Expiring |
|---------------------------------------------------|--------------------|---------------------|------------------------|---------------------|
| Net operating losses - U.S.                       | \$ 312             | \$ —                | \$ 312                 | After 2028          |
| Net operating losses - U.K. <sup>(1)</sup>        | 5,276              | —                   | 5,276                  | None                |
| Net operating losses - other non-U.S.             | 493                | (423)               | 70                     | Various             |
| Net operating losses - U.S. states <sup>(2)</sup> | 1,336              | (580)               | 756                    | Various             |
| Foreign tax credits                               | 183                | (183)               | —                      | 2028                |

<sup>(1)</sup> Represents U.K. broker-dealer net operating losses that may be carried forward indefinitely.

<sup>(2)</sup> The net operating losses and related valuation allowances for U.S. states before considering the benefit of federal deductions were \$1.7 billion and \$734 million.

Management concluded that no valuation allowance was necessary to reduce the deferred tax assets related to the U.K. NOL carryforwards and U.S. federal and certain state NOL carryforwards since estimated future taxable income will be sufficient to utilize these assets prior to their expiration. The majority of the Corporation's U.K. net deferred tax assets, which consist primarily of NOLs, are expected to be realized by certain subsidiaries over an extended number of years. Management's conclusion is supported by financial results, profit forecasts for the relevant entities and the indefinite period to carry forward NOLs. However, a material change in those estimates could lead management to reassess such valuation allowance conclusions.

At December 31, 2019, U.S. federal income taxes had not been provided on approximately \$5.0 billion of temporary differences associated with investments in non-U.S. subsidiaries that are essentially permanent in duration. If the Corporation were to record the associated deferred tax liability, the amount would be approximately \$1.0 billion.

#### NOTE 21 Fair Value Measurements

Under applicable accounting standards, fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Corporation determines the fair values of its financial instruments under applicable accounting standards that require an entity to maximize the use of observable inputs and minimize the use of unobservable inputs. The Corporation categorizes its financial instruments into three levels based on the established fair value hierarchy and conducts a review of fair value hierarchy classifications on a quarterly basis. Transfers into or out of fair value hierarchy classifications are made if the significant inputs used in the financial models measuring the fair values of the assets and liabilities become unobservable or observable in the current marketplace. For more information regarding the fair value hierarchy and how the Corporation measures fair value, see Note 1 - Summary of Significant Accounting Principles. The Corporation accounts for certain financial instruments under the fair value option. For more information, see Note 22 - Fair Value Option.

#### Valuation Techniques

The following sections outline the valuation methodologies for the Corporation's assets and liabilities. While the Corporation believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date.

During 2019, there were no significant changes to valuation approaches or techniques that had, or are expected to have, a material impact on the Corporation's consolidated financial position or results of operations.

#### Trading Account Assets and Liabilities and Debt Securities

The fair values of trading account assets and liabilities are primarily based on actively traded markets where prices are based on either direct market quotes or observed transactions. The fair values of debt securities are generally based on quoted market prices or market prices for similar assets. Liquidity is a significant factor in the determination of the fair values of trading account assets and liabilities and debt securities. Market price quotes may not be readily available for some positions such as positions within a market sector where trading activity has slowed significantly or ceased. Some of these instruments are valued using a discounted

cash flow model, which estimates the fair value of the securities using internal credit risk, and interest rate and prepayment risk models that incorporate management's best estimate of current key assumptions such as default rates, loss severity and prepayment rates. Principal and interest cash flows are discounted using an observable discount rate for similar instruments with adjustments that management believes a market participant would consider in determining fair value for the specific security. Other instruments are valued using a net asset value approach which considers the value of the underlying securities. Underlying assets are valued using external pricing services, where available, or matrix pricing based on the vintages and ratings. Situations of illiquidity generally are triggered by the market's perception of credit uncertainty regarding a single company or a specific market sector. In these instances, fair value is determined based on limited available market information and other factors, principally from reviewing the issuer's financial statements and changes in credit ratings made by one or more rating agencies.

#### **Derivative Assets and Liabilities**

The fair values of derivative assets and liabilities traded in the OTC market are determined using quantitative models that utilize multiple market inputs including interest rates, prices and indices to generate continuous yield or pricing curves and volatility factors to value the position. The majority of market inputs are actively quoted and can be validated through external sources, including brokers, market transactions and third-party pricing services. When third-party pricing services are used, the methods and assumptions are reviewed by the Corporation. Estimation risk is greater for derivative asset and liability positions that are either option-based or have longer maturity dates where observable market inputs are less readily available, or are unobservable, in which case, quantitative-based extrapolations of rate, price or index scenarios are used in determining fair values. The fair values of derivative assets and liabilities include adjustments for market liquidity, counterparty credit quality and other instrument-specific factors, where appropriate. In addition, the Corporation incorporates within its fair value measurements of OTC derivatives a valuation adjustment to reflect the credit risk associated with the net position. Positions are netted by counterparty, and fair value for net long exposures is adjusted for counterparty credit risk while the fair value for net short exposures is adjusted for the Corporation's own credit risk. The Corporation also incorporates FVA within its fair value measurements to include funding costs on uncollateralized derivatives and derivatives where the Corporation is not permitted to use the collateral it receives. An estimate of severity of loss is also used in the determination of fair value, primarily based on market data.

#### **Loans and Loan Commitments**

The fair values of loans and loan commitments are based on market prices, where available, or discounted cash flow analyses using market-based credit spreads of comparable debt instruments or credit derivatives of the specific borrower or comparable borrowers. Results of discounted cash flow analyses may be adjusted, as appropriate, to reflect other market conditions or the perceived credit risk of the borrower.

#### **Mortgage Servicing Rights**

The fair values of MSRs are primarily determined using an option-adjusted spread valuation approach, which factors in prepayment

risk to determine the fair value of MSRs. This approach consists of projecting servicing cash flows under multiple interest rate scenarios and discounting these cash flows using risk-adjusted discount rates.

#### **Loans Held-for-sale**

The fair values of LHFS are based on quoted market prices, where available, or are determined by discounting estimated cash flows using interest rates approximating the Corporation's current origination rates for similar loans adjusted to reflect the inherent credit risk. The borrower-specific credit risk is embedded within the quoted market prices or is implied by considering loan performance when selecting comparables.

#### **Short-term Borrowings and Long-term Debt**

The Corporation issues structured liabilities that have coupons or repayment terms linked to the performance of debt or equity securities, interest rates, indices, currencies or commodities. The fair values of these structured liabilities are estimated using quantitative models for the combined derivative and debt portions of the notes. These models incorporate observable and, in some instances, unobservable inputs including security prices, interest rate yield curves, option volatility, currency, commodity or equity rates and correlations among these inputs. The Corporation also considers the impact of its own credit spread in determining the discount rate used to value these liabilities. The credit spread is determined by reference to observable spreads in the secondary bond market.

#### **Securities Financing Agreements**

The fair values of certain reverse repurchase agreements, repurchase agreements and securities borrowed transactions are determined using quantitative models, including discounted cash flow models that require the use of multiple market inputs including interest rates and spreads to generate continuous yield or pricing curves, and volatility factors. The majority of market inputs are actively quoted and can be validated through external sources, including brokers, market transactions and third-party pricing services.

#### **Deposits**

The fair values of deposits are determined using quantitative models, including discounted cash flow models that require the use of multiple market inputs including interest rates and spreads to generate continuous yield or pricing curves, and volatility factors. The majority of market inputs are actively quoted and can be validated through external sources, including brokers, market transactions and third-party pricing services. The Corporation considers the impact of its own credit spread in the valuation of these liabilities. The credit risk is determined by reference to observable credit spreads in the secondary cash market.

#### **Asset-backed Secured financings**

The fair values of asset-backed secured financings are based on external broker bids, where available, or are determined by discounting estimated cash flows using interest rates approximating the Corporation's current origination rates for similar loans adjusted to reflect the inherent credit risk.

## Recurring Fair Value

Assets and liabilities carried at fair value on a recurring basis at December 31, 2019 and 2018, including financial instruments that the Corporation accounts for under the fair value option, are summarized in the following tables.

|                                                                                      | December 31, 2019       |                   |                  |                     |                                    |                                  |  |
|--------------------------------------------------------------------------------------|-------------------------|-------------------|------------------|---------------------|------------------------------------|----------------------------------|--|
|                                                                                      | Fair Value Measurements |                   |                  |                     |                                    |                                  |  |
| (Dollars in millions)                                                                | Level 1                 | Level 2           | Level 3          |                     | Netting Adjustments <sup>(1)</sup> | Assets/Liabilities at Fair Value |  |
| <b>Assets</b>                                                                        |                         |                   |                  |                     |                                    |                                  |  |
| Time deposits placed and other short-term investments                                | \$ 1,000                | \$ —              | \$ —             | \$ —                | \$ —                               | \$ 1,000                         |  |
| Federal funds sold and securities borrowed or purchased under agreements to resell   | —                       | 50,364            | —                | —                   | —                                  | 50,364                           |  |
| Trading account assets:                                                              |                         |                   |                  |                     |                                    |                                  |  |
| U.S. Treasury and agency securities <sup>(2)</sup>                                   | 49,517                  | 4,157             | —                | —                   | —                                  | 53,674                           |  |
| Corporate securities, trading loans and other                                        | —                       | 25,226            | 1,507            | —                   | —                                  | 26,733                           |  |
| Equity securities                                                                    | 53,597                  | 32,619            | 239              | —                   | —                                  | 86,455                           |  |
| Non-U.S. sovereign debt                                                              | 3,965                   | 23,854            | 482              | —                   | —                                  | 28,301                           |  |
| Mortgage trading loans, MBS and ABS:                                                 |                         |                   |                  |                     |                                    |                                  |  |
| U.S. government-sponsored agency guaranteed <sup>(2)</sup>                           | —                       | 24,324            | —                | —                   | —                                  | 24,324                           |  |
| Mortgage trading loans, ABS and other MBS                                            | —                       | 8,786             | 1,553            | —                   | —                                  | 10,339                           |  |
| Total trading account assets <sup>(3)</sup>                                          | 107,079                 | 118,966           | 3,781            | —                   | —                                  | 229,826                          |  |
| Derivative assets                                                                    | 14,079                  | 328,442           | 2,226            | (304,262)           | —                                  | 40,485                           |  |
| AFS debt securities:                                                                 |                         |                   |                  |                     |                                    |                                  |  |
| U.S. Treasury and agency securities                                                  | 67,332                  | 1,196             | —                | —                   | —                                  | 68,528                           |  |
| Mortgage-backed securities                                                           |                         |                   |                  |                     |                                    |                                  |  |
| Agency                                                                               | —                       | 122,528           | —                | —                   | —                                  | 122,528                          |  |
| Agency-collateralized mortgage obligations                                           | —                       | 4,641             | —                | —                   | —                                  | 4,641                            |  |
| Non-agency residential                                                               | —                       | 653               | 424              | —                   | —                                  | 1,077                            |  |
| Commercial                                                                           | —                       | 15,021            | —                | —                   | —                                  | 15,021                           |  |
| Non-U.S. securities                                                                  | —                       | 11,989            | 2                | —                   | —                                  | 11,991                           |  |
| Other taxable securities                                                             | —                       | 3,876             | 65               | —                   | —                                  | 3,941                            |  |
| Tax-exempt securities                                                                | —                       | 17,804            | 108              | —                   | —                                  | 17,912                           |  |
| Total AFS debt securities                                                            | 67,332                  | 177,708           | 599              | —                   | —                                  | 245,639                          |  |
| Other debt securities carried at fair value:                                         |                         |                   |                  |                     |                                    |                                  |  |
| U.S. Treasury and agency securities                                                  | 3                       | —                 | —                | —                   | —                                  | 3                                |  |
| Agency MBS                                                                           | —                       | 3,003             | —                | —                   | —                                  | 3,003                            |  |
| Non-agency residential MBS                                                           | —                       | 1,035             | 299              | —                   | —                                  | 1,334                            |  |
| Non-U.S. and other securities                                                        | 400                     | 6,088             | —                | —                   | —                                  | 6,488                            |  |
| Total other debt securities carried at fair value                                    | 403                     | 10,126            | 299              | —                   | —                                  | 10,828                           |  |
| Loans and leases                                                                     | —                       | 7,642             | 693              | —                   | —                                  | 8,335                            |  |
| Loans held-for-sale                                                                  | —                       | 3,334             | 375              | —                   | —                                  | 3,709                            |  |
| Other assets <sup>(4)</sup>                                                          | 11,782                  | 1,376             | 2,360            | —                   | —                                  | 15,518                           |  |
| <b>Total assets <sup>(5)</sup></b>                                                   | <b>\$ 201,675</b>       | <b>\$ 697,958</b> | <b>\$ 10,333</b> | <b>\$ (304,262)</b> | <b>\$</b>                          | <b>\$ 605,704</b>                |  |
| <b>Liabilities</b>                                                                   |                         |                   |                  |                     |                                    |                                  |  |
| Interest-bearing deposits in U.S. offices                                            | \$ —                    | \$ 508            | \$ —             | \$ —                | \$ —                               | \$ 508                           |  |
| Federal funds purchased and securities loaned or sold under agreements to repurchase | —                       | 16,008            | —                | —                   | —                                  | 16,008                           |  |
| Trading account liabilities:                                                         |                         |                   |                  |                     |                                    |                                  |  |
| U.S. Treasury and agency securities                                                  | 13,140                  | 282               | —                | —                   | —                                  | 13,422                           |  |
| Equity securities                                                                    | 38,148                  | 4,144             | 2                | —                   | —                                  | 42,294                           |  |
| Non-U.S. sovereign debt                                                              | 10,751                  | 11,310            | —                | —                   | —                                  | 22,061                           |  |
| Corporate securities and other                                                       | —                       | 5,478             | 15               | —                   | —                                  | 5,493                            |  |
| Total trading account liabilities                                                    | 62,039                  | 21,214            | 17               | —                   | —                                  | 83,270                           |  |
| Derivative liabilities                                                               | 11,904                  | 320,479           | 4,764            | (298,918)           | —                                  | 38,229                           |  |
| Short-term borrowings                                                                | —                       | 3,941             | —                | —                   | —                                  | 3,941                            |  |
| Accrued expenses and other liabilities                                               | 13,927                  | 1,507             | —                | —                   | —                                  | 15,434                           |  |
| Long-term debt                                                                       | —                       | 33,826            | 1,149            | —                   | —                                  | 34,975                           |  |
| <b>Total liabilities <sup>(5)</sup></b>                                              | <b>\$ 87,870</b>        | <b>\$ 397,483</b> | <b>\$ 5,930</b>  | <b>\$ (298,918)</b> | <b>\$</b>                          | <b>\$ 192,365</b>                |  |

<sup>(1)</sup> Amounts represent the impact of legally enforceable master netting agreements and also cash collateral held or placed with the same counterparties

<sup>(2)</sup> Includes \$26.7 billion of GSE obligations

<sup>(3)</sup> Includes securities with a fair value of \$14.7 billion that were segregated in compliance with securities regulations or deposited with clearing organizations. This amount is included in the parenthetical disclosure on the Consolidated Balance Sheet.

<sup>(4)</sup> Includes MSRs of \$1.5 billion which are classified as Level 3 assets

<sup>(5)</sup> Total recurring Level 3 assets were 0.42 percent of total consolidated assets, and total recurring Level 3 liabilities were 0.27 percent of total consolidated liabilities.

|                                                                                      | December 31, 2018       |                   |                  |                                       |                                     |  |
|--------------------------------------------------------------------------------------|-------------------------|-------------------|------------------|---------------------------------------|-------------------------------------|--|
|                                                                                      | Fair Value Measurements |                   |                  |                                       |                                     |  |
| (Dollars in millions)                                                                | Level 1                 | Level 2           | Level 3          | Netting<br>Adjustments <sup>(1)</sup> | Assets/Liabilities<br>at Fair Value |  |
| <b>Assets</b>                                                                        |                         |                   |                  |                                       |                                     |  |
| Time deposits placed and other short-term investments                                | \$ 1,214                | \$ —              | \$ —             | \$ —                                  | \$ 1,214                            |  |
| Federal funds sold and securities borrowed or purchased under agreements to resell   | —                       | 56,399            | —                | —                                     | 56,399                              |  |
| Trading account assets:                                                              |                         |                   |                  |                                       |                                     |  |
| U.S. Treasury and agency securities <sup>(2)</sup>                                   | 53,131                  | 1,593             | —                | —                                     | 54,724                              |  |
| Corporate securities, trading loans and other                                        | —                       | 24,630            | 1,558            | —                                     | 26,188                              |  |
| Equity securities                                                                    | 53,840                  | 23,163            | 276              | —                                     | 77,279                              |  |
| Non-U.S. sovereign debt                                                              | 5,818                   | 19,210            | 465              | —                                     | 25,493                              |  |
| Mortgage trading loans, MBS and ABS:                                                 |                         |                   |                  |                                       |                                     |  |
| U.S. government-sponsored agency guaranteed <sup>(2)</sup>                           | —                       | 19,586            | —                | —                                     | 19,586                              |  |
| Mortgage trading loans, ABS and other MBS                                            | —                       | 9,443             | 1,635            | —                                     | 11,078                              |  |
| Total trading account assets <sup>(3)</sup>                                          | 112,789                 | 97,625            | 3,934            | —                                     | 214,348                             |  |
| Derivative assets                                                                    | 9,967                   | 315,413           | 3,466            | (285,121)                             | 43,725                              |  |
| AFS debt securities:                                                                 |                         |                   |                  |                                       |                                     |  |
| U.S. Treasury and agency securities                                                  | 53,663                  | 1,260             | —                | —                                     | 54,923                              |  |
| Mortgage-backed securities:                                                          |                         |                   |                  |                                       |                                     |  |
| Agency                                                                               | —                       | 121,826           | —                | —                                     | 121,826                             |  |
| Agency-collateralized mortgage obligations                                           | —                       | 5,530             | —                | —                                     | 5,530                               |  |
| Non-agency residential                                                               | —                       | 1,320             | 597              | —                                     | 1,917                               |  |
| Commercial                                                                           | —                       | 14,078            | —                | —                                     | 14,078                              |  |
| Non-U.S. securities                                                                  | —                       | 9,304             | 2                | —                                     | 9,306                               |  |
| Other taxable securities                                                             | —                       | 4,403             | 7                | —                                     | 4,410                               |  |
| Tax-exempt securities                                                                | —                       | 17,376            | —                | —                                     | 17,376                              |  |
| Total AFS debt securities                                                            | 53,663                  | 175,097           | 606              | —                                     | 229,366                             |  |
| Other debt securities carried at fair value:                                         |                         |                   |                  |                                       |                                     |  |
| U.S. Treasury and agency securities                                                  | 1,282                   | —                 | —                | —                                     | 1,282                               |  |
| Non-agency residential MBS                                                           | —                       | 1,434             | 172              | —                                     | 1,606                               |  |
| Non-U.S. and other securities                                                        | 490                     | 5,357             | —                | —                                     | 5,847                               |  |
| Total other debt securities carried at fair value                                    | 1,772                   | 6,791             | 172              | —                                     | 8,735                               |  |
| Loans and leases                                                                     | —                       | 4,011             | 338              | —                                     | 4,349                               |  |
| Loans held-for-sale                                                                  | —                       | 2,400             | 542              | —                                     | 2,942                               |  |
| Other assets <sup>(4)</sup>                                                          | 15,032                  | 1,775             | 2,932            | —                                     | 19,739                              |  |
| <b>Total assets <sup>(5)</sup></b>                                                   | <b>\$ 194,437</b>       | <b>\$ 659,511</b> | <b>\$ 11,990</b> | <b>\$ (285,121)</b>                   | <b>\$ 580,817</b>                   |  |
| <b>Liabilities</b>                                                                   |                         |                   |                  |                                       |                                     |  |
| Interest-bearing deposits in U.S. offices                                            | \$ —                    | \$ 492            | \$ —             | \$ —                                  | \$ 492                              |  |
| Federal funds purchased and securities loaned or sold under agreements to repurchase | —                       | 28,875            | —                | —                                     | 28,875                              |  |
| Trading account liabilities:                                                         |                         |                   |                  |                                       |                                     |  |
| U.S. Treasury and agency securities                                                  | 7,894                   | 761               | —                | —                                     | 8,655                               |  |
| Equity securities                                                                    | 33,739                  | 4,070             | —                | —                                     | 37,809                              |  |
| Non-U.S. sovereign debt                                                              | 7,452                   | 9,182             | —                | —                                     | 16,634                              |  |
| Corporate securities and other                                                       | —                       | 5,104             | 18               | —                                     | 5,122                               |  |
| Total trading account liabilities                                                    | 49,085                  | 19,117            | 18               | —                                     | 68,220                              |  |
| Derivative liabilities                                                               | 9,931                   | 303,441           | 4,401            | (279,882)                             | 37,891                              |  |
| Short-term borrowings                                                                | —                       | 1,648             | —                | —                                     | 1,648                               |  |
| Accrued expenses and other liabilities                                               | 18,096                  | 1,979             | —                | —                                     | 20,075                              |  |
| Long-term debt                                                                       | —                       | 26,872            | 817              | —                                     | 27,689                              |  |
| <b>Total liabilities <sup>(5)</sup></b>                                              | <b>\$ 77,112</b>        | <b>\$ 382,424</b> | <b>\$ 5,236</b>  | <b>\$ (279,882)</b>                   | <b>\$ 184,890</b>                   |  |

<sup>(1)</sup> Amounts represent the impact of legally enforceable master netting agreements and also cash collateral held or placed with the same counterparties

<sup>(2)</sup> Includes \$20.2 billion of GSE obligations

<sup>(3)</sup> Includes securities with a fair value of \$16.6 billion that were segregated in compliance with securities regulations or deposited with clearing organizations. This amount is included in the parenthetical disclosure on the Consolidated Balance Sheet

<sup>(4)</sup> Includes MSRs of \$2.0 billion which are classified as Level 3 assets

<sup>(5)</sup> Total recurring Level 3 assets were 0.51 percent of total consolidated assets, and total recurring Level 3 liabilities were 0.25 percent of total consolidated liabilities

The following tables present a reconciliation of all assets and liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) during 2019, 2018 and 2017, including net realized and unrealized gains (losses) included in earnings and accumulated OCI. Transfers into Level 3 occur

primarily due to decreased price observability, and transfers out of Level 3 occur primarily due to increased price observability. Transfers occur on a regular basis for long-term debt instruments due to changes in the impact of unobservable inputs on the value of the embedded derivative in relation to the instrument as a whole.

### Level 3 – Fair Value Measurements <sup>(1)</sup>

|                                                                          | Balance<br>January 1 | Total<br>Realized/<br>Unrealized<br>Gains<br>(Losses) In<br>Net<br>Income <sup>(2)</sup> | Gains<br>(Losses)<br>In OCI <sup>(3)</sup> | Gross     |          |           |             | Gross<br>Transfers<br>Into<br>Level 3 | Gross<br>Transfers<br>Out of<br>Level 3 | Balance<br>December 31 | Change in<br>Unrealized<br>Gains<br>(Losses) In<br>Net Income<br>Related to<br>Financial<br>Instruments<br>Still Held <sup>(4)</sup> |
|--------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------------------------|--------------------------------------------|-----------|----------|-----------|-------------|---------------------------------------|-----------------------------------------|------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
|                                                                          |                      |                                                                                          |                                            | Purchases | Sales    | Issuances | Settlements |                                       |                                         |                        |                                                                                                                                      |
| (Dollars in millions)                                                    |                      |                                                                                          |                                            |           |          |           |             |                                       |                                         |                        |                                                                                                                                      |
| <b>Year Ended December 31, 2019</b>                                      |                      |                                                                                          |                                            |           |          |           |             |                                       |                                         |                        |                                                                                                                                      |
| Trading account assets                                                   |                      |                                                                                          |                                            |           |          |           |             |                                       |                                         |                        |                                                                                                                                      |
| Corporate securities, trading loans and other                            | \$ 1,558             | \$ 105                                                                                   | \$ —                                       | \$ 534    | \$ (390) | \$ 18     | \$ (578)    | \$ 699                                | \$ (439)                                | \$ 1,507               | \$ 29                                                                                                                                |
| Equity securities                                                        | 276                  | (12)                                                                                     | —                                          | 38        | (87)     | —         | (9)         | 79                                    | (46)                                    | 239                    | (18)                                                                                                                                 |
| Non-U.S. sovereign debt                                                  | 465                  | 46                                                                                       | (12)                                       | 1         | —        | —         | (51)        | 39                                    | (6)                                     | 482                    | 47                                                                                                                                   |
| Mortgage trading loans, ABS and other MBS                                | 1,635                | 99                                                                                       | (2)                                        | 662       | (899)    | —         | (175)       | 738                                   | (505)                                   | 1,553                  | 26                                                                                                                                   |
| Total trading account assets                                             | 3,934                | 238                                                                                      | (14)                                       | 1,235     | (1,376)  | 18        | (813)       | 1,555                                 | (996)                                   | 3,781                  | 84                                                                                                                                   |
| Net derivative assets (liabilities) <sup>(4)</sup>                       | (935)                | (37)                                                                                     | —                                          | 298       | (837)    | —         | (97)        | 147                                   | (1,077)                                 | (2,538)                | 228                                                                                                                                  |
| AFS debt securities                                                      |                      |                                                                                          |                                            |           |          |           |             |                                       |                                         |                        |                                                                                                                                      |
| Non-agency residential MBS                                               | 597                  | 13                                                                                       | 64                                         | —         | (73)     | —         | (40)        | 206                                   | (343)                                   | 424                    | —                                                                                                                                    |
| Non-U.S. securities                                                      | 2                    | —                                                                                        | —                                          | —         | —        | —         | —           | —                                     | —                                       | 2                      | —                                                                                                                                    |
| Other taxable securities                                                 | 7                    | 2                                                                                        | —                                          | —         | —        | —         | (5)         | 61                                    | —                                       | 65                     | —                                                                                                                                    |
| Tax-exempt securities                                                    | —                    | —                                                                                        | —                                          | —         | —        | —         | —           | 108                                   | —                                       | 108                    | —                                                                                                                                    |
| Total AFS debt securities                                                | 606                  | 15                                                                                       | 64                                         | —         | (73)     | —         | (45)        | 375                                   | (343)                                   | 599                    | —                                                                                                                                    |
| Other debt securities carried at fair value – Non-agency residential MBS | 172                  | 36                                                                                       | —                                          | —         | —        | —         | (17)        | 155                                   | (47)                                    | 299                    | 38                                                                                                                                   |
| Loans and leases <sup>(6)</sup>                                          | 338                  | —                                                                                        | —                                          | 230       | (35)     | 217       | (57)        | —                                     | —                                       | 693                    | (1)                                                                                                                                  |
| Loans held-for-sale <sup>(6,7)</sup>                                     | 542                  | 48                                                                                       | (6)                                        | 12        | (71)     | 36        | (245)       | 59                                    | —                                       | 375                    | 22                                                                                                                                   |
| Other assets <sup>(7)</sup>                                              | 2,932                | (81)                                                                                     | 19                                         | —         | (10)     | 179       | (683)       | 5                                     | (1)                                     | 2,360                  | (267)                                                                                                                                |
| Trading account liabilities – Equity securities                          | —                    | (2)                                                                                      | —                                          | —         | —        | —         | —           | —                                     | —                                       | (2)                    | (2)                                                                                                                                  |
| Trading account liabilities – Corporate securities and other             | (18)                 | 8                                                                                        | —                                          | (1)       | (3)      | (1)       | —           | —                                     | —                                       | (15)                   | —                                                                                                                                    |
| Long-term debt <sup>(5,8)</sup>                                          | (817)                | (59)                                                                                     | (64)                                       | —         | —        | (40)      | 180         | (350)                                 | 1                                       | (1,149)                | (55)                                                                                                                                 |
| <b>Year Ended December 31, 2018</b>                                      |                      |                                                                                          |                                            |           |          |           |             |                                       |                                         |                        |                                                                                                                                      |
| Trading account assets                                                   |                      |                                                                                          |                                            |           |          |           |             |                                       |                                         |                        |                                                                                                                                      |
| Corporate securities, trading loans and other                            | \$ 1,864             | \$ (32)                                                                                  | \$ (1)                                     | \$ 436    | \$ (403) | \$ 5      | \$ (568)    | \$ 804                                | \$ (547)                                | \$ 1,558               | \$ (117)                                                                                                                             |
| Equity securities                                                        | 235                  | (17)                                                                                     | —                                          | 44        | (11)     | —         | (4)         | 78                                    | (49)                                    | 276                    | (22)                                                                                                                                 |
| Non-U.S. sovereign debt                                                  | 556                  | 47                                                                                       | (44)                                       | 13        | (57)     | —         | (30)        | 117                                   | (137)                                   | 465                    | 48                                                                                                                                   |
| Mortgage trading loans, ABS and other MBS                                | 1,498                | 148                                                                                      | 3                                          | 585       | (910)    | —         | (158)       | 705                                   | (236)                                   | 1,635                  | 97                                                                                                                                   |
| Total trading account assets                                             | 4,153                | 146                                                                                      | (42)                                       | 1,078     | (1,381)  | 5         | (760)       | 1,704                                 | (969)                                   | 3,934                  | 6                                                                                                                                    |
| Net derivative assets (liabilities) <sup>(4)</sup>                       | (1,714)              | 106                                                                                      | —                                          | 531       | (1,179)  | —         | 778         | 39                                    | 504                                     | (935)                  | (116)                                                                                                                                |
| AFS debt securities                                                      |                      |                                                                                          |                                            |           |          |           |             |                                       |                                         |                        |                                                                                                                                      |
| Non-agency residential MBS                                               | —                    | 27                                                                                       | (33)                                       | —         | (71)     | —         | (25)        | 774                                   | (75)                                    | 597                    | —                                                                                                                                    |
| Non-U.S. securities                                                      | 25                   | —                                                                                        | (1)                                        | —         | (10)     | —         | (15)        | 3                                     | —                                       | 2                      | —                                                                                                                                    |
| Other taxable securities                                                 | 509                  | 1                                                                                        | (3)                                        | —         | (23)     | —         | (11)        | 60                                    | (526)                                   | 7                      | —                                                                                                                                    |
| Tax-exempt securities                                                    | 469                  | —                                                                                        | —                                          | —         | —        | —         | (1)         | 1                                     | (469)                                   | —                      | —                                                                                                                                    |
| Total AFS debt securities <sup>(6)</sup>                                 | 1,003                | 28                                                                                       | (37)                                       | —         | (104)    | —         | (52)        | 838                                   | (1,070)                                 | 606                    | —                                                                                                                                    |
| Other debt securities carried at fair value – Non-agency residential MBS | —                    | (18)                                                                                     | —                                          | —         | (8)      | —         | (34)        | 365                                   | (133)                                   | 172                    | (18)                                                                                                                                 |
| Loans and leases <sup>(6,7)</sup>                                        | 571                  | (16)                                                                                     | —                                          | —         | (134)    | —         | (83)        | —                                     | —                                       | 338                    | (9)                                                                                                                                  |
| Loans held-for-sale <sup>(6)</sup>                                       | 690                  | 44                                                                                       | (26)                                       | 71        | —        | 1         | (201)       | 23                                    | (60)                                    | 542                    | 31                                                                                                                                   |
| Other assets <sup>(7,8)</sup>                                            | 2,425                | 414                                                                                      | (38)                                       | 2         | (69)     | 96        | (792)       | 929                                   | (35)                                    | 2,932                  | 149                                                                                                                                  |
| Trading account liabilities – Corporate securities and other             | (24)                 | 11                                                                                       | —                                          | 9         | (12)     | (2)       | —           | —                                     | —                                       | (18)                   | (7)                                                                                                                                  |
| Accrued expenses and other liabilities <sup>(6)</sup>                    | (8)                  | —                                                                                        | —                                          | —         | —        | —         | 8           | —                                     | —                                       | —                      | —                                                                                                                                    |
| Long-term debt <sup>(5)</sup>                                            | (1,863)              | 103                                                                                      | 4                                          | 9         | —        | (141)     | 486         | (262)                                 | 847                                     | (817)                  | 95                                                                                                                                   |

<sup>(1)</sup> Assets (liabilities) For assets, increase (decrease) to Level 3 and for liabilities, (increase) decrease to Level 3.

<sup>(2)</sup> Includes gains (losses) reported in earnings in the following income statement line items: Trading account assets/liabilities - predominantly market making and similar activities; Net derivative assets (liabilities) - market making and similar activities and other income; Other debt securities carried at fair value - other income; Loans and leases - predominantly other income; Loans held-for-sale - other income; Other assets - primarily other income related to MSRs; Long-term debt - primarily market making and similar activities.

<sup>(3)</sup> Includes unrealized gains (losses) in OCI on AFS debt securities, foreign currency translation adjustments and the impact of changes in the Corporation's credit spreads on long-term debt accounted for under the fair value option. Amounts include net unrealized gains (losses) of \$3 million and \$(105) million related to financial instruments still held at December 31, 2019 and 2018.

<sup>(4)</sup> Net derivative assets (liabilities) include derivative assets of \$2.2 billion and \$3.5 billion and derivative liabilities of \$4.8 billion and \$4.4 billion at December 31, 2019 and 2018.

<sup>(5)</sup> Transfers into long-term debt include a \$1.4 billion transfer in of Level 3 derivative assets to reflect the Corporation's change to present bifurcated embedded derivatives with their respective host instruments.

<sup>(6)</sup> Amounts represent instruments that are accounted for under the fair value option.

<sup>(7)</sup> Issuances represent loan originations and MSRs recognized following securitizations or whole-loan sales.

<sup>(8)</sup> Transfers out of AFS debt securities and into other assets primarily relate to the reclassification of certain securities.

### Level 3 – Fair Value Measurements <sup>(1)</sup>

|                                                                                                        | Balance<br>January 1 | Total<br>Realized/<br>Unrealized<br>Gains/<br>(Losses) in<br>Net<br>Income <sup>(2)</sup> | Gains/<br>(Losses)<br>in OCI <sup>(3)</sup> | Gross        |                |              |              | Gross<br>Transfers<br>into<br>Level 3 | Gross<br>Transfers<br>out of<br>Level 3 | Balance<br>December 31 | Change in<br>Unrealized<br>Gains/<br>(Losses) in<br>Net Income<br>Related to<br>Financial<br>Instruments<br>Still Held <sup>(2)</sup> |
|--------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------------------------------------------|---------------------------------------------|--------------|----------------|--------------|--------------|---------------------------------------|-----------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                        |                      |                                                                                           |                                             | Purchases    | Sales          | Issuances    | Settlements  |                                       |                                         |                        |                                                                                                                                       |
| (Dollars in millions)                                                                                  |                      |                                                                                           |                                             |              |                |              |              |                                       |                                         |                        |                                                                                                                                       |
| <b>Year Ended December 31, 2017</b>                                                                    |                      |                                                                                           |                                             |              |                |              |              |                                       |                                         |                        |                                                                                                                                       |
| <b>Trading account assets</b>                                                                          |                      |                                                                                           |                                             |              |                |              |              |                                       |                                         |                        |                                                                                                                                       |
| Corporate securities, trading loans and other                                                          | \$ 2,777             | \$ 229                                                                                    | \$ —                                        | \$ 547       | \$ (702)       | \$ 5         | \$ (666)     | \$ 728                                | \$ (1,054)                              | \$ 1,864               | \$ 2                                                                                                                                  |
| Equity securities                                                                                      | 281                  | 18                                                                                        | —                                           | 55           | (70)           | —            | (10)         | 146                                   | (185)                                   | 235                    | (1)                                                                                                                                   |
| Non-U.S. sovereign debt                                                                                | 510                  | 74                                                                                        | (8)                                         | 53           | (59)           | —            | (73)         | 72                                    | (13)                                    | 556                    | 70                                                                                                                                    |
| Mortgage trading loans, ABS and other MBS                                                              | 1,211                | 165                                                                                       | (2)                                         | 1,210        | (990)          | —            | (233)        | 218                                   | (81)                                    | 1,498                  | 72                                                                                                                                    |
| <b>Total trading account assets</b>                                                                    | <b>4,779</b>         | <b>486</b>                                                                                | <b>(10)</b>                                 | <b>1,865</b> | <b>(1,821)</b> | <b>5</b>     | <b>(982)</b> | <b>1,164</b>                          | <b>(1,333)</b>                          | <b>4,153</b>           | <b>143</b>                                                                                                                            |
| Net derivative assets (liabilities) <sup>(4)</sup>                                                     | (1,313)              | (984)                                                                                     | —                                           | 664          | (979)          | —            | 949          | 48                                    | (99)                                    | (1,714)                | (409)                                                                                                                                 |
| <b>AFS debt securities:</b>                                                                            |                      |                                                                                           |                                             |              |                |              |              |                                       |                                         |                        |                                                                                                                                       |
| Non-U.S. securities                                                                                    | 229                  | 2                                                                                         | 16                                          | 49           | —              | —            | (271)        | —                                     | —                                       | 25                     | —                                                                                                                                     |
| Other taxable securities                                                                               | 594                  | 4                                                                                         | 8                                           | 5            | —              | —            | (42)         | 34                                    | (94)                                    | 509                    | —                                                                                                                                     |
| Tax-exempt securities                                                                                  | 542                  | 1                                                                                         | 3                                           | 14           | (70)           | —            | (11)         | 35                                    | (45)                                    | 469                    | —                                                                                                                                     |
| <b>Total AFS debt securities</b>                                                                       | <b>1,365</b>         | <b>7</b>                                                                                  | <b>27</b>                                   | <b>68</b>    | <b>(70)</b>    | <b>—</b>     | <b>(324)</b> | <b>69</b>                             | <b>(139)</b>                            | <b>1,003</b>           | <b>—</b>                                                                                                                              |
| Other debt securities carried at fair value –<br>Non-agency residential MBS                            | 25                   | (1)                                                                                       | —                                           | —            | (21)           | —            | (3)          | —                                     | —                                       | —                      | —                                                                                                                                     |
| Loans and leases <sup>(5)</sup>                                                                        | 720                  | 15                                                                                        | —                                           | 3            | (34)           | —            | (126)        | —                                     | (7)                                     | 571                    | 11                                                                                                                                    |
| Loans held-for-sale <sup>(5, 6)</sup>                                                                  | 656                  | 100                                                                                       | (3)                                         | 3            | (189)          | —            | (346)        | 501                                   | (32)                                    | 690                    | 14                                                                                                                                    |
| Other assets <sup>(6)</sup>                                                                            | 2,986                | 144                                                                                       | (57)                                        | 2            | (214)          | 258          | (758)        | 64                                    | —                                       | 2,425                  | (226)                                                                                                                                 |
| Federal funds purchased and securities loaned<br>or sold under agreements to repurchase <sup>(5)</sup> | (359)                | (5)                                                                                       | —                                           | —            | —              | (12)         | 171          | (58)                                  | 263                                     | —                      | —                                                                                                                                     |
| Trading account liabilities – Corporate<br>securities and other                                        | (27)                 | 14                                                                                        | —                                           | 8            | (17)           | (2)          | —            | —                                     | —                                       | (24)                   | 2                                                                                                                                     |
| Accrued expenses and other liabilities <sup>(5)</sup>                                                  | (9)                  | —                                                                                         | —                                           | —            | —              | —            | 1            | —                                     | —                                       | (8)                    | —                                                                                                                                     |
| <b>Long-term debt <sup>(5)</sup></b>                                                                   | <b>(1,514)</b>       | <b>(135)</b>                                                                              | <b>(31)</b>                                 | <b>84</b>    | <b>—</b>       | <b>(288)</b> | <b>514</b>   | <b>(711)</b>                          | <b>218</b>                              | <b>(1,863)</b>         | <b>(196)</b>                                                                                                                          |

<sup>(1)</sup> Assets (liabilities) For assets, increase (decrease) to Level 3 and for liabilities, (increase) decrease to Level 3

<sup>(2)</sup> Includes gains (losses) reported in earnings in the following income statement line items: Trading account assets/liabilities - market making and similar activities, Net derivative assets (liabilities) - primarily market making and similar activities and other income, Other debt securities carried at fair value - other income, Loans and leases - other income, Loans held-for-sale - other income, Other assets - primarily other income related to MSRs, Long-term debt - predominantly market making and similar activities

<sup>(3)</sup> Includes unrealized gains (losses) in OCI on AFS debt securities, foreign currency translation adjustments and the impact of changes in the Corporation's credit spreads on long-term debt accounted for under the fair value option

<sup>(4)</sup> Net derivative assets (liabilities) include derivative assets of \$4.1 billion and derivative liabilities of \$5.8 billion

<sup>(5)</sup> Amounts represent instruments that are accounted for under the fair value option

<sup>(6)</sup> Issuances represent loan originations and MSRs recognized following securitizations or whole-loan sales

The following tables present information about significant unobservable inputs related to the Corporation's material categories of Level 3 financial assets and liabilities at December 31, 2019 and 2018.

**Quantitative Information about Level 3 Fair Value Measurements at December 31, 2019**

(Dollars in millions)

| (Dollars in millions)                                                  | Inputs     |                                                                                              |                                                     |                        |                                 |
|------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------|------------------------|---------------------------------|
| Financial Instrument                                                   | Fair Value | Valuation Technique                                                                          | Significant Unobservable Inputs                     | Ranges of Inputs       | Weighted Average <sup>(1)</sup> |
| Loans and Securities <sup>(2)</sup>                                    |            |                                                                                              |                                                     |                        |                                 |
| Instruments backed by residential real estate assets                   | \$ 1,407   | Discounted cash flow, Market comparables                                                     | Yield                                               | 0% to 25%              | 6%                              |
| Trading account assets – Mortgage trading loans, ABS and other MBS     | 332        |                                                                                              | Prepayment speed                                    | 1% to 27% CPR          | 17% CPR                         |
| Loans and leases                                                       | 281        |                                                                                              | Default rate                                        | 0% to 3% CDR           | 1% CDR                          |
| Loans held-for-sale                                                    | 4          |                                                                                              | Loss severity                                       | 0% to 47%              | 14%                             |
| AFS debt securities, primarily non-agency residential                  | 491        |                                                                                              | Price                                               | \$0 to \$160           | \$94                            |
| Other debt securities carried at fair value - Non-agency residential   | 299        |                                                                                              |                                                     |                        |                                 |
| Instruments backed by commercial real estate assets                    | \$ 303     | Discounted cash flow                                                                         | Yield                                               | 0% to 30%              | 14%                             |
| Trading account assets – Corporate securities, trading loans and other | 201        |                                                                                              | Price                                               | \$0 to \$100           | \$55                            |
| Trading account assets – Mortgage trading loans, ABS and other MBS     | 85         |                                                                                              |                                                     |                        |                                 |
| Loans held-for-sale                                                    | 17         |                                                                                              |                                                     |                        |                                 |
| Commercial loans, debt securities and other                            | \$ 3,798   | Discounted cash flow, Market comparables                                                     | Yield                                               | 1% to 20%              | 6%                              |
| Trading account assets – Corporate securities, trading loans and other | 1,306      |                                                                                              | Prepayment speed                                    | 10% to 20%             | 13%                             |
| Trading account assets – Non-U S sovereign debt                        | 482        |                                                                                              | Default rate                                        | 3% to 4%               | 4%                              |
| Trading account assets – Mortgage trading loans, ABS and other MBS     | 1,136      |                                                                                              | Loss severity                                       | 35% to 40%             | 38%                             |
| AFS debt securities – Other taxable securities                         | 108        |                                                                                              | Price                                               | \$0 to \$142           | \$72                            |
| Loans and leases                                                       | 412        |                                                                                              | Long-dated equity volatilities                      | 35%                    | n/a                             |
| Loans held-for-sale                                                    | 354        |                                                                                              |                                                     |                        |                                 |
| Other assets, primarily auction rate securities                        | \$ 815     | Discounted cash flow, Market comparables                                                     | Price                                               | \$10 to \$100          | \$96                            |
| MSRs                                                                   | \$ 1,545   | Discounted cash flow                                                                         | Weighted-average life, fixed rate <sup>(4)</sup>    | 0 to 14 years          | 5 years                         |
|                                                                        |            |                                                                                              | Weighted-average life, variable rate <sup>(4)</sup> | 0 to 9 years           | 3 years                         |
|                                                                        |            |                                                                                              | Option-adjusted spread, fixed rate                  | 7% to 14%              | 9%                              |
|                                                                        |            |                                                                                              | Option-adjusted spread, variable rate               | 9% to 15%              | 11%                             |
| Structured liabilities                                                 |            |                                                                                              |                                                     |                        |                                 |
| Long-term debt                                                         | \$ (1,149) | Discounted cash flow, Market comparables, Industry standard dervative pricing <sup>(3)</sup> | Yield                                               | 2% to 6%               | 5%                              |
|                                                                        |            |                                                                                              | Equity correlation                                  | 9% to 100%             | 63%                             |
|                                                                        |            |                                                                                              | Long-dated equity volatilities                      | 4% to 101%             | 32%                             |
|                                                                        |            |                                                                                              | Price                                               | \$0 to \$116           | \$74                            |
|                                                                        |            |                                                                                              | Natural gas forward price                           | \$1/MMBtu to \$5/MMBtu | \$3/MMBtu                       |
| Net derivative assets (liabilities)                                    |            |                                                                                              |                                                     |                        |                                 |
| Credit derivatives                                                     | \$ 13      | Discounted cash flow, Stochastic recovery correlation model                                  | Yield                                               | 5%                     | n/a                             |
|                                                                        |            |                                                                                              | Upfront points                                      | 0 to 100 points        | 63 points                       |
|                                                                        |            |                                                                                              | Prepayment speed                                    | 15% to 100% CPR        | 22% CPR                         |
|                                                                        |            |                                                                                              | Default rate                                        | 1% to 4% CDR           | 2% CDR                          |
|                                                                        |            |                                                                                              | Loss severity                                       | 35%                    | n/a                             |
|                                                                        |            |                                                                                              | Price                                               | \$0 to \$104           | \$73                            |
| Equity derivatives                                                     | \$ (1,081) | Industry standard dervative pricing <sup>(3)</sup>                                           | Equity correlation                                  | 9% to 100%             | 63%                             |
|                                                                        |            |                                                                                              | Long-dated equity volatilities                      | 4% to 101%             | 32%                             |
| Commodity derivatives                                                  | \$ (1,357) | Discounted cash flow, Industry standard dervative pricing <sup>(3)</sup>                     | Natural gas forward price                           | \$1/MMBtu to \$5/MMBtu | \$3/MMBtu                       |
|                                                                        |            |                                                                                              | Correlation                                         | 30% to 69%             | 68%                             |
|                                                                        |            |                                                                                              | Volatilities                                        | 14% to 54%             | 27%                             |
| Interest rate derivatives                                              | \$ (113)   | Industry standard dervative pricing <sup>(4)</sup>                                           | Correlation (IR/IR)                                 | 15% to 94%             | 52%                             |
|                                                                        |            |                                                                                              | Correlation (FX/IR)                                 | 0% to 46%              | 2%                              |
|                                                                        |            |                                                                                              | Long-dated inflation rates                          | -23% to 56%            | 16%                             |
|                                                                        |            |                                                                                              | Long-dated inflation volatilities                   | 0% to 1%               | 1%                              |
| Total net derivative assets (liabilities)                              | \$ (2,538) |                                                                                              |                                                     |                        |                                 |

<sup>(1)</sup> For loans and securities, structured liabilities and net derivative assets (liabilities), the weighted average is calculated based upon the absolute fair value of the instruments.

<sup>(2)</sup> The categories are aggregated based upon product type which differs from financial statement classification. The following is a reconciliation to the line items in the table on page 168: Trading account assets – Corporate securities, trading loans and other of \$1.5 billion, Trading account assets – Non-U.S. sovereign debt of \$482 million, Trading account assets – Mortgage trading loans, ABS and other MBS of \$1.6 billion, AFS debt securities of \$599 million, Other debt securities carried at fair value – Non-agency residential of \$299 million, Other assets, including MSRs, of \$2.4 billion, Loans and leases of \$693 million and LHFS of \$375 million.

<sup>(3)</sup> Includes models such as Monte Carlo simulation and Black-Scholes.

<sup>(4)</sup> Includes models such as Monte Carlo simulation, Black-Scholes and other methods that model the joint dynamics of interest, inflation and foreign exchange rates.

<sup>(5)</sup> The weighted-average life is a product of changes in market rates of interest, prepayment rates and other model and cash flow assumptions.

CPR = Constant Prepayment Rate

CDR = Constant Default Rate

MMBtu = Million British thermal units

IR = Interest Rate

FX = Foreign Exchange

n/a = not applicable

# **Quantitative Information about Level 3 Fair Value Measurements at December 31, 2018**

(Dollars in millions)

Inputs

| Financial Instrument                                                   | Fair Value | Valuation Technique                                                                           | Significant Unobservable Inputs                     | Ranges of Inputs        | Weighted Average <sup>(1)</sup> |
|------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------|---------------------------------|
| Loans and Securities <sup>(2)</sup>                                    |            |                                                                                               |                                                     |                         |                                 |
| Instruments backed by residential real estate assets                   | \$ 1,536   | Discounted cash flow, Market comparables                                                      | Yield                                               | 0% to 25%               | 8%                              |
| Trading account assets – Mortgage trading loans, ABS and other MBS     | 419        |                                                                                               | Prepayment speed                                    | 0% to 21% CPR           | 12% CPR                         |
| Loans and leases                                                       | 338        |                                                                                               | Default rate                                        | 0% to 3% CDR            | 1% CDR                          |
| Loans held-for-sale                                                    | 1          |                                                                                               | Loss seventy                                        | 0% to 51%               | 17%                             |
| AFS debt securities, primarily non-agency residential                  | 606        |                                                                                               | Price                                               | \$0 to \$128            | \$72                            |
| Other debt securities carried at fair value - Non-agency residential   | 172        |                                                                                               |                                                     |                         |                                 |
| Instruments backed by commercial real estate assets                    | \$ 291     | Discounted cash flow                                                                          | Yield                                               | 0% to 25%               | 7%                              |
| Trading account assets – Corporate securities, trading loans and other | 200        |                                                                                               | Price                                               | \$0 to \$100            | \$79                            |
| Trading account assets – Mortgage trading loans, ABS and other MBS     | 91         |                                                                                               |                                                     |                         |                                 |
| Commercial loans, debt securities and other                            | \$ 3,489   | Discounted cash flow, Market comparables                                                      | Yield                                               | 1% to 18%               | 13%                             |
| Trading account assets – Corporate securities, trading loans and other | 1,358      |                                                                                               | Prepayment speed                                    | 10% to 20%              | 15%                             |
| Trading account assets – Non-U S sovereign debt                        | 465        |                                                                                               | Default rate                                        | 3% to 4%                | 4%                              |
| Trading account assets – Mortgage trading loans, ABS and other MBS     | 1,125      |                                                                                               | Loss seventy                                        | 35% to 40%              | 38%                             |
| Loans held-for-sale                                                    | 541        |                                                                                               | Price                                               | \$0 to \$141            | \$68                            |
| Other assets, primarily auction rate securities                        | \$ 890     | Discounted cash flow, Market comparables                                                      | Price                                               | \$10 to \$100           | \$95                            |
| MSRs                                                                   | \$ 2,042   | Discounted cash flow                                                                          | Weighted-average life, fixed rate <sup>(5)</sup>    | 0 to 14 years           | 5 years                         |
|                                                                        |            |                                                                                               | Weighted-average life, variable rate <sup>(5)</sup> | 0 to 10 years           | 3 years                         |
|                                                                        |            |                                                                                               | Option-adjusted spread, fixed rate                  | 7% to 14%               | 9%                              |
|                                                                        |            |                                                                                               | Option-adjusted spread, variable rate               | 9% to 15%               | 12%                             |
| Structured liabilities                                                 |            |                                                                                               |                                                     |                         |                                 |
| Long-term debt                                                         | \$ (817)   | Discounted cash flow, Market comparables, Industry standard derivative pricing <sup>(2)</sup> | Equity correlation                                  | 11% to 100%             | 67%                             |
|                                                                        |            |                                                                                               | Long-dated equity volatilities                      | 4% to 84%               | 32%                             |
|                                                                        |            |                                                                                               | Yield                                               | 7% to 18%               | 16%                             |
|                                                                        |            |                                                                                               | Price                                               | \$0 to \$100            | \$72                            |
| Net derivative assets (liabilities)                                    |            |                                                                                               |                                                     |                         |                                 |
| Credit derivatives                                                     | \$ (565)   | Discounted cash flow, Stochastic recovery correlation model                                   | Yield                                               | 0% to 5%                | 4%                              |
|                                                                        |            |                                                                                               | Upfront points                                      | 0 points to 100 points  | 70 points                       |
|                                                                        |            |                                                                                               | Credit correlation                                  | 70%                     | n/a                             |
|                                                                        |            |                                                                                               | Prepayment speed                                    | 15% to 20% CPR          | 15% CPR                         |
|                                                                        |            |                                                                                               | Default rate                                        | 1% to 4% CDR            | 2% CDR                          |
|                                                                        |            |                                                                                               | Loss seventy                                        | 35%                     | n/a                             |
|                                                                        |            |                                                                                               | Price                                               | \$0 to \$138            | \$93                            |
| Equity derivatives                                                     | \$ (348)   | Industry standard derivative pricing <sup>(3)</sup>                                           | Equity correlation                                  | 11% to 100%             | 67%                             |
|                                                                        |            |                                                                                               | Long-dated equity volatilities                      | 4% to 84%               | 32%                             |
| Commodity derivatives                                                  | \$ 10      | Discounted cash flow, Industry standard derivative pricing <sup>(3)</sup>                     | Natural gas forward price                           | \$1/MMBtu to \$12/MMBtu | \$3/MMBtu                       |
|                                                                        |            |                                                                                               | Correlation                                         | 38% to 87%              | 71%                             |
|                                                                        |            |                                                                                               | Volatilities                                        | 15% to 132%             | 38%                             |
| Interest rate derivatives                                              | \$ (32)    | Industry standard derivative pricing <sup>(4)</sup>                                           | Correlation (IR/IR)                                 | 15% to 70%              | 61%                             |
|                                                                        |            |                                                                                               | Correlation (FX/IR)                                 | 0% to 46%               | 1%                              |
|                                                                        |            |                                                                                               | Long-dated inflation rates                          | -20% to 38%             | 2%                              |
|                                                                        |            |                                                                                               | Long-dated inflation volatilities                   | 0% to 1%                | 1%                              |
| Total net derivative assets (liabilities)                              | \$ (935)   |                                                                                               |                                                     |                         |                                 |

<sup>(1)</sup> For loans and securities, structured liabilities and net derivative assets (liabilities), the weighted average is calculated based upon the absolute fair value of the instruments

<sup>(2)</sup> The categories are aggregated based upon product type which differs from financial statement classification. The following is a reconciliation to the line items in the table on page 169: Trading account assets – Corporate securities, trading loans and other of \$1.6 billion, Trading account assets – Non-U.S. sovereign debt of \$465 million, Trading account assets – Mortgage trading loans, ABS and other MBS of \$1.6 billion, AFS debt securities of \$606 million, Other debt securities carried at fair value - Non-agency residential of \$172 million, Other assets, including MSRs, of \$2.9 billion, Loans and leases of \$338 million and LHFS of \$542 million

<sup>(3)</sup> Includes models such as Monte Carlo simulation and Black-Scholes

<sup>(4)</sup> Includes models such as Monte Carlo simulation, Black-Scholes and other methods that model the joint dynamics of interest, inflation and foreign exchange rates

<sup>(5)</sup> The weighted-average life is a product of changes in market rates of interest, prepayment rates and other model and cash flow assumptions

CPR = Constant Prepayment Rate

CDR = Constant Default Rate

MMBtu = Million British thermal units

IR = Interest Rate

FX = Foreign Exchange

n/a = not applicable

In the previous tables, instruments backed by residential and commercial real estate assets include RMBS, commercial MBS, whole loans and mortgage CDOs. Commercial loans, debt securities and other include corporate CLOs and CDOs, commercial loans and bonds, and securities backed by non-real estate assets. Structured liabilities primarily include equity-linked notes that are accounted for under the fair value option.

The Corporation uses multiple market approaches in valuing certain of its Level 3 financial instruments. For example, market comparables and discounted cash flows are used together. For a given product, such as corporate debt securities, market comparables may be used to estimate some of the unobservable inputs and then these inputs are incorporated into a discounted cash flow model. Therefore, the balances disclosed encompass both of these techniques.

The level of aggregation and diversity within the products disclosed in the tables result in certain ranges of inputs being wide and unevenly distributed across asset and liability categories.

### Uncertainty of Fair Value Measurements from Unobservable Inputs

#### Loans and Securities

A significant increase in market yields, default rates, loss severities or duration would have resulted in a significantly lower fair value for long positions. Short positions would have been impacted in a directionally opposite way. The impact of changes in prepayment speeds would have resulted in differing impacts depending on the seniority of the instrument and, in the case of CLOs, whether prepayments can be reinvested. A significant increase in price would have resulted in a significantly higher fair value for long positions, and short positions would have been impacted in a directionally opposite way.

#### Structured Liabilities and Derivatives

For credit derivatives, a significant increase in market yield, upfront points (i.e., a single upfront payment made by a protection buyer at inception), credit spreads, default rates or loss severities would

have resulted in a significantly lower fair value for protection sellers and higher fair value for protection buyers. The impact of changes in prepayment speeds would have resulted in differing impacts depending on the seniority of the instrument.

Structured credit derivatives are impacted by credit correlation. Default correlation is a parameter that describes the degree of dependence among credit default rates within a credit portfolio that underlies a credit derivative instrument. The sensitivity of this input on the fair value varies depending on the level of subordination of the tranche. For senior tranches that are net purchases of protection, a significant increase in default correlation would have resulted in a significantly higher fair value. Net short protection positions would have been impacted in a directionally opposite way.

For equity derivatives, commodity derivatives, interest rate derivatives and structured liabilities, a significant change in long-dated rates and volatilities and correlation inputs (i.e., the degree of correlation between an equity security and an index, between two different commodities, between two different interest rates, or between interest rates and foreign exchange rates) would have resulted in a significant impact to the fair value; however, the magnitude and direction of the impact depend on whether the Corporation is long or short the exposure. For structured liabilities, a significant increase in yield or decrease in price would have resulted in a significantly lower fair value.

### Nonrecurring Fair Value

The Corporation holds certain assets that are measured at fair value only in certain situations (e.g., the impairment of an asset), and these measurements are referred to herein as nonrecurring. The amounts below represent assets still held as of the reporting date for which a nonrecurring fair value adjustment was recorded during 2019, 2018 and 2017. In the tables below, other assets includes the measurement of the Corporation's merchant services equity method investment on which the Corporation recorded an impairment charge of \$2.1 billion during 2019. For more information, see Note 13 – Commitments and Contingencies.

### Assets Measured at Fair Value on a Nonrecurring Basis

|                                         | December 31, 2019 |         | December 31, 2018 |         |
|-----------------------------------------|-------------------|---------|-------------------|---------|
|                                         | Level 2           | Level 3 | Level 2           | Level 3 |
| (Dollars in millions)                   |                   |         |                   |         |
| <b>Assets</b>                           |                   |         |                   |         |
| Loans held-for-sale                     | \$ 53             | \$ 102  | \$ 274            | \$ —    |
| Loans and leases <sup>(1)</sup>         | —                 | 257     | —                 | 474     |
| Foreclosed properties <sup>(2, 3)</sup> | —                 | 17      | —                 | 42      |
| Other assets                            | 178               | 646     | 331               | 14      |
|                                         |                   |         |                   |         |
|                                         | Gains (Losses)    |         |                   |         |
|                                         | 2019              | 2018    | 2017              |         |
| <b>Assets</b>                           |                   |         |                   |         |
| Loans held-for-sale                     | \$ (14)           | \$ (18) | \$ (6)            |         |
| Loans and leases <sup>(1)</sup>         | (81)              | (202)   | (336)             |         |
| Foreclosed properties                   | (9)               | (24)    | (41)              |         |
| Other assets                            | (2,145)           | (64)    | (124)             |         |

<sup>(1)</sup> Includes \$36 million, \$83 million and \$135 million of losses on loans that were written down to a collateral value of zero during 2019, 2018 and 2017, respectively.

<sup>(2)</sup> Amounts are included in other assets on the Consolidated Balance Sheet and represent the carrying value of foreclosed properties that were written down subsequent to their initial classification as foreclosed properties. Losses on foreclosed properties include losses recorded during the first 90 days after transfer of a loan to foreclosed properties.

<sup>(3)</sup> Excludes \$260 million and \$488 million of properties acquired upon foreclosure of certain government-guaranteed loans (principally FHA-insured loans) at December 31, 2019 and 2018.

The table below presents information about significant unobservable inputs at December 31, 2019 and 2018.

### Quantitative Information about Nonrecurring Level 3 Fair Value Measurements

| Financial Instrument            | Fair Value | Valuation Technique  | Inputs                          |                  |                                 |
|---------------------------------|------------|----------------------|---------------------------------|------------------|---------------------------------|
|                                 |            |                      | Significant Unobservable Inputs | Ranges of Inputs | Weighted Average <sup>(1)</sup> |
| (Dollars in millions)           |            |                      | December 31, 2019               |                  |                                 |
| Loans held-for-sale             | \$ 102     | Discounted cash flow | Price                           | \$85 to \$97     | \$88                            |
| Loans and leases <sup>(2)</sup> | 257        | Market comparables   | OREO discount                   | 13% to 59%       | 24%                             |
|                                 |            |                      | Costs to sell                   | 8% to 26%        | 9%                              |
| Other assets <sup>(3)</sup>     | 640        | Discounted cash flow | Customer attrition              | 0% to 19%        | 5%                              |
|                                 |            |                      | Costs to service                | 11% to 19%       | 15%                             |
|                                 |            |                      | December 31, 2018               |                  |                                 |
| Loans and leases <sup>(2)</sup> | \$ 474     | Market comparables   | OREO discount                   | 13% to 59%       | 25%                             |
|                                 |            |                      | Costs to sell                   | 8% to 26%        | 9%                              |

<sup>(1)</sup> The weighted average is calculated based upon the fair value of the loans.

<sup>(2)</sup> Represents residential mortgages where the loan has been written down to the fair value of the underlying collateral.

<sup>(3)</sup> The fair value of the merchant services joint venture was measured using a discounted cash flow method in which the two primary drivers of fair value were the customer attrition rate and certain costs to service the customers. The weighted averages are calculated based on variations of the attrition rates and costs to service the customers.

## NOTE 22 Fair Value Option

### Loans and Loan Commitments

The Corporation elects to account for certain loans and loan commitments that exceed the Corporation's single-name credit risk concentration guidelines under the fair value option. Lending commitments are actively managed and, as appropriate, credit risk for these lending relationships may be mitigated through the use of credit derivatives, with the Corporation's public side credit view and market perspectives determining the size and timing of the hedging activity. These credit derivatives do not meet the requirements for designation as accounting hedges and therefore are carried at fair value. The fair value option allows the Corporation to carry these loans and loan commitments at fair value, which is more consistent with management's view of the underlying economics and the manner in which they are managed. In addition, the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at historical cost and the credit derivatives at fair value.

### Loans Held-for-sale

The Corporation elects to account for residential mortgage LHFS, commercial mortgage LHFS and certain other LHFS under the fair value option. These loans are actively managed and monitored and, as appropriate, certain market risks of the loans may be mitigated through the use of derivatives. The Corporation has elected not to designate the derivatives as qualifying accounting hedges, and therefore, they are carried at fair value. The changes in fair value of the loans are largely offset by changes in the fair value of the derivatives. The fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at the lower of cost or fair value and the derivatives at fair value. The Corporation has not elected to account for certain other LHFS under the fair value option primarily because these loans are floating-rate loans that are not hedged using derivative instruments.

### Loans Reported as Trading Account Assets

The Corporation elects to account for certain loans that are held for the purpose of trading and are risk-managed on a fair value basis under the fair value option.

### Other Assets

The Corporation elects to account for certain long-term fixed-rate margin loans that are hedged with derivatives under the fair value option. Election of the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at historical cost and the derivatives at fair value.

### Securities Financing Agreements

The Corporation elects to account for certain securities financing agreements, including resale and repurchase agreements, under the fair value option based on the tenor of the agreements, which reflects the magnitude of the interest rate risk. The majority of securities financing agreements collateralized by U.S. government securities are not accounted for under the fair value option as these contracts are generally short-dated and therefore the interest rate risk is not significant.

### Long-term Deposits

The Corporation elects to account for certain long-term fixed-rate and rate-linked deposits that are hedged with derivatives that do not qualify for hedge accounting under the fair value option. Election of the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the financial instruments at historical cost and the derivatives at fair value. The Corporation has not elected to carry other long-term deposits at fair value because they are not hedged using derivatives.

### Short-term Borrowings

The Corporation elects to account for certain short-term borrowings, primarily short-term structured liabilities, under the fair value option because this debt is risk-managed on a fair value basis.

The Corporation elects to account for certain asset-backed secured financings, which are also classified in short-term borrowings, under the fair value option. Election of the fair value option allows the Corporation to reduce the accounting volatility that would otherwise result from the asymmetry created by accounting for the asset-backed secured financings at historical cost and the corresponding mortgage LHFS securing these financings at fair value.

## Long-term Debt

The Corporation elects to account for certain long-term debt, primarily structured liabilities, under the fair value option. This long-term debt is either risk-managed on a fair value basis or the related hedges do not qualify for hedge accounting.

assets and liabilities accounted for under the fair value option at December 31, 2019 and 2018, and information about where changes in the fair value of assets and liabilities accounted for under the fair value option are included in the Consolidated Statement of Income for 2019, 2018 and 2017.

## Fair Value Option Elections

The following tables provide information about the fair value carrying amount and the contractual principal outstanding of

### Fair Value Option Elections

|                                                                                      | December 31, 2019          |                                   |                                                  | December 31, 2018          |                                   |                                                  |
|--------------------------------------------------------------------------------------|----------------------------|-----------------------------------|--------------------------------------------------|----------------------------|-----------------------------------|--------------------------------------------------|
|                                                                                      | Fair Value Carrying Amount | Contractual Principal Outstanding | Fair Value Carrying Amount Less Unpaid Principal | Fair Value Carrying Amount | Contractual Principal Outstanding | Fair Value Carrying Amount Less Unpaid Principal |
| (Dollars in millions)                                                                |                            |                                   |                                                  |                            |                                   |                                                  |
| Federal funds sold and securities borrowed or purchased under agreements to resell   | \$ 50,364                  | \$ 50,318                         | \$ 46                                            | \$ 56,399                  | \$ 56,376                         | \$ 23                                            |
| Loans reported as trading account assets <sup>(1)</sup>                              | 6,989                      | 14,703                            | (7,714)                                          | 6,195                      | 13,088                            | (6,893)                                          |
| Trading inventory – other                                                            | 19,574                     | n/a                               | n/a                                              | 13,778                     | n/a                               | n/a                                              |
| Consumer and commercial loans                                                        | 8,335                      | 8,372                             | (37)                                             | 4,349                      | 4,399                             | (50)                                             |
| Loans held-for-sale <sup>(1)</sup>                                                   | 3,709                      | 4,879                             | (1,170)                                          | 2,942                      | 4,749                             | (1,807)                                          |
| Other assets                                                                         | 4                          | n/a                               | n/a                                              | 3                          | n/a                               | n/a                                              |
| Long-term deposits                                                                   | 508                        | 496                               | 12                                               | 492                        | 454                               | 38                                               |
| Federal funds purchased and securities loaned or sold under agreements to repurchase | 16,008                     | 16,029                            | (21)                                             | 28,875                     | 28,881                            | (6)                                              |
| Short-term borrowings                                                                | 3,941                      | 3,930                             | 11                                               | 1,648                      | 1,648                             | —                                                |
| Unfunded loan commitments                                                            | 90                         | n/a                               | n/a                                              | 169                        | n/a                               | n/a                                              |
| Long-term debt <sup>(2)</sup>                                                        | 34,975                     | 35,730                            | (755)                                            | 27,689                     | 29,198                            | (1,509)                                          |

<sup>(1)</sup> A significant portion of the loans reported as trading account assets and LHFS are distressed loans that were purchased at a deep discount to par, and the remainder are loans with a fair value near contractual principal outstanding

<sup>(2)</sup> Includes structured liabilities with a fair value of \$34.6 billion and \$27.3 billion, and contractual principal outstanding of \$35.3 billion and \$28.8 billion at December 31, 2019 and 2018

n/a = not applicable

### Gains (Losses) Relating to Assets and Liabilities Accounted for Under the Fair Value Option

|                                          | Market making and similar activities | Other Income | Total    |
|------------------------------------------|--------------------------------------|--------------|----------|
| (Dollars in millions)                    |                                      |              |          |
|                                          | 2019                                 |              |          |
| Loans reported as trading account assets | \$ 203                               | \$ —         | \$ 203   |
| Trading inventory – other <sup>(1)</sup> | 5,795                                | —            | 5,795    |
| Consumer and commercial loans            | 92                                   | 12           | 104      |
| Loans held-for-sale <sup>(2)</sup>       | —                                    | 98           | 98       |
| Long-term debt <sup>(3)</sup>            | (1,098)                              | (78)         | (1,176)  |
| Other <sup>(4)</sup>                     | (15)                                 | 52           | 37       |
| Total <sup>(5)</sup>                     | \$ 4,977                             | \$ 84        | \$ 5,061 |
|                                          | 2018                                 |              |          |
| Loans reported as trading account assets | \$ 8                                 | \$ —         | \$ 8     |
| Trading inventory – other <sup>(1)</sup> | 1,750                                | —            | 1,750    |
| Consumer and commercial loans            | (422)                                | (53)         | (475)    |
| Loans held-for-sale <sup>(2)</sup>       | 1                                    | 24           | 25       |
| Long-term debt <sup>(3)</sup>            | 2,157                                | (93)         | 2,064    |
| Other <sup>(4)</sup>                     | 8                                    | (31)         | (23)     |
| Total <sup>(5)</sup>                     | \$ 3,502                             | \$ (153)     | \$ 3,349 |
|                                          | 2017                                 |              |          |
| Loans reported as trading account assets | \$ 318                               | \$ —         | \$ 318   |
| Trading inventory – other <sup>(1)</sup> | 3,821                                | —            | 3,821    |
| Consumer and commercial loans            | (9)                                  | 35           | 26       |
| Loans held-for-sale <sup>(2)</sup>       | —                                    | 298          | 298      |
| Long-term debt <sup>(3)</sup>            | (1,044)                              | (146)        | (1,190)  |
| Other <sup>(4)</sup>                     | (93)                                 | 49           | (44)     |
| Total <sup>(5)</sup>                     | \$ 2,993                             | \$ 236       | \$ 3,229 |

<sup>(1)</sup> The gains in market making and similar activities are primarily offset by losses on trading liabilities that hedge these assets

<sup>(2)</sup> Includes the value of IRLCs on funded loans, including those sold during the period.

<sup>(3)</sup> The net gains (losses) in market making and similar activities relate to the embedded derivatives in structured liabilities and are typically offset by (losses) gains on derivatives and securities that hedge these liabilities. For the cumulative impact of changes in the Corporation's own credit spreads and the amount recognized in accumulated OCI, see Note 15 – Accumulated Other Comprehensive Income (Loss). For more information on how the Corporation's own credit spread is determined, see Note 21 – Fair Value Measurements.

<sup>(4)</sup> Includes gains (losses) on federal funds sold and securities borrowed or purchased under agreements to resell, long-term deposits, federal funds purchased and securities loaned or sold under agreements to repurchase, short-term borrowings and unfunded loan commitments

<sup>(5)</sup> Gains (losses) related to borrower-specific credit risk were \$194 million, \$(148) million and \$38 million in 2019, 2018 and 2017, respectively.

## NOTE 23 Fair Value of Financial Instruments

Financial instruments are classified within the fair value hierarchy using the methodologies described in *Note 21 – Fair Value Measurements*. Certain loans, deposits, long-term debt and unfunded lending commitments are accounted for under the fair value option. For more information, see *Note 22 – Fair Value Option*. The following disclosures include financial instruments that are not carried at fair value or only a portion of the ending balance is carried at fair value on the Consolidated Balance Sheet.

### Short-term Financial Instruments

The carrying value of short-term financial instruments, including cash and cash equivalents, certain time deposits placed and other short-term investments, federal funds sold and purchased, certain resale and repurchase agreements and short-term borrowings, approximates the fair value of these instruments. These financial instruments generally expose the Corporation to limited credit risk and have no stated maturities or have short-term maturities and carry interest rates that approximate market. The Corporation accounts for certain resale and repurchase agreements under the fair value option.

Under the fair value hierarchy, cash and cash equivalents are classified as Level 1. Time deposits placed and other short-term investments, such as U.S. government securities and short-term commercial paper, are classified as Level 1 or Level 2. Federal funds sold and purchased are classified as Level 2. Resale and repurchase agreements are classified as Level 2 because they are generally short-dated and/or variable-rate instruments collateralized by U.S. government or agency securities. Short-term borrowings are classified as Level 2.

### Fair Value of Financial Instruments

The carrying values and fair values by fair value hierarchy of certain financial instruments where only a portion of the ending balance was carried at fair value at December 31, 2019 and 2018 are presented in the following table.

#### Fair Value of Financial Instruments

|                                                        |                   | Fair Value |            |            |
|--------------------------------------------------------|-------------------|------------|------------|------------|
|                                                        | Carrying Value    | Level 2    | Level 3    | Total      |
| (Dollars in millions)                                  | December 31, 2019 |            |            |            |
| <b>Financial assets</b>                                |                   |            |            |            |
| Loans                                                  | \$ 950,093        | \$ 63,633  | \$ 914,597 | \$ 978,230 |
| Loans held-for-sale                                    | 9,158             | 8,439      | 719        | 9,158      |
| <b>Financial liabilities</b>                           |                   |            |            |            |
| Deposits <sup>(1)</sup>                                | 1,434,803         | 1,434,809  | —          | 1,434,809  |
| Long-term debt                                         | 240,856           | 247,376    | 1,149      | 248,525    |
| Commercial unfunded lending commitments <sup>(2)</sup> | 903               | 90         | 4,777      | 4,867      |
|                                                        | December 31, 2018 |            |            |            |
| <b>Financial assets</b>                                |                   |            |            |            |
| Loans                                                  | \$ 911,520        | \$ 58,228  | \$ 859,160 | \$ 917,388 |
| Loans held-for-sale                                    | 10,367            | 9,592      | 775        | 10,367     |
| <b>Financial liabilities</b>                           |                   |            |            |            |
| Deposits <sup>(1)</sup>                                | 1,381,476         | 1,381,239  | —          | 1,381,239  |
| Long-term debt                                         | 229,392           | 230,019    | 817        | 230,836    |
| Commercial unfunded lending commitments <sup>(2)</sup> | 966               | 169        | 5,558      | 5,727      |

<sup>(1)</sup> Includes demand deposits of \$545.5 billion and \$531.9 billion with no stated maturities at December 31, 2019 and 2018.

<sup>(2)</sup> The carrying value of commercial unfunded lending commitments is included in accrued expenses and other liabilities on the Consolidated Balance Sheet. The Corporation does not estimate the fair value of consumer unfunded lending commitments because, in many instances, the Corporation can reduce or cancel these commitments by providing notice to the borrower. For more information on commitments, see *Note 13 – Commitments and Contingencies*.

## NOTE 24 Business Segment Information

The Corporation reports its results of operations through the following four business segments: *Consumer Banking*, *GWIM*, *Global Banking* and *Global Markets*, with the remaining operations recorded in *All Other*.

### Consumer Banking

*Consumer Banking* offers a diversified range of credit, banking and investment products and services to consumers and small businesses. *Consumer Banking* product offerings include traditional savings accounts, money market savings accounts, CDs and IRAs, checking accounts, and investment accounts and products, as well as credit and debit cards, residential mortgages and home equity loans, and direct and indirect loans to consumers and small businesses in the U.S. *Consumer Banking* includes the impact of servicing residential mortgages and home equity loans in the core portfolio.

### Global Wealth & Investment Management

*GWIM* provides a high-touch client experience through a network of financial advisors focused on clients with over \$250,000 in total investable assets, including tailored solutions to meet clients' needs through a full set of investment management, brokerage, banking and retirement products. *GWIM* also provides comprehensive wealth management solutions targeted to high net worth and ultra high net worth clients, as well as customized solutions to meet clients' wealth structuring, investment management, trust and banking needs, including specialty asset management services.

### Global Banking

*Global Banking* provides a wide range of lending-related products and services, integrated working capital management and treasury solutions, and underwriting and advisory services through the Corporation's network of offices and client relationship teams. *Global Banking* also provides investment banking products to clients. The economics of certain investment banking and underwriting activities are shared primarily between *Global Banking* and *Global Markets* under an internal revenue-sharing arrangement. *Global Banking* clients generally include middle-market companies, commercial real estate firms, not-for-profit companies, large global corporations, financial institutions, leasing clients, and mid-sized U.S.-based businesses requiring customized and integrated financial advice and solutions.

### Global Markets

*Global Markets* offers sales and trading services and research services to institutional clients across fixed-income, credit, currency, commodity and equity businesses. *Global Markets* provides market-making, financing, securities clearing, settlement and custody services globally to institutional investor clients in support of their investing and trading activities. *Global Markets* product coverage includes securities and derivative products in both the primary and secondary markets. *Global Markets* also works with commercial and corporate clients to provide risk management products. As a result of market-making activities, *Global Markets* may be required to manage risk in a broad range of financial products. In addition, the economics of certain investment banking and underwriting activities are shared primarily between *Global Markets* and *Global Banking* under an internal revenue-sharing arrangement.

## All Other

*All Other* consists of ALM activities, equity investments, non-core mortgage loans and servicing activities, liquidating businesses and certain expenses not otherwise allocated to business segments. ALM activities encompass certain residential mortgages, debt securities, interest rate and foreign currency risk management activities. Substantially all of the results of ALM activities are allocated to the business segments. Equity investments include the merchant services joint venture as well as a portfolio of equity, real estate and other alternative investments.

## Basis of Presentation

The management accounting and reporting process derives segment and business results by utilizing allocation methodologies for revenue and expense. The net income derived for the businesses is dependent upon revenue and cost allocations using an activity-based costing model, funds transfer pricing, and other methodologies and assumptions management believes are appropriate to reflect the results of the business.

Total revenue, net of interest expense, includes net interest income on an FTE basis and noninterest income. The adjustment of net interest income to an FTE basis results in a corresponding increase in income tax expense. The segment results also reflect certain revenue and expense methodologies that are utilized to determine net income. The net interest income of the businesses includes the results of a funds transfer pricing process that matches assets and liabilities with similar interest rate sensitivity

and maturity characteristics. In segments where the total of liabilities and equity exceeds assets, which are generally deposit-taking segments, the Corporation allocates assets to match liabilities. Net interest income of the business segments also includes an allocation of net interest income generated by certain of the Corporation's ALM activities.

The Corporation's ALM activities include an overall interest rate risk management strategy that incorporates the use of various derivatives and cash instruments to manage fluctuations in earnings and capital that are caused by interest rate volatility. The Corporation's goal is to manage interest rate sensitivity so that movements in interest rates do not significantly adversely affect earnings and capital. The results of substantially all of the Corporation's ALM activities are allocated to the business segments and fluctuate based on the performance of the ALM activities. ALM activities include external product pricing decisions including deposit pricing strategies, the effects of the Corporation's internal funds transfer pricing process and the net effects of other ALM activities.

Certain expenses not directly attributable to a specific business segment are allocated to the segments. The costs of certain centralized or shared functions are allocated based on methodologies that reflect utilization.

The following table presents net income (loss) and the components thereto (with net interest income on an FTE basis for the business segments, *All Other* and the total Corporation) for 2019, 2018 and 2017, and total assets at December 31, 2019 and 2018 for each business segment, as well as *All Other*.

## Results of Business Segments and All Other

At and for the year ended December 31

(Dollars in millions)

|                                        | Total Corporation <sup>(1)</sup> |              |           | Consumer Banking |            |           |
|----------------------------------------|----------------------------------|--------------|-----------|------------------|------------|-----------|
|                                        | 2019                             | 2018         | 2017      | 2019             | 2018       | 2017      |
| Net interest income                    | \$ 49,486                        | \$ 48,772    | \$ 46,164 | \$ 28,158        | \$ 27,025  | \$ 24,203 |
| Noninterest income                     | 42,353                           | 42,858       | 41,887    | 10,429           | 10,593     | 10,101    |
| Total revenue, net of interest expense | 91,839                           | 91,630       | 88,051    | 38,587           | 37,618     | 34,304    |
| Provision for credit losses            | 3,590                            | 3,282        | 3,396     | 3,772            | 3,664      | 3,525     |
| Noninterest expense                    | 54,900                           | 53,154       | 54,517    | 17,618           | 17,672     | 17,847    |
| Income before income taxes             | 33,349                           | 35,194       | 30,138    | 17,197           | 16,282     | 12,932    |
| Income tax expense                     | 5,919                            | 7,047        | 11,906    | 4,213            | 4,150      | 4,897     |
| Net income                             | \$ 27,430                        | \$ 28,147    | \$ 18,232 | \$ 12,984        | \$ 12,132  | \$ 8,035  |
| Period-end total assets                | \$ 2,434,079                     | \$ 2,354,507 |           | \$ 804,019       | \$ 768,881 |           |

|                                        | Global Wealth & Investment Management |            |          | Global Banking |            |           |
|----------------------------------------|---------------------------------------|------------|----------|----------------|------------|-----------|
|                                        | 2019                                  | 2018       | 2017     | 2019           | 2018       | 2017      |
| Net interest income                    | \$ 6,504                              | \$ 6,265   | \$ 6,152 | \$ 10,675      | \$ 10,993  | \$ 10,615 |
| Noninterest income                     | 13,033                                | 13,188     | 12,447   | 9,808          | 9,008      | 9,510     |
| Total revenue, net of interest expense | 19,537                                | 19,453     | 18,599   | 20,483         | 20,001     | 20,125    |
| Provision for credit losses            | 82                                    | 86         | 56       | 414            | 8          | 212       |
| Noninterest expense                    | 13,823                                | 14,015     | 13,770   | 9,017          | 8,745      | 8,811     |
| Income before income taxes             | 5,632                                 | 5,352      | 4,773    | 11,052         | 11,248     | 11,102    |
| Income tax expense                     | 1,380                                 | 1,364      | 1,807    | 2,984          | 2,923      | 4,204     |
| Net income                             | \$ 4,252                              | \$ 3,988   | \$ 2,966 | \$ 8,068       | \$ 8,325   | \$ 6,898  |
| Period-end total assets                | \$ 299,756                            | \$ 305,907 |          | \$ 464,032     | \$ 442,330 |           |

|                                        | Global Markets |            |          | All Other  |            |            |
|----------------------------------------|----------------|------------|----------|------------|------------|------------|
|                                        | 2019           | 2018       | 2017     | 2019       | 2018       | 2017       |
| Net interest income                    | \$ 3,915       | \$ 3,857   | \$ 4,264 | \$ 234     | \$ 632     | \$ 930     |
| Noninterest income                     | 11,699         | 12,326     | 11,698   | (2,616)    | (2,257)    | (1,869)    |
| Total revenue, net of interest expense | 15,614         | 16,183     | 15,962   | (2,382)    | (1,625)    | (939)      |
| Provision for credit losses            | (9)            | —          | 164      | (669)      | (476)      | (561)      |
| Noninterest expense                    | 10,722         | 10,835     | 10,997   | 3,720      | 1,887      | 3,092      |
| Income (loss) before income taxes      | 4,901          | 5,348      | 4,801    | (5,433)    | (3,036)    | (3,470)    |
| Income tax expense (benefit)           | 1,397          | 1,390      | 1,666    | (4,055)    | (2,780)    | (668)      |
| Net income (loss)                      | \$ 3,504       | \$ 3,958   | \$ 3,135 | \$ (1,378) | \$ (256)   | \$ (2,802) |
| Period-end total assets                | \$ 641,806     | \$ 641,923 |          | \$ 224,466 | \$ 195,466 |            |

<sup>(1)</sup> There were no material intersegment revenues

The table below presents noninterest income and the components thereto for 2019, 2018 and 2017 for each business segment, All Other and the total Corporation. For more information, see Note 2 – Net Interest Income and Noninterest Income.

**Noninterest Income by Business Segment and All Other**

| (Dollars in millions)                          | Total Corporation |                  |                  | Consumer Banking |                  |                  | Global Wealth & Investment Management |                   |                   |
|------------------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|---------------------------------------|-------------------|-------------------|
|                                                | 2019              | 2018             | 2017             | 2019             | 2018             | 2017             | 2019                                  | 2018              | 2017              |
| <b>Fees and commissions:</b>                   |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| <b>Card income</b>                             |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Interchange fees                               | \$ 3,834          | \$ 3,866         | \$ 3,777         | \$ 3,174         | \$ 3,196         | \$ 3,038         | \$ 60                                 | \$ 81             | \$ 109            |
| Other card income                              | 1,963             | 1,958            | 1,899            | 1,910            | 1,906            | 1,846            | 41                                    | 46                | 44                |
| <b>Total card income</b>                       | <b>5,797</b>      | <b>5,824</b>     | <b>5,676</b>     | <b>5,084</b>     | <b>5,102</b>     | <b>4,884</b>     | <b>101</b>                            | <b>127</b>        | <b>153</b>        |
| <b>Service charges</b>                         |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Deposit-related fees                           | 6,588             | 6,667            | 6,708            | 4,219            | 4,300            | 4,266            | 68                                    | 73                | 77                |
| Lending-related fees                           | 1,066             | 1,100            | 1,110            | —                | —                | —                | —                                     | —                 | —                 |
| <b>Total service charges</b>                   | <b>7,674</b>      | <b>7,767</b>     | <b>7,818</b>     | <b>4,219</b>     | <b>4,300</b>     | <b>4,266</b>     | <b>68</b>                             | <b>73</b>         | <b>77</b>         |
| <b>Investment and brokerage services</b>       |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Asset management fees                          | 10,241            | 10,189           | 9,310            | 144              | 147              | 133              | 10,130                                | 10,042            | 9,177             |
| Brokerage fees                                 | 3,661             | 3,971            | 4,526            | 149              | 172              | 184              | 1,740                                 | 1,917             | 2,217             |
| <b>Total investment and brokerage services</b> | <b>13,902</b>     | <b>14,160</b>    | <b>13,836</b>    | <b>293</b>       | <b>319</b>       | <b>317</b>       | <b>11,870</b>                         | <b>11,959</b>     | <b>11,394</b>     |
| <b>Investment banking fees</b>                 |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Underwriting income                            | 2,998             | 2,722            | 2,821            | —                | (1)              | —                | 401                                   | 335               | 316               |
| Syndication fees                               | 1,184             | 1,347            | 1,499            | —                | —                | —                | —                                     | —                 | —                 |
| Financial advisory services                    | 1,460             | 1,258            | 1,691            | —                | —                | —                | —                                     | 2                 | 2                 |
| <b>Total investment banking fees</b>           | <b>5,642</b>      | <b>5,327</b>     | <b>6,011</b>     | <b>—</b>         | <b>(1)</b>       | <b>—</b>         | <b>401</b>                            | <b>337</b>        | <b>318</b>        |
| <b>Total fees and commissions</b>              | <b>33,015</b>     | <b>33,078</b>    | <b>33,341</b>    | <b>9,596</b>     | <b>9,720</b>     | <b>9,467</b>     | <b>12,440</b>                         | <b>12,496</b>     | <b>11,942</b>     |
| <b>Market making and similar activities</b>    | <b>9,034</b>      | <b>9,008</b>     | <b>7,102</b>     | <b>6</b>         | <b>8</b>         | <b>3</b>         | <b>113</b>                            | <b>112</b>        | <b>144</b>        |
| <b>Other income</b>                            | <b>304</b>        | <b>772</b>       | <b>1,444</b>     | <b>827</b>       | <b>865</b>       | <b>631</b>       | <b>480</b>                            | <b>580</b>        | <b>361</b>        |
| <b>Total noninterest income</b>                | <b>\$ 42,353</b>  | <b>\$ 42,858</b> | <b>\$ 41,887</b> | <b>\$ 10,429</b> | <b>\$ 10,593</b> | <b>\$ 10,101</b> | <b>\$ 13,033</b>                      | <b>\$ 13,188</b>  | <b>\$ 12,447</b>  |
|                                                | Global Banking    |                  |                  | Global Markets   |                  |                  | All Other <sup>(1)</sup>              |                   |                   |
|                                                | 2019              | 2018             | 2017             | 2019             | 2018             | 2017             | 2019                                  | 2018              | 2017              |
| <b>Fees and commissions:</b>                   |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| <b>Card income</b>                             |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Interchange fees                               | \$ 519            | \$ 503           | \$ 478           | \$ 81            | \$ 86            | \$ 86            | \$ —                                  | \$ —              | \$ 66             |
| Other card income                              | 13                | 8                | 12               | (1)              | (2)              | (2)              | —                                     | —                 | (1)               |
| <b>Total card income</b>                       | <b>532</b>        | <b>511</b>       | <b>490</b>       | <b>80</b>        | <b>84</b>        | <b>84</b>        | <b>—</b>                              | <b>—</b>          | <b>65</b>         |
| <b>Service charges</b>                         |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Deposit-related fees                           | 2,121             | 2,111            | 2,197            | 156              | 161              | 147              | 24                                    | 22                | 21                |
| Lending-related fees                           | 894               | 916              | 928              | 192              | 184              | 182              | —                                     | —                 | —                 |
| <b>Total service charges</b>                   | <b>3,015</b>      | <b>3,027</b>     | <b>3,125</b>     | <b>348</b>       | <b>345</b>       | <b>329</b>       | <b>24</b>                             | <b>22</b>         | <b>21</b>         |
| <b>Investment and brokerage services</b>       |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Asset management fees                          | —                 | —                | —                | —                | —                | —                | (33)                                  | —                 | —                 |
| Brokerage fees                                 | 34                | 94               | 97               | 1,738            | 1,780            | 2,049            | —                                     | 8                 | (21)              |
| <b>Total investment and brokerage services</b> | <b>34</b>         | <b>94</b>        | <b>97</b>        | <b>1,738</b>     | <b>1,780</b>     | <b>2,049</b>     | <b>(33)</b>                           | <b>8</b>          | <b>(21)</b>       |
| <b>Investment banking fees</b>                 |                   |                  |                  |                  |                  |                  |                                       |                   |                   |
| Underwriting income                            | 1,227             | 1,090            | 1,172            | 1,555            | 1,495            | 1,588            | (185)                                 | (197)             | (255)             |
| Syndication fees                               | 574               | 648              | 742              | 610              | 698              | 756              | —                                     | 1                 | 1                 |
| Financial advisory services                    | 1,336             | 1,153            | 1,557            | 123              | 103              | 133              | 1                                     | —                 | (1)               |
| <b>Total investment banking fees</b>           | <b>3,137</b>      | <b>2,891</b>     | <b>3,471</b>     | <b>2,288</b>     | <b>2,296</b>     | <b>2,477</b>     | <b>(184)</b>                          | <b>(196)</b>      | <b>(255)</b>      |
| <b>Total fees and commissions</b>              | <b>6,718</b>      | <b>6,523</b>     | <b>7,183</b>     | <b>4,454</b>     | <b>4,505</b>     | <b>4,939</b>     | <b>(193)</b>                          | <b>(166)</b>      | <b>(190)</b>      |
| <b>Market making and similar activities</b>    | <b>235</b>        | <b>260</b>       | <b>134</b>       | <b>7,065</b>     | <b>7,260</b>     | <b>6,203</b>     | <b>1,615</b>                          | <b>1,368</b>      | <b>618</b>        |
| <b>Other income</b>                            | <b>2,855</b>      | <b>2,225</b>     | <b>2,193</b>     | <b>180</b>       | <b>561</b>       | <b>556</b>       | <b>(4,038)</b>                        | <b>(3,459)</b>    | <b>(2,297)</b>    |
| <b>Total noninterest income</b>                | <b>\$ 9,808</b>   | <b>\$ 9,008</b>  | <b>\$ 9,510</b>  | <b>\$ 11,699</b> | <b>\$ 12,326</b> | <b>\$ 11,698</b> | <b>\$ (2,616)</b>                     | <b>\$ (2,257)</b> | <b>\$ (1,869)</b> |

<sup>(1)</sup> All Other includes eliminations of intercompany transactions.

## Business Segment Reconciliations

| (Dollars in millions)                                | 2019             | 2018             | 2017             |
|------------------------------------------------------|------------------|------------------|------------------|
| Segments' total revenue, net of interest expense     | \$ 94,221        | \$ 93,255        | \$ 88,990        |
| Adjustments <sup>(1)</sup> :                         |                  |                  |                  |
| ALM activities                                       | 241              | (325)            | 161              |
| Liquidating businesses, eliminations and other       | (2,623)          | (1,300)          | (1,100)          |
| FTE basis adjustment                                 | (595)            | (610)            | (925)            |
| <b>Consolidated revenue, net of interest expense</b> | <b>\$ 91,244</b> | <b>\$ 91,020</b> | <b>\$ 87,126</b> |
| Segments' total net income                           | 28,808           | 28,403           | 21,034           |
| Adjustments, net-of-tax <sup>(1)</sup> :             |                  |                  |                  |
| ALM activities                                       | 202              | (222)            | 154              |
| Liquidating businesses, eliminations and other       | (1,580)          | (34)             | (2,956)          |
| <b>Consolidated net income</b>                       | <b>\$ 27,430</b> | <b>\$ 28,147</b> | <b>\$ 18,232</b> |

|                                                               | December 31         |                     |
|---------------------------------------------------------------|---------------------|---------------------|
|                                                               | 2019                | 2018                |
| Segments' total assets                                        | \$ 2,209,613        | \$ 2,159,041        |
| Adjustments <sup>(1)</sup> :                                  |                     |                     |
| ALM activities, including securities portfolio                | 721,806             | 669,204             |
| Elimination of segment asset allocations to match liabilities | (565,346)           | (540,798)           |
| Other                                                         | 68,006              | 67,060              |
| <b>Consolidated total assets</b>                              | <b>\$ 2,434,079</b> | <b>\$ 2,354,507</b> |

<sup>(1)</sup> Adjustments include consolidated income, expense and asset amounts not specifically allocated to individual business segments.

## NOTE 25 Parent Company Information

The following tables present the Parent Company-only financial information.

### Condensed Statement of Income

| (Dollars in millions)                                                                  | 2019             | 2018             | 2017             |
|----------------------------------------------------------------------------------------|------------------|------------------|------------------|
| <b>Income</b>                                                                          |                  |                  |                  |
| Dividends from subsidiaries:                                                           |                  |                  |                  |
| Bank holding companies and related subsidiaries                                        | \$ 27,820        | \$ 28,575        | \$ 12,088        |
| Nonbank companies and related subsidiaries                                             | —                | 91               | 202              |
| Interest from subsidiaries                                                             | 9,502            | 8,425            | 7,043            |
| Other income (loss)                                                                    | 74               | (1,025)          | 28               |
| <b>Total income</b>                                                                    | <b>37,396</b>    | <b>36,066</b>    | <b>19,361</b>    |
| <b>Expense</b>                                                                         |                  |                  |                  |
| Interest on borrowed funds from related subsidiaries                                   | 451              | 235              | 189              |
| Other interest expense                                                                 | 5,899            | 6,425            | 5,555            |
| Noninterest expense                                                                    | 1,841            | 1,600            | 1,672            |
| <b>Total expense</b>                                                                   | <b>7,991</b>     | <b>8,260</b>     | <b>7,416</b>     |
| <b>Income before income taxes and equity in undistributed earnings of subsidiaries</b> | <b>29,405</b>    | <b>27,806</b>    | <b>11,945</b>    |
| Income tax expense (benefit)                                                           | 341              | (281)            | 950              |
| <b>Income before equity in undistributed earnings of subsidiaries</b>                  | <b>29,064</b>    | <b>28,087</b>    | <b>10,995</b>    |
| Equity in undistributed earnings (losses) of subsidiaries:                             |                  |                  |                  |
| Bank holding companies and related subsidiaries                                        | (1,717)          | 306              | 8,725            |
| Nonbank companies and related subsidiaries                                             | 83               | (246)            | (1,488)          |
| <b>Total equity in undistributed earnings of subsidiaries</b>                          | <b>(1,634)</b>   | <b>60</b>        | <b>7,237</b>     |
| <b>Net income</b>                                                                      | <b>\$ 27,430</b> | <b>\$ 28,147</b> | <b>\$ 18,232</b> |

## Condensed Balance Sheet

|                                                   | December 31       |                   |
|---------------------------------------------------|-------------------|-------------------|
|                                                   | 2019              | 2018              |
| (Dollars in millions)                             |                   |                   |
| <b>Assets</b>                                     |                   |                   |
| Cash held at bank subsidiaries <sup>(1)</sup>     | \$ 5,695          | \$ 5,141          |
| Securities                                        | 656               | 628               |
| Receivables from subsidiaries:                    |                   |                   |
| Bank holding companies and related subsidiaries   | 173,301           | 152,905           |
| Banks and related subsidiaries                    | 51                | 195               |
| Nonbank companies and related subsidiaries        | 391               | 969               |
| Investments in subsidiaries:                      |                   |                   |
| Bank holding companies and related subsidiaries   | 297,465           | 293,045           |
| Nonbank companies and related subsidiaries        | 3,663             | 3,432             |
| Other assets                                      | 9,438             | 14,696            |
| <b>Total assets</b>                               | <b>\$ 490,660</b> | <b>\$ 471,011</b> |
| <b>Liabilities and shareholders' equity</b>       |                   |                   |
| Accrued expenses and other liabilities            | \$ 13,381         | \$ 8,828          |
| Payables to subsidiaries:                         |                   |                   |
| Banks and related subsidiaries                    | 458               | 349               |
| Nonbank companies and related subsidiaries        | 12,102            | 13,301            |
| Long-term debt                                    | 199,909           | 183,208           |
| <b>Total liabilities</b>                          | <b>225,850</b>    | <b>205,686</b>    |
| Shareholders' equity                              | 264,810           | 265,325           |
| <b>Total liabilities and shareholders' equity</b> | <b>\$ 490,660</b> | <b>\$ 471,011</b> |

<sup>(1)</sup> Balance includes third-party cash held of \$4 million and \$389 million at December 31, 2019 and 2018

## Condensed Statement of Cash Flows

|                                                                                      | 2019            | 2018            | 2017            |
|--------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|
| (Dollars in millions)                                                                |                 |                 |                 |
| <b>Operating activities</b>                                                          |                 |                 |                 |
| Net income                                                                           | \$ 27,430       | \$ 28,147       | \$ 18,232       |
| Reconciliation of net income to net cash provided by (used in) operating activities: |                 |                 |                 |
| Equity in undistributed (earnings) losses of subsidiaries                            | 1,634           | (60)            | (7,237)         |
| Other operating activities, net                                                      | 16,973          | (3,706)         | (2,593)         |
| Net cash provided by operating activities                                            | 46,037          | 24,381          | 8,402           |
| <b>Investing activities</b>                                                          |                 |                 |                 |
| Net sales (purchases) of securities                                                  | (17)            | 51              | 312             |
| Net payments to subsidiaries                                                         | (19,121)        | (2,262)         | (7,087)         |
| Other investing activities, net                                                      | 7               | 48              | (1)             |
| Net cash used in investing activities                                                | (19,131)        | (2,163)         | (6,776)         |
| <b>Financing activities</b>                                                          |                 |                 |                 |
| Net increase (decrease) in other advances                                            | (1,625)         | 3,867           | (6,672)         |
| Proceeds from issuance of long-term debt                                             | 29,315          | 30,708          | 37,704          |
| Retirement of long-term debt                                                         | (21,039)        | (29,413)        | (29,645)        |
| Proceeds from issuance of preferred stock                                            | 3,643           | 4,515           | —               |
| Redemption of preferred stock                                                        | (2,568)         | (4,512)         | —               |
| Common stock repurchased                                                             | (28,144)        | (20,094)        | (12,814)        |
| Cash dividends paid                                                                  | (5,934)         | (6,895)         | (5,700)         |
| Net cash used in financing activities                                                | (26,352)        | (21,824)        | (17,127)        |
| Net increase (decrease) in cash held at bank subsidiaries                            | 554             | 394             | (15,501)        |
| Cash held at bank subsidiaries at January 1                                          | 5,141           | 4,747           | 20,248          |
| <b>Cash held at bank subsidiaries at December 31</b>                                 | <b>\$ 5,695</b> | <b>\$ 5,141</b> | <b>\$ 4,747</b> |

## NOTE 26 Performance by Geographical Area

The Corporation's operations are highly integrated with operations in both U.S. and non-U.S. markets. The non-U.S. business activities are largely conducted in Europe, the Middle East and Africa and in Asia. The Corporation identifies its geographic performance based on the business unit structure used to manage the capital or expense deployed in the region as applicable. This

requires certain judgments related to the allocation of revenue so that revenue can be appropriately matched with the related capital or expense deployed in the region. Certain asset, liability, income and expense amounts have been allocated to arrive at total assets, total revenue, net of interest expense, income before income taxes and net income by geographic area as presented below.

|                                 |  | Total Assets at<br>Year End <sup>(1)</sup> | Total Revenue,<br>Net of Interest<br>Expense <sup>(2)</sup> | Income Before<br>Income Taxes | Net Income |
|---------------------------------|--|--------------------------------------------|-------------------------------------------------------------|-------------------------------|------------|
| (Dollars in millions)           |  |                                            |                                                             |                               |            |
| U.S. <sup>(3)</sup>             |  | 2019 \$ 2,122,734                          | \$ 81,236                                                   | \$ 30,699                     | \$ 25,937  |
|                                 |  | 2018 2,051,182                             | 80,777                                                      | 31,904                        | 26,407     |
|                                 |  | 2017                                       | 74,604                                                      | 25,108                        | 15,550     |
| Asia                            |  | 2019 102,440                               | 3,491                                                       | 765                           | 570        |
|                                 |  | 2018 94,865                                | 3,507                                                       | 865                           | 520        |
|                                 |  | 2017                                       | 3,405                                                       | 676                           | 464        |
| Europe, Middle East and Africa  |  | 2019 178,889                               | 5,310                                                       | 921                           | 672        |
|                                 |  | 2018 185,285                               | 5,632                                                       | 1,543                         | 1,126      |
|                                 |  | 2017                                       | 7,907                                                       | 2,990                         | 1,926      |
| Latin America and the Caribbean |  | 2019 30,016                                | 1,207                                                       | 369                           | 251        |
|                                 |  | 2018 23,175                                | 1,104                                                       | 272                           | 94         |
|                                 |  | 2017                                       | 1,210                                                       | 439                           | 292        |
| Total Non-U.S.                  |  | 2019 311,345                               | 10,008                                                      | 2,055                         | 1,493      |
|                                 |  | 2018 303,325                               | 10,243                                                      | 2,680                         | 1,740      |
|                                 |  | 2017                                       | 12,522                                                      | 4,105                         | 2,682      |
| Total Consolidated              |  | 2019 \$ 2,434,079                          | \$ 91,244                                                   | \$ 32,754                     | \$ 27,430  |
|                                 |  | 2018 2,354,507                             | 91,020                                                      | 34,584                        | 28,147     |
|                                 |  | 2017                                       | 87,126                                                      | 29,213                        | 18,232     |

<sup>(1)</sup> Total assets include long-lived assets, which are primarily located in the U.S.

<sup>(2)</sup> There were no material intercompany revenues between geographic regions for any of the periods presented.

<sup>(3)</sup> Substantially reflects the U.S.

---

## Glossary

**Alt-A Mortgage** – A type of U.S. mortgage that is considered riskier than A-paper, or “prime,” and less risky than “subprime,” the riskiest category. Typically, Alt-A mortgages are characterized by borrowers with less than full documentation, lower credit scores and higher LTVs.

**Assets Under Management (AUM)** – The total market value of assets under the investment advisory and/or discretion of GWIM which generate asset management fees based on a percentage of the assets’ market values. AUM reflects assets that are generally managed for institutional, high net worth and retail clients, and are distributed through various investment products including mutual funds, other commingled vehicles and separate accounts.

**Banking Book** – All on- and off-balance sheet financial instruments of the Corporation except for those positions that are held for trading purposes.

**Brokerage and Other Assets** – Non-discretionary client assets which are held in brokerage accounts or held for safekeeping.

**Committed Credit Exposure** – Any funded portion of a facility plus the unfunded portion of a facility on which the lender is legally bound to advance funds during a specified period under prescribed conditions.

**Credit Derivatives** – Contractual agreements that provide protection against a specified credit event on one or more referenced obligations.

**Credit Valuation Adjustment (CVA)** – A portfolio adjustment required to properly reflect the counterparty credit risk exposure as part of the fair value of derivative instruments.

**Debit Valuation Adjustment (DVA)** – A portfolio adjustment required to properly reflect the Corporation’s own credit risk exposure as part of the fair value of derivative instruments and/or structured liabilities.

**Funding Valuation Adjustment (FVA)** – A portfolio adjustment required to include funding costs on uncollateralized derivatives and derivatives where the Corporation is not permitted to use the collateral it receives.

**Interest Rate Lock Commitment (IRLC)** – Commitment with a loan applicant in which the loan terms are guaranteed for a designated period of time subject to credit approval.

**Letter of Credit** – A document issued on behalf of a customer to a third party promising to pay the third party upon presentation of specified documents. A letter of credit effectively substitutes the issuer’s credit for that of the customer.

**Loan-to-value (LTV)** – A commonly used credit quality metric. LTV is calculated as the outstanding carrying value of the loan divided by the estimated value of the property securing the loan.

**Margin Receivable** – An extension of credit secured by eligible securities in certain brokerage accounts.

**Matched Book** – Repurchase and resale agreements or securities borrowed and loaned transactions where the overall asset and liability position is similar in size and/or maturity. Generally, these are entered into to accommodate customers where the Corporation earns the interest rate spread.

**Mortgage Servicing Rights (MSR)** – The right to service a mortgage loan when the underlying loan is sold or securitized. Servicing includes collections for principal, interest and escrow payments from borrowers and accounting for and remitting principal and interest payments to investors.

**Net Interest Yield** – Net interest income divided by average total interest-earning assets.

**Nonperforming Loans and Leases** – Includes loans and leases that have been placed on nonaccrual status, including nonaccruing loans whose contractual terms have been restructured in a manner that grants a concession to a borrower experiencing financial difficulties.

**Operating Margin** – Income before income taxes divided by total revenue, net of interest expense.

**Prompt Corrective Action (PCA)** – A framework established by the U.S. banking regulators requiring banks to maintain certain levels of regulatory capital ratios, comprised of five categories of capitalization: “well capitalized,” “adequately capitalized,” “undercapitalized,” “significantly undercapitalized” and “critically undercapitalized.” Insured depository institutions that fail to meet certain of these capital levels are subject to increasingly strict limits on their activities, including their ability to make capital distributions, pay management compensation, grow assets and take other actions.

**Subprime Loans** – Although a standard industry definition for subprime loans (including subprime mortgage loans) does not exist, the Corporation defines subprime loans as specific product offerings for higher risk borrowers.

**Troubled Debt Restructurings (TDRs)** – Loans whose contractual terms have been restructured in a manner that grants a concession to a borrower experiencing financial difficulties. Certain consumer loans for which a binding offer to restructure has been extended are also classified as TDRs.

**Value-at-Risk (VaR)** – VaR is a model that simulates the value of a portfolio under a range of hypothetical scenarios in order to generate a distribution of potential gains and losses. VaR represents the loss the portfolio is expected to experience with a given confidence level based on historical data. A VaR model is an effective tool in estimating ranges of potential gains and losses on our trading portfolios.

## Acronyms

|               |                                                                          |                   |                                                                                       |
|---------------|--------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|
| <b>ABS</b>    | Asset-backed securities                                                  | <b>GSE</b>        | Government-sponsored enterprise                                                       |
| <b>AFS</b>    | Available-for-sale                                                       | <b>G-SIB</b>      | Global systemically important bank                                                    |
| <b>ALM</b>    | Asset and liability management                                           | <b>GWIM</b>       | Global Wealth & Investment Management                                                 |
| <b>ARR</b>    | Alternative reference rates                                              | <b>HELOC</b>      | Home equity line of credit                                                            |
| <b>AUM</b>    | Assets under management                                                  | <b>HQLA</b>       | High Quality Liquid Assets                                                            |
| <b>AVM</b>    | Automated valuation model                                                | <b>HTM</b>        | Held-to-maturity                                                                      |
| <b>BANA</b>   | Bank of America, National Association                                    | <b>ICAAP</b>      | Internal Capital Adequacy Assessment Process                                          |
| <b>BHC</b>    | Bank holding company                                                     | <b>IRM</b>        | Independent Risk Management                                                           |
| <b>BofAS</b>  | BofA Securities, Inc.                                                    | <b>IBOR</b>       | Interbank Offered Rates                                                               |
| <b>BofASE</b> | BofA Securities Europe SA                                                | <b>IRLC</b>       | Interest rate lock commitment                                                         |
| <b>bps</b>    | basis points                                                             | <b>ISDA</b>       | International Swaps and Derivatives Association, Inc.                                 |
| <b>CAE</b>    | Chief Audit Executive                                                    | <b>LCR</b>        | Liquidity Coverage Ratio                                                              |
| <b>CAO</b>    | Chief Administrative Officer                                             | <b>LGD</b>        | Loss given default                                                                    |
| <b>CCAR</b>   | Comprehensive Capital Analysis and Review                                | <b>LHFS</b>       | Loans held-for-sale                                                                   |
| <b>CDO</b>    | Collateralized debt obligation                                           | <b>LIBOR</b>      | London Interbank Offered Rate                                                         |
| <b>CDS</b>    | Credit default swap                                                      | <b>LTV</b>        | Loan-to-value                                                                         |
| <b>CET1</b>   | Common equity tier 1                                                     | <b>MBS</b>        | Mortgage-backed securities                                                            |
| <b>CFPB</b>   | Consumer Financial Protection Bureau                                     | <b>MD&amp;A</b>   | Management's Discussion and Analysis of Financial Condition and Results of Operations |
| <b>CLO</b>    | Collateralized loan obligation                                           | <b>MLGWM</b>      | Merrill Lynch Global Wealth Management                                                |
| <b>CFTC</b>   | Commodity Futures Trading Commission                                     | <b>MLI</b>        | Merrill Lynch International                                                           |
| <b>CLTV</b>   | Combined loan-to-value                                                   | <b>MLPCC</b>      | Merrill Lynch Professional Clearing Corp                                              |
| <b>CRO</b>    | Chief Risk Officer                                                       | <b>MLPF&amp;S</b> | Merrill Lynch, Pierce, Fenner & Smith Incorporated                                    |
| <b>CVA</b>    | Credit valuation adjustment                                              | <b>MRC</b>        | Management Risk Committee                                                             |
| <b>DIF</b>    | Deposit Insurance Fund                                                   | <b>MSA</b>        | Metropolitan Statistical Area                                                         |
| <b>DVA</b>    | Debit valuation adjustment                                               | <b>MSR</b>        | Mortgage servicing right                                                              |
| <b>EAD</b>    | Exposure at default                                                      | <b>NOL</b>        | Net operating loss                                                                    |
| <b>EMRC</b>   | Enterprise Model Risk Committee                                          | <b>NSFR</b>       | Net Stable Funding Ratio                                                              |
| <b>EPS</b>    | Earnings per common share                                                | <b>OCC</b>        | Office of the Comptroller of the Currency                                             |
| <b>ERC</b>    | Enterprise Risk Committee                                                | <b>OCI</b>        | Other comprehensive income                                                            |
| <b>EU</b>     | European Union                                                           | <b>OREO</b>       | Other real estate owned                                                               |
| <b>FCA</b>    | Financial Conduct Authority                                              | <b>OTC</b>        | Over-the-counter                                                                      |
| <b>FDIC</b>   | Federal Deposit Insurance Corporation                                    | <b>OTTI</b>       | Other-than-temporary impairment                                                       |
| <b>FDICIA</b> | Federal Deposit Insurance Corporation Improvement Act of 1991            | <b>PCA</b>        | Prompt Corrective Action                                                              |
| <b>FHA</b>    | Federal Housing Administration                                           | <b>RMBS</b>       | Residential mortgage-backed securities                                                |
| <b>FHFA</b>   | Federal Housing Finance Agency                                           | <b>RSU</b>        | Restricted stock unit                                                                 |
| <b>FHLB</b>   | Federal Home Loan Bank                                                   | <b>SBLC</b>       | Standby letter of credit                                                              |
| <b>FHLMC</b>  | Freddie Mac                                                              | <b>SCCL</b>       | Single-counterparty credit limits                                                     |
| <b>FICC</b>   | Fixed-income, currencies and commodities                                 | <b>SBSDs</b>      | Security-based swap dealers                                                           |
| <b>FICO</b>   | Fair Isaac Corporation (credit score)                                    | <b>SEC</b>        | Securities and Exchange Commission                                                    |
| <b>FLUs</b>   | Front line units                                                         | <b>SLR</b>        | Supplementary leverage ratio                                                          |
| <b>FNMA</b>   | Fannie Mae                                                               | <b>SOFR</b>       | Secured Overnight Financing Rate                                                      |
| <b>FTE</b>    | Fully taxable-equivalent                                                 | <b>TDR</b>        | Troubled debt restructurings                                                          |
| <b>FVA</b>    | Funding valuation adjustment                                             | <b>TLAC</b>       | Total loss-absorbing capacity                                                         |
| <b>GAAP</b>   | Accounting principles generally accepted in the United States of America | <b>VA</b>         | U.S. Department of Veterans Affairs                                                   |
| <b>GDPR</b>   | General Data Protection Regulation                                       | <b>VaR</b>        | Value-at-Risk                                                                         |
| <b>GLS</b>    | Global Liquidity Sources                                                 | <b>VIE</b>        | Variable interest entity                                                              |
| <b>GNMA</b>   | Government National Mortgage Association                                 |                   |                                                                                       |

## **Disclosure Controls and Procedures**

### **Bank of America Corporation and Subsidiaries**

As of the end of the period covered by this report and pursuant to Rule 13a-15 of the Securities Exchange Act of 1934, as amended (Exchange Act), Bank of America's management, including the Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness and design of our disclosure controls and procedures (as that term is defined in Rule 13a-15(e) of the Exchange Act). Based upon that evaluation, Bank of America's Chief Executive Officer and Chief Financial Officer concluded that Bank of America's disclosure controls and procedures were effective, as of the end of the period covered by this report.

## Executive Management Team and Management Committee

### Bank of America Corporation

#### Executive Management Team

**Brian T. Moynihan\***  
Chairman of the Board and  
Chief Executive Officer

**Dean C. Athanasia\***  
President, Retail and Preferred  
& Small Business Banking

**Catherine P. Bessant\***  
Chief Operations and  
Technology Officer

**Sheri B. Bronstein\***  
Chief Human Resources Officer

**Paul M. Donofrio\***  
Chief Financial Officer

**Anne M. Finucane**  
Vice Chairman, Bank of America

**Geoffrey S. Greener\***  
Chief Risk Officer

**Christine P. Katziff**  
Chief Audit Executive

**Kathleen A. Knox\***  
President, Private Bank

**David G. Leitch\***  
Global General Counsel

**Thomas K. Montag\***  
Chief Operating Officer

**Thong M. Nguyen\***  
Vice Chairman, Bank of America

**Andrew M. Sieg\***  
President, Merrill Lynch Wealth  
Management

**Andrea B. Smith\***  
Chief Administrative Officer

**Bruce R. Thompson**  
Vice Chairman and President of  
European Union and Switzerland

#### Management Committee\*\*

**Michael C. Ankrom, Jr.**  
Global Banking Chief Risk Officer  
and Enterprise Credit Risk Executive

**Keith T. Banks**  
Vice Chairman, Wealth Management &  
Head of Investment Solutions Group

**Aditya Bhasin**  
Consumer, Small Business & Wealth  
Management, Global Human Resources,  
Corporate Audit & Credit Review, Legal  
Technology, Third-Party Management  
and Workspace Services Executive

**Alexandre Bettamio**  
President, Latin America

**Rudolf A. Bless**  
Chief Accounting Officer

**D. Steve Boland**  
Head of Consumer Lending

**Alastair M. Borthwick**  
Head of Global Commercial Banking

**Candace E. Browning-Platt**  
Head of Global Research

**James P. DeMare**  
Co-Head of Global Fixed Income,  
Currencies & Commodities Trading

**Fabrizio Gallo**  
Head of Global Equities

**Matthew M. Koder**  
Head of Global Corporate and  
Investment Banking

**Aron D. Levine**  
Head of Consumer Banking and  
Investments

**Bernard A. Mensah**  
President of United Kingdom and  
Central & Eastern Europe, the Middle  
East and Africa and Co-Head of  
Global Fixed Income, Currencies &  
Commodities Trading

**Sharon L. Miller**  
Head of Small Business

**Andrei Magasiner**  
Treasurer

**E. Lee McEntire**  
Investor Relations Executive

**Lauren A. Mogensen**  
Global Compliance and Operational  
Risk Executive

**Tram V. Nguyen**  
Global Corporate Strategy Executive

**Holly O'Neill**  
Head of Consumer, Small Business &  
Wealth Management Client Care

**David Reilly**  
Global Banking & Markets, Enterprise  
Risk & Finance Technology, and Core  
Technology Infrastructure Executive

**Lorna R. Sabbia**  
Head of Retirement and Personal  
Wealth Solutions

**Robert A. Schleusner**  
Head of Wholesale Credit

**April Schneider**  
Head of Consumer & Small Business  
Products

**Thomas M. Scrivener**  
Consumer, Small Business & Wealth  
Management Operations Executive

**Jiro Seguchi**  
Co-President of Asia Pacific, and  
Head of Asia Pacific Global Corporate  
and Investment Banking

**Jin Su**  
Co-President, Asia Pacific and  
Co-Head of Asia Pacific Fixed Income,  
Currencies & Commodities

**David C. Tyrie**  
Head of Consumer & Small Business  
Advanced Solutions and Digital Banking

**Anne Walker**  
Global Real Estate and Strategic  
Initiatives Executive

**Ather Williams III**  
Head of Business Banking and Global  
Banking and Markets Anti-Money  
Laundering

**Sanaz Zaimi**  
Head of Global Fixed Income,  
Currencies & Commodities Sales and  
Country Executive, France

\*Executive Officer

\*\*All members of the Executive Management Team are also members of the Management Committee

## **Board of Directors**

### **Bank of America Corporation**

#### **Board of Directors**

**Brian T. Moynihan**

Chairman of the Board and  
Chief Executive Officer,  
Bank of America Corporation

**Jack O. Bovender, Jr.**

Lead Independent Director,  
Bank of America Corporation;  
Former Chairman and  
Chief Executive Officer, HCA Inc.

**Sharon L. Allen**

Former Chairman, Deloitte LLP

**Susan S. Bies**

Former Member, Board of Governors  
of the Federal Reserve System

**Frank P. Bramble, Sr.**

Former Executive Vice Chairman,  
MBNA Corporation

**Pierre J.P. de Weck**

Former Chairman and Global Head  
of Private Wealth Management,  
Deutsche Bank AG

**Arnold W. Donald**

President and Chief Executive Officer,  
*Carnival Corporation and Carnival plc*

**Linda P. Hudson**

Former Chairman and Chief Executive  
Officer, The Cardea Group, LLC,  
Former President and Chief Executive  
Officer, BAE Systems, Inc

**Monica C. Lozano**

Chief Executive Officer, College  
Futures Foundation; Former Chairman,  
US Hispanic Media Inc.

**Thomas J. May**

Former Chairman, President, and Chief  
Executive Officer, Eversource Energy

**Lionel L. Nowell III**

Former Senior Vice President and  
Treasurer, PepsiCo, Inc

**Denise L. Ramos**

Former Chief Executive Officer, ITT Inc.

**Clayton S. Rose**

President, Bowdoin College

**Michael D. White**

Former Chairman, President, and  
Chief Executive Officer, DIRECTV

**Thomas D. Woods**

Former Vice Chairman and Senior  
Executive Vice President, Canadian  
Imperial Bank of Commerce

**R. David Yost**

Former Chief Executive Officer,  
AmerisourceBergen Corporation

**Maria T. Zuber**

Vice President for Research and  
E. A. Griswold Professor of Geophysics,  
Massachusetts Institute of Technology

## Corporate Information

### Bank of America Corporation

#### Headquarters

The principal executive offices of Bank of America Corporation (the Corporation) are located in the Bank of America Corporate Center, 100 North Tryon Street, Charlotte, NC 28255.

#### Stock Listing

The Corporation's common stock is listed on the New York Stock Exchange (NYSE) under the symbol BAC. The stock is typically listed as BankAm in newspapers. As of December 31, 2019, there were 163,072 registered holders of the Corporation's common stock.

#### Investor Relations

Analysts, portfolio managers and other investors seeking additional information about Bank of America stock should contact our Equity Investor Relations group at 1 704 386.5681 or [i\\_r@bankofamerica.com](mailto:i_r@bankofamerica.com). For additional information about Bank of America from a credit perspective, including debt and preferred securities, contact our Fixed Income Investor Relations group at 1.866.607.1234 or [fixedincomeir@bankofamerica.com](mailto:fixedincomeir@bankofamerica.com). Visit the Investor Relations area of the Bank of America website, <http://investor.bankofamerica.com>, for stock and dividend information, financial news releases, links to Bank of America SEC filings, electronic versions of our annual reports and other items of interest to the Corporation's shareholders.

#### Customers

For assistance with Bank of America products and services, call 1.800.432.1000, or visit the Bank of America website at [www.bankofamerica.com](http://www.bankofamerica.com). Additional toll-free numbers for specific products and services are listed on our website at [www.bankofamerica.com/contact](http://www.bankofamerica.com/contact).

#### News Media

News media seeking information should visit our online newsroom at <http://newsroom.bankofamerica.com> for news releases, press kits and other items relating to the Corporation, including a complete list of the Corporation's media relations specialists grouped by business specialty or geography.

#### Annual Report on Form 10-K

The Corporation's 2019 Annual Report on Form 10-K is available at <http://investor.bankofamerica.com>. The Corporation also will provide a copy of the 2019 Annual Report on Form 10-K (without exhibits) upon written request addressed to:

Bank of America Corporation  
Office of the Corporate Secretary  
Bank of America Corporate Center  
100 North Tryon Street  
NC1-007-56-06  
Charlotte, NC 28255

#### Shareholder Inquiries

For inquiries concerning dividend checks, electronic deposit of dividends, dividend reinvestment, tax statements, electronic delivery, transferring ownership, address changes or lost or stolen stock certificates, contact Bank of America Shareholder Services at Computershare Trust Company, N.A., via the Internet at [www.computershare.com/bac](http://www.computershare.com/bac); call 1.800.642.9855, or write to P.O. Box 505005, Louisville, KY 40233. For general shareholder information, contact Bank of America Office of the Corporate Secretary at 1.800.521.3984. Shareholders outside of the United States and Canada may call 1.781.575.2621.

#### Electronic Delivery

As part of our ongoing commitment to reduce paper consumption, we offer electronic methods for customer communications and transactions. Customers can sign up to receive online statements through their Bank of America or Merrill Lynch Wealth Management account website. In 2012, we adopted the SEC's Notice and Access rule, which allows certain issuers to inform shareholders of the electronic availability of Proxy materials, including the Annual Report, which significantly reduced the number of printed copies we produce and mail to shareholders. Shareholders still receiving printed copies can join our efforts by electing to receive an electronic copy of the Annual Report and Proxy materials. If you have an account maintained in your name at Computershare Investor Services, you may sign up for this service at [www.computershare.com/bac](http://www.computershare.com/bac). If your shares are held by a broker, bank or other nominee, you may elect to receive an electronic copy of the Proxy materials online at [www.proxyvote.com](http://www.proxyvote.com), or contact your broker.

#### Investment products:

| Are Not FDIC Insured | May Lose Value | Are Not Bank Guaranteed |
|----------------------|----------------|-------------------------|
|----------------------|----------------|-------------------------|

"Bank of America" and "BofA Securities" are the marketing names used by the Global Banking and Global Markets divisions of Bank of America Corporation. Lending, other commercial banking activities, and trading in certain financial instruments are performed globally by banking affiliates of Bank of America Corporation, including Bank of America, N.A., Member FDIC. Trading in securities and financial instruments, and strategic advisory, and other investment banking activities, are performed globally by investment banking affiliates of Bank of America Corporation ("Investment Banking Affiliates"), including, in the United States, BofA Securities, Inc. and Merrill Lynch Professional Clearing Corp., both of which are registered broker-dealers and Members of SIPC, and, in other jurisdictions, by locally registered entities. BofA Securities, Inc. and Merrill Lynch Professional Clearing Corp. are registered as futures commission merchants with the CFTC and are members of the NFA.

Bank of America is a marketing name for the Retirement Services business of Bank of America Corporation ("BofA Corp."). Banking activities may be performed by wholly owned banking affiliates of BofA Corp., including Bank of America, N.A., member FDIC.

Merrill Lynch, Pierce, Fenner & Smith Incorporated (also referred to as "MLPF&S" or "Merrill") makes available certain investment products sponsored, managed, distributed or provided by companies that are affiliates of Bank of America Corporation ("BofA Corp."). MLPF&S is a registered broker-dealer, registered investment adviser, Member SIPC, and a wholly owned subsidiary of BofA Corp.

BofA Global Research is research produced by BofA Securities, Inc. ("BofAS") and/or one or more of its affiliates. BofAS is a registered broker-dealer, Member SIPC, and wholly owned subsidiary of Bank of America Corporation. Bank of America Private Bank is a division of Bank of America, N.A., Member FDIC, and a wholly-owned subsidiary of BofA Corp.

Banking products are provided by Bank of America, N.A., and affiliated banks, Members FDIC, and wholly owned subsidiaries of BofA Corp.

*Zelle* and *Zelle*-related marks are wholly owned by Early Warning Services, LLC and are used herein under license.

1. *Zelle* should only be used to send money to friends, family or others you trust. We recommend that you do not use *Zelle* to send money to persons that you do not know. Transfers require enrollment in the service and must be made from an eligible Bank of America consumer deposit account to a domestic bank account or debit card. Recipients have 14 days to enroll to receive money or the transfer will be canceled. Transactions typically occur in minutes when the recipient's email address or U.S. mobile number is already enrolled with *Zelle*. We will send you an email alert with delivery details immediately after you schedule the transfer. Dollar and frequency limits apply. See the Online Banking Service Agreement at [bankofamerica.com/serviceagreement](http://bankofamerica.com/serviceagreement) for further details. Payment requests to persons not already enrolled in *Zelle* must be sent to a U.S. email address. Data connection required. Message and data rates may apply. Neither Bank of America nor *Zelle* offers a protection program for any authorized payments made with *Zelle*.
2. Mobile Banking requires that you download the Mobile Banking app and is only available for select mobile devices. Message and data rates may apply.
3. You are not liable for fraudulent Online and Mobile Banking transactions when you notify the bank within 60 days of the transaction first appearing on your statement and comply with security responsibilities. See Section 5 of our Online Banking Service Agreement for full terms and conditions.

The ranking or ratings shown herein may not be representative of all client experiences because they reflect an average or sampling of the client experiences. These rankings or ratings are not indicative of any future performance or investment outcome. More information can be found at [www.bankofamerica.com/awards](http://www.bankofamerica.com/awards).

© 2020 Bank of America Corporation. All rights reserved.

 Printed on 30% recovered fiber content. By using this paper, Bank of America is helping to reduce greenhouse gas emissions and water consumption. Leaf icon is a registered trademark of Bank of America Corporation