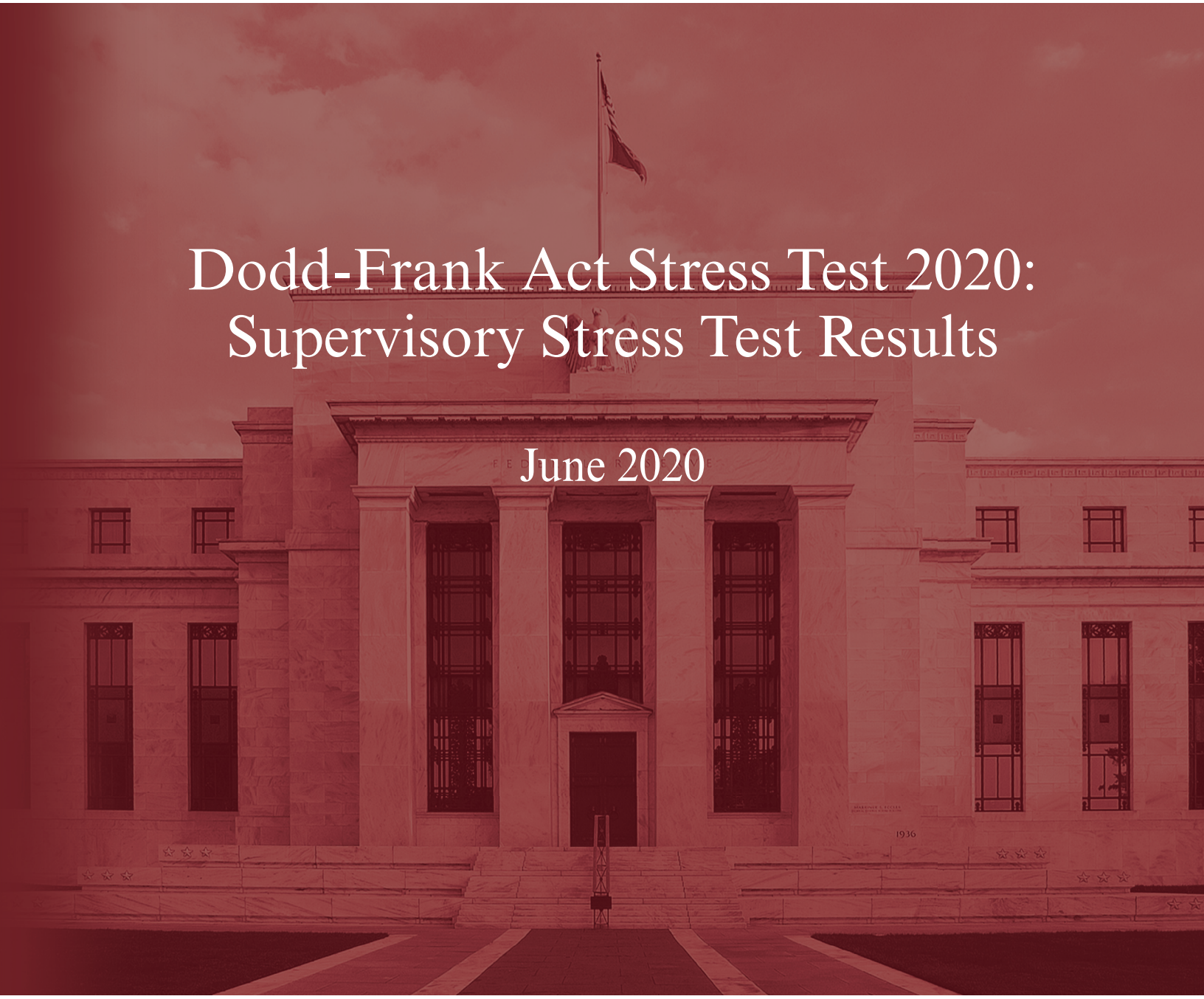

Dodd-Frank Act Stress Test 2020: Supervisory Stress Test Results

June 2020

Board of Governors of the Federal Reserve System

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Errata

The Federal Reserve revised this report on July 27, 2020, to reflect that the numbers published for actual 2019:Q4 "AOCI included in capital (billions of dollars)" in the "Projected losses, revenue, and net income before taxes through 2022:Q1" table for certain firms were incorrect. The data originally presented the 2022:Q1 projection of AOCI included in the capital, instead of the actual 2019:Q4 value for seven firms, leading to a corresponding error in the aggregate number for 2019:Q4 "AOCI included in capital." These errors did not affect the calculation or disclosure of any other number, including post-stress capital ratios. The revisions are listed below.

On p. 23, under Table 2:

- 33 Participating Firms, AOCI included in capital, Actual 2019:Q4 has been revised from -53.7 to -54.3.

On p. 48, under Table B.5:

- Barclays US LLC, AOCI included in capital, Actual 2019:Q4 has been revised from 0.0 to -0.1.

On p. 51, under Table B.8:

- Capital One Financial Corporation, AOCI included in capital, Actual 2019:Q4 has been revised from -0.1 to 0.8.

On p. 54, under Table B.11:

- Credit Suisse Holdings (USA), Inc., AOCI included in capital, Actual 2019:Q4 has been revised from 0.0 to -0.3.

On p. 59, under Table B.16:

- HSBC North America Holdings Inc., AOCI included in capital, Actual 2019:Q4 has been revised from -0.2 to -0.5.

On p. 67, under Table B.24:

- The PNC Financial Services Group, Inc., AOCI included in capital, Actual 2019:Q4 has been revised from -0.1 to 0.5.

On p. 72, under Table B.29:

- TD Group US Holdings LLC, AOCI included in capital, Actual 2019:Q4 has been revised from 0.0 to -0.3.

On p. 75, under Table B.32:

- U.S. Bancorp, AOCI included in capital, Actual 2019:Q4 has been revised from -0.1 to -1.3.

The Federal Reserve revised this report on September 4, 2020, to correct an error to five firms' projected trading losses on certain public welfare investments. The revision affected projected pre-tax net income and projected capital ratios. The revisions are listed below.

On p. 1, under Executive Summary, the sentence "Aggregate losses at the 33 firms under the severely adverse scenario are projected to be $552 billion" has been revised to "Aggregate losses at the 33 firms under the severely adverse scenario are projected to be $550 billion."

On p. 1, the sentence "For the 18 firms for which stress test results were disclosed both last year and this year, total losses under the severely adverse scenario are $433 billion in DFAST 2020, compared to $410 billion for the same 18 firms in DFAST 2019" has been revised to "For the 18 firms for which stress test results were disclosed both last year and this year, total losses under the severely adverse scenario are $431 billion in DFAST 2020, compared to $410 billion for the same 18 firms in DFAST 2019."

On p. 19, under "Supervisory Stress Test Results under the Severely Adverse Scenario," the sentence "In this scenario, losses are projected to be $552 billion[39] for the 33 firms in the aggregate over the nine quarters of the

projection horizon" has been revised to "In this scenario, losses are projected to be $550 billion[39] for the 33 firms in the aggregate over the nine quarters of the projection horizon."

On p. 19, footnote 39 has been revised from "Projected losses in the subsequent list sum to $553 billion due to rounding" to "Projected losses in the subsequent list sum to $551 billion due to rounding."

On p. 19, the bullet "$85 billion in trading and/or counterparty losses at the 13 firms with substantial trading, processing, or custodial operations; and" has been revised to "$83 billion in trading and/or counterparty losses at the 13 firms with substantial trading, processing, or custodial operations; and."

On p. 19, the sentence "Losses on accrual loan portfolios account for 78 percent of the projected losses for the 33 firms, while trading and/or counterparty losses account for 15 percent (figure 12)" has been revised to "Losses on accrual loan portfolios account for 79 percent of the projected losses for the 33 firms, while trading and/or counterparty losses account for 15 percent (figure 12)."

On p. 20, under Figure 12, "Projected losses in the severely adverse scenario," trading and counterparty losses have been revised from 85 to 83.

On p. 20, the sentence "Consumer and commercial products represent 40 and 39 percent of total projected losses, respectively" has been revised to "Consumer and commercial products represent 40 and 38 percent of total projected losses, respectively."

On p. 20, the sentence "The severely adverse scenario results include $85 billion in trading losses from the global market shock at the 11 firms with large trading and private-equity exposures and losses from the largest counterparty default component at the 13 firms with substantial trading, processing, or custodial operations" has been revised to "The severely adverse scenario results include $83 billion in trading losses from the global market shock at the 11 firms with large trading and private-equity exposures and losses from the largest counterparty default component at the 13 firms with substantial trading, processing, or custodial operations."

On p. 21, the sentence "Projected net income before taxes (pre-tax net income) is an aggregate net loss of $179 billion over the projection horizon for the 33 firms" has been revised to "Projected net income before taxes (pre-tax net income) is an aggregate net loss of $177 billion over the projection horizon for the 33 firms."

On p. 22, the sentence "The ratio of pre-tax net income to average assets for each of the 33 firms ranges from −4.3 percent to 2.1 percent (see figure 16)" has been revised to "The ratio of pre-tax net income to average assets for each of the 33 firms ranges from −4.3 percent to 2.2 percent (see figure 16)."

On p. 23, under Table 2:

- 33 participating firms, Total capital ratio (%), Minimum has been revised from 14.0 to 14.1.
- 33 participating firms, Risk-weighted assets, Projected 2022:Q1 has been revised from 10,255.2 to 10,255.7.
- 33 participating firms, Trading and counterparty losses, Billions of dollars has been revised from 85.0 to 83.2.
- 33 participating firms, Net income before taxes, Billions of dollars has been revised from −178.5 to −176.7.

On p. 24, under Table 3:

- The Goldman Sachs Group, Inc., Stressed ratios with DFA stress testing capital action assumptions has been revised from 6.9 to 7.0.
- Morgan Stanley, Stressed ratios with DFA stress testing capital action assumptions has been revised from 11.1 to 11.3.

On p. 25, under Table 4.A:

- Citigroup, Tier 1 capital ratio (%), Ending has been revised from 13.3 to 13.4.
- Citigroup, Supplementary leverage ratio (%), Ending has been revised from 6.1 to 6.2.
- Goldman Sachs, CET1 capital ratio (%), Ending has been revised from 8.3 to 8.4.
- Goldman Sachs, CET1 capital ratio (%), Minimum has been revised from 6.9 to 7.0.
- Goldman Sachs, Tier 1 capital ratio (%), Ending has been revised from 10.2 to 10.3.
- Goldman Sachs, Tier 1 capital ratio (%), Minimum has been revised from 8.8 to 8.9.
- Goldman Sachs, Total capital ratio (%), Ending has been revised from 13.1 to 13.2.
- Goldman Sachs, Total capital ratio (%), Minimum has been revised from 11.8 to 11.9.
- Goldman Sachs, Tier 1 leverage ratio (%), Ending has been revised from 5.7 to 5.8.
- Goldman Sachs, Supplementary leverage ratio (%), Minimum has been revised from 3.5 to 3.6.
- HSBC, Tier 1 capital ratio (%), Ending has been revised from 9.1 to 9.2.
- HSBC, Tier 1 capital ratio (%), Minimum has been revised from 9.1 to 9.2.
- Morgan Stanley, CET1 capital ratio (%), Ending has been revised from 12.3 to 12.5.
- Morgan Stanley, CET1 capital ratio (%), Minimum has been revised from 11.1 to 11.3.
- Morgan Stanley, Tier 1 capital ratio (%), Ending has been revised from 14.5 to 14.7.
- Morgan Stanley, Tier 1 capital ratio (%), Minimum has been revised from 13.4 to 13.5.
- Morgan Stanley, Total capital ratio (%), Ending has been revised from 17.2 to 17.3.
- Morgan Stanley, Total capital ratio (%), Minimum has been revised from 16.1 to 16.2.
- Morgan Stanley, Tier 1 leverage ratio (%), Ending has been revised from 6.3 to 6.4.
- Morgan Stanley, Tier 1 leverage ratio (%), Minimum has been revised from 5.8 to 5.9.

On p. 26, under Table 4.C:

- 33 participating firms, Total capital ratio (%), Minimum has been revised from 14.0 to 14.1.

On p. 27, under Figure 13:

- Goldman Sachs changed from 6.4 to 6.3.
- Morgan Stanley changed from 5.3 to 5.1.
- Wells Fargo changed from 2.1 to 2.0.

On p. 29, under Table 5:

- Citigroup, Trading and counterparty losses, Billions of dollars has been revised from 6.0 to 5.7.
- Citigroup, Net income before taxes, Billions of dollars has been revised from 0.1 to 0.4.
- Goldman Sachs, Trading and counterparty losses, Billions of dollars has been revised from 18.4 to 17.8.
- Goldman Sachs, Net income before taxes, Billions of dollars has been revised from −27.5 to −27.0.
- HSBC, Trading and counterparty losses, Billions of dollars has been revised from 1.5 to 1.4.
- Morgan Stanley, Trading and counterparty losses, Billions of dollars has been revised from 10.1 to 9.5.
- Morgan Stanley, Net income before taxes, Billions of dollars has been revised from −17.1 to −16.5.
- Wells Fargo, Trading and counterparty losses, Billions of dollars has been revised from 9.0 to 8.7.

- Wells Fargo, Net income before taxes, Billions of dollars has been revised from −16.6 to −16.3.
- 33 participating firms, Trading and counterparty losses, Billions of dollars has been revised from 85.0 to 83.2.
- 33 participating firms, Net income before taxes, Billions of dollars has been revised from −178.5 to −176.7.

On p. 33, under Figure 16:

- Goldman Sachs changed from −2.8 to −2.7.
- Morgan Stanley changed from −1.9 to −1.8.
- Wells Fargo changed from −0.9 to −0.8.

On p. 52, under Table B.9:

- Citigroup, Tier 1 capital ratio (%), Ending has been revised from 13.3 to 13.4.
- Citigroup, Supplementary leverage ratio (%), Ending has been revised from 6.1 to 6.2.
- Citigroup, Risk-weighted assets, Projected 2022:Q1 has been revised from 1,151.6 to 1,151.7.
- Citigroup, Trading and counterparty losses, Billions of dollars has been revised from 6.0 to 5.7.
- Citigroup, Net income before taxes, Billions of dollars has been revised from 0.1 to 0.4.

On p. 58, under Table B.15:

- Goldman Sachs, CET1 capital ratio (%), Ending has been revised from 8.3 to 8.4.
- Goldman Sachs, CET1 capital ratio (%), Minimum has been revised from 6.9 to 7.0.
- Goldman Sachs, Tier 1 capital ratio (%), Ending has been revised from 10.2 to 10.3.
- Goldman Sachs, Tier 1 capital ratio (%), Minimum has been revised from 8.8 to 8.9.
- Goldman Sachs, Total capital ratio (%), Ending has been revised from 13.1 to 13.2.
- Goldman Sachs, Total capital ratio (%), Minimum has been revised from 11.8 to 11.9.
- Goldman Sachs, Tier 1 leverage ratio (%), Ending has been revised from 5.7 to 5.8.
- Goldman Sachs, Supplementary leverage ratio (%), Minimum has been revised from 3.5 to 3.6.
- Goldman Sachs, Risk-weighted assets, Projected 2022:Q1 has been revised from 550.4 to 550.6.
- Goldman Sachs, Trading and counterparty losses, Billions of dollars has been revised from 18.4 to 17.8.
- Goldman Sachs, Net income before taxes, Billions of dollars has been revised from −27.5 to −27.0.
- Goldman Sachs, Net income before taxes, Percent of average assets has been revised from −2.8 to −2.7.

On p. 59, under Table B.16:

- HSBC, Tier 1 capital ratio (%), Ending has been revised from 9.1 to 9.2.
- HSBC, Tier 1 capital ratio (%), Minimum has been revised from 9.1 to 9.2.
- HSBC, Trading and counterparty losses, Billions of dollars has been revised from 1.5 to 1.4.

On p. 64, under Table B.21:

- Morgan Stanley, CET1 capital ratio (%), Ending has been revised from 12.3 to 12.5.
- Morgan Stanley, CET1 capital ratio (%), Minimum has been revised from 11.1 to 11.3.
- Morgan Stanley, Tier 1 capital ratio (%), Ending has been revised from 14.5 to 14.7.

- Morgan Stanley, Tier 1 capital ratio (%), Minimum has been revised from 13.4 to 13.5.
- Morgan Stanley, Total capital ratio (%), Ending has been revised from 17.2 to 17.3.
- Morgan Stanley, Total capital ratio (%), Minimum has been revised from 16.1 to 16.2.
- Morgan Stanley, Tier 1 leverage ratio (%), Ending has been revised from 6.3 to 6.4.
- Morgan Stanley, Tier 1 leverage ratio (%), Minimum has been revised from 5.8 to 5.9.
- Morgan Stanley, Risk-weighted assets, Projected 2022:Q1 has been revised from 387.7 to 387.8.
- Morgan Stanley, Trading and counterparty losses, Billions of dollars has been revised from 10.1 to 9.5.
- Morgan Stanley, Net income before taxes, Billions of dollars has been revised from −17.1 to −16.5.
- Morgan Stanley, Net income before taxes, Percent of average assets has been revised from −1.9 to −1.8.

On p. 76, under Table B.33:

- Wells Fargo, Trading and counterparty losses, Billions of dollars has been revised from 9.0 to 8.7.
- Wells Fargo, Net income before taxes, Billions of dollars has been revised from −16.6 to −16.3.
- Wells Fargo, Net income before taxes rate, Percent of average assets has been revised from −0.9 to −0.8.

Preface

The Federal Reserve promotes a safe, sound, and efficient banking and financial system that supports the growth and stability of the U.S. economy through its supervision of bank holding companies (BHCs), U.S. intermediate holding company (IHC) subsidiaries of foreign banking organizations, savings and loan holding companies, and state member banks.

The Federal Reserve has established frameworks and programs for the supervision of the largest and most complex financial institutions to achieve its supervisory objectives, incorporating lessons learned from the 2007–09 financial crisis and in the period since. As part of these supervisory frameworks and programs, the Federal Reserve through its supervisory stress test assesses whether BHCs with $100 billion or more in total consolidated assets and U.S. IHCs (together, firms) are sufficiently capitalized to absorb losses during stressful conditions while meeting obligations to creditors and counterparties and continuing to be able to lend to households and businesses. The Board of Governors of the Federal Reserve System (Board) first adopted rules implementing these frameworks and programs in October 2012 and most recently modified these rules in March 2020.[1]

Each year, the Federal Reserve publicly discloses the results of its supervisory stress test, as implemented pursuant to the Dodd-Frank Act. This document includes the results of the Federal Reserve's 2020 supervisory stress test, including revenues, expenses, losses, pre-tax net income, and capital ratios projected under adverse economic and financial conditions. These results are projected using a set of models developed or selected by the Federal Reserve that take as inputs the Federal Reserve's scenarios and firm-provided data on their financial conditions and risk characteristics. This year, the Federal Reserve is also publicly disclosing the aggregate results of a sensitivity analysis conducted under a range of plausible downside scenarios stemming from recent events related to the coronavirus outbreak and response, referred to as the "COVID event."[2] These disclosures are intended to give the public a greater understanding of how large firms would perform under hypothetical adverse economic and financial conditions.

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[1] On October 10, 2019, the Board finalized a rule to amend its prudential standards to exempt firms with total consolidated assets of less than $100 billion from the supervisory stress test and to subject certain firms with total consolidated assets between $100 billion and $250 billion to the supervisory stress test requirements on a two-year cycle (84 Fed. Reg. 59032 (Nov. 1, 2019)). Firms with $250 billion or more in total consolidated assets or material levels of other risk factors remain subject to the supervisory stress test requirements on an annual basis.

On March 4, 2020, the Board approved a rule to simplify its capital rules for large banks through the establishment of the stress capital buffer, which integrates the Board's stress test results with its non-stress capital requirements (85 Fed. Reg. 15576 (Mar. 18, 2020)).

[2] See Board of Governors of the Federal Reserve System, *Assessment of Bank Capital during the Recent Coronavirus Event* (Washington: Board of Governors, June 2020), https://www.federalreserve.gov/publications/files/2020-sensitivity-analysis-20200625.pdf.

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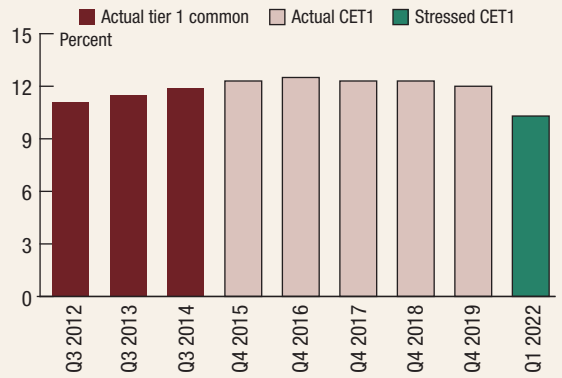
Executive Summary

The results of this year's Dodd-Frank Act stress test (DFAST 2020) suggest that, in the aggregate, the 33 firms subject to the supervisory stress test would experience substantial losses under the severely adverse scenario but could continue lending to businesses and households, due to the substantial buildup of capital since the financial crisis.

In the severely adverse scenario, the aggregate common equity tier 1 (CET1) capital ratio would fall from an actual 12.0 percent in the fourth quarter of 2019 to its minimum of 9.9 percent, before rising to 10.3 percent at the end of nine quarters (see figure 1). The declines in capital ratios, both in the aggregate and for individual firms, are not comparable to the aggregate ratio decline disclosed last year because this year's ratios do not include the effect of common dividend distributions. The DFAST cycle begins in the first quarter of 2020 and ends in the first quarter of 2022.

For DFAST 2020, key components of stress test projections, such as losses and revenue, are broadly similar to those of prior years' exercises.

Figure 1. Historical and stressed tier 1 common ratio and common equity tier 1 ratio



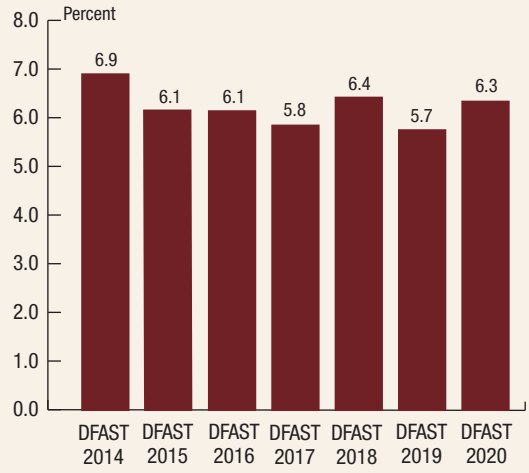
Source: FR Y-9C, FR Y-14A, and supervisory estimates under the severely adverse scenario.

Aggregate losses at the 33 firms under the severely adverse scenario are projected to be $550 billion. For the 18 firms for which stress test results were disclosed both last year and this year, total losses under the severely adverse scenario are $431 billion in DFAST 2020, compared to $410 billion for the same 18 firms in DFAST 2019.

Aggregate loan losses as a percent of average loan balances in the severely adverse scenario are similar in DFAST 2020 compared to the past several years (see figure 2). The higher loss rates this year reflect, in part, the effect of the relatively more severe scenario.

Aggregate projected pre-provision net revenue (PPNR) in DFAST 2020 for the 33 firms under the severely adverse scenario is projected to be $430 billion. For the 18 firms for which stress test results were disclosed both last year and this year, PPNR under the severely adverse scenario is $335 billion in DFAST 2020, compared to $327 billion for the same

Figure 2. Loan loss rates, severely adverse scenario

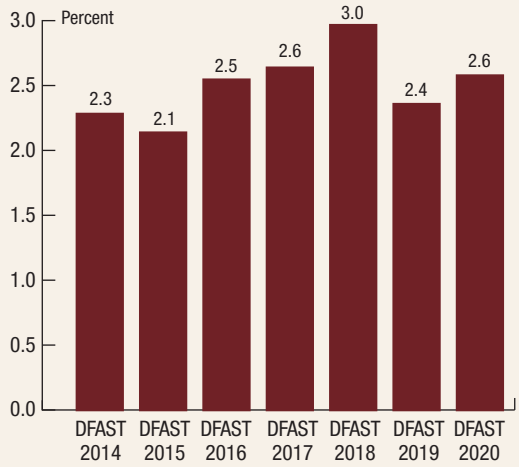


Note: Loan Loss rates as a percent of average total loan balances is calculated for all firms subject to the supervisory stress test in each exercise.

18 firms in DFAST 2019. PPNR as a percent of average total assets in DFAST 2020 is broadly similar to projected PPNR in prior years' exercises (see figure 3).

Provisions for loan losses and PPNR are the main drivers of pre-tax net income (PTNI). Under the severely adverse scenario, the projected decline in PTNI is 1.1 percent of average total assets, compared to a decline of 0.8 last year (see figure 4). The larger decline in PTNI this year reflects a similar level of PPNR coupled with higher estimated losses.

Figure 3. Pre-provision net revenue as a percent of average total assets, severely adverse scenario



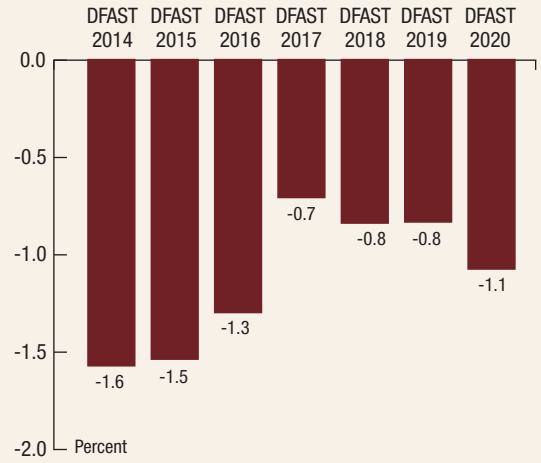
Note: Pre-provision net revenue as a percent of average total assets is calculated for all firms subject to the supervisory stress test in each exercise.

Further details of the results are provided in the Supervisory Stress Test Results section of this report.

This year, the Federal Reserve is also publicly disclosing the aggregate results of a sensitivity analysis conducted under a range of plausible downside scenarios stemming from recent events related to the coronavirus outbreak and response, referred to as the "COVID event." For further details, see *Assessment of Bank Capital during the Recent Coronavirus Event*.[3]

[3] See Board of Governors, https://www.federalreserve.gov/publications/files/2020-sensitivity-analysis-20200625.pdf.

Figure 4. Pre-tax net income as a percent of average total assets, severely adverse scenario



Note: Pre-tax net income as a percent of average total assets is calculated for all firms subject to the supervisory stress test in each exercise.

Differences between the DFAST 2020 Results Disclosure and Previous Results Disclosures

Two-Year Cycle Firms Included This Year

On October 10, 2019, the Board finalized a rule to amend its prudential standards to exempt firms with total consolidated assets of less than $100 billion from the supervisory stress test and to subject certain firms with total consolidated assets between $100 billion and $250 billion to the supervisory stress test requirements on a two-year cycle.[4] In DFAST 2020, the Federal Reserve is publishing results for 33 firms subject to supervisory stress testing requirements, which includes 18 firms subject to annual supervisory stress test requirements and 15 firms subject to the two-year supervisory stress test cycle.[5] Because

[4] See 84 Fed. Reg. 59032 (Nov. 1, 2019).

[5] The 33 firms required to participate in DFAST 2020 are Ally Financial Inc.; American Express Company; Bank of America Corporation; The Bank of New York Mellon Corporation; Barclays US LLC; BMO Financial Corp.; BNP Paribas USA, Inc.; Capital One Financial Corporation; Citigroup Inc.; Citizens Financial Group, Inc.; Credit Suisse Holdings (USA), Inc.; DB USA Corporation; Discover Financial Services; Fifth Third Bancorp; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; Huntington Bancshares Incorporated; JPMorgan Chase & Co.; KeyCorp; M&T Bank Corporation; Morgan Stanley; MUFG Americas Holdings Corporation; Northern Trust Corporation; The PNC Financial Services Group, Inc.; RBC US Group Holdings LLC; Regions Financial Corporation; Santander Holdings USA, Inc.; State Street Corporation; TD Group US Holdings LLC; Truist Financial Cor-

only 18 firms were subject to the supervisory stress test last year, the aggregate results reported this year are not fully comparable to last year's reported aggregate results.[6]

Removal of the Adverse Scenario

The Board also amended its stress testing requirements to remove the adverse scenario in its supervisory stress test, in accordance with changes to the Dodd-Frank Act.

Changes to Capital and Balance Sheet Calculations

In March 2020, the Board amended its stress testing requirements to assume that a firm maintains a constant level of assets over the projection horizon and to assume that a firm will not pay any common dividends or make any issuance of common or preferred stock.[7] In addition, the Federal Reserve will no longer include capital actions or other changes in the balance sheet associated with any business plan changes.[8] The Federal Reserve also made changes to its capital projections in order to account for changes made to the capital framework in the tailoring rules and the capital simplification rule.

Overview

This report provides

- details of the supervisory severely adverse scenario used in DFAST 2020;
- an overview of the analytical framework and methods used to generate the Federal Reserve's projected results, highlighting notable changes from last year's program;[9]
- additional details about the Federal Reserve's assumptions in the 2020 supervisory stress test; and
- the results of the supervisory stress test under the severely adverse scenario for the firms that participated in DFAST 2020, presented both for individual institutions and in the aggregate.

poration; U.S. Bancorp; UBS Americas Holding LLC; and Wells Fargo & Company. In addition to DB USA Corporation, DWS USA Corporation, a second U.S. intermediate holding company subsidiary of Deutsche Bank AG, was subject to DFAST 2020.

[6] The 18 firms required to participate in DFAST 2019 were Bank of America Corporation; The Bank of New York Mellon Corporation; Barclays US LLC; Capital One Financial Corporation; Citigroup Inc.; Credit Suisse Holdings (USA), Inc.; DB USA Corporation; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; JPMorgan Chase & Co.; Morgan Stanley; Northern Trust Corporation; The PNC Financial Services Group, Inc.; State Street Corporation; TD Group US Holdings LLC; UBS Americas Holdings LLC; U.S. Bancorp; and Wells Fargo & Company. In addition to DB USA Corporation, DWS USA Corporation, a second U.S. intermediate holding company subsidiary of Deutsche Bank AG, was subject to DFAST 2019.

In February 2019, the Federal Reserve announced that certain firms with total consolidated assets between $100 billion and $250 billion would not be subject to the company-run and supervisory stress testing requirements nor the requirement to submit a capital plan during the 2019 cycle. See Board of Governors of the Federal Reserve System, "Federal Reserve Board Releases Scenarios for 2019 Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Test Exercises," press release, February 5, 2019, https://www.federalreserve.gov/newsevents/pressreleases/bcreg20190205b.htm.

[7] See 85 Fed. Reg. 15576 (Mar. 18, 2020).

[8] The implementation of these new capital action assumptions in the company-run stress tests will not become effective until the 2021 stress test cycle. Thus, the results of the 2020 company-run and supervisory stress tests will be less comparable.

[9] See Board of Governors of the Federal Reserve System, *Dodd-Frank Act Stress Test 2020: Supervisory Stress Test Methodology* (Washington: Board of Governors, March 2020), https://www.federalreserve.gov/publications/files/2020-march-supervisorystress-test-methodology.pdf.

Supervisory Scenarios

On February 6, 2020, the Federal Reserve released the two supervisory scenarios: baseline and severely adverse.[10] This section describes the severely adverse scenario that was used for the DFAST 2020 projections contained in this report. These scenarios were developed using the approach described in the Board's Policy Statement on the Scenario Design Framework for Stress Testing. The severely adverse scenario is not a forecast but rather a hypothetical scenario designed to assess the strength of banking organizations and their resilience to an unfavorable economic environment.

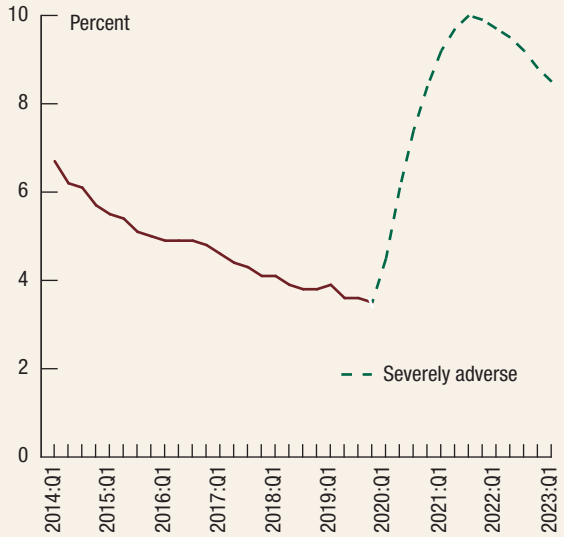
The DFAST 2020 supervisory scenarios include trajectories for 28 variables. These include 16 variables that capture economic activity, asset prices, and interest rates in the U.S. economy and financial markets, and 12 variables made up of 3 variables (real gross domestic product (GDP) growth, inflation, and the U.S./foreign currency exchange rate) for each of 4 countries/country blocks.

Similar to DFAST 2019, the Federal Reserve applied a global market shock to the trading portfolio of 11 firms with large trading and private equity exposures and a counterparty default scenario component to 13 firms with substantial trading, processing, or custodial operations (see "Global Market Shock and Counterparty Default Components").

Severely Adverse Scenario

Figures 5 through 10 illustrate the hypothetical trajectories for some of the key variables describing U.S. economic activity and asset prices under the severely adverse scenario.

Figure 5. Unemployment rate in the severely adverse scenario, 2014:Q1–2023:Q1



Source: Bureau of Labor Statistics for historical data and Federal Reserve assumptions for the severely adverse scenario.

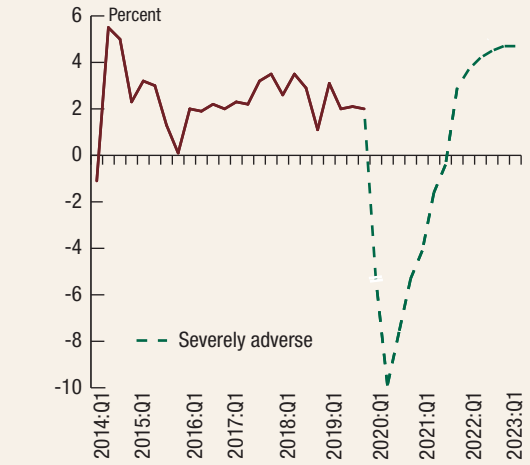
The severely adverse scenario is characterized by a severe global recession accompanied by a period of heightened stress in commercial real estate and corporate debt markets.

The U.S. unemployment rate climbs to a peak of 10 percent in the third quarter of 2021 (see Table A.5). This substantial increase in the unemployment rate is consistent with the Board's Policy Statement on the Scenario Design Framework for Stress Testing.[11] In line with the increase in the unemployment rate, real GDP falls about 8½ percent from its pre-recession peak, reaching a trough in the third quarter of 2021. The decline in activity is accompanied by a lower headline consumer price index (CPI) inflation rate, which falls to an annual rate of about 1¼ percent after the first quarter of

[10] See Board of Governors of the Federal Reserve System (2020), *2020 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule* (Washington: Board of Governors, February 2020), https://www.federalreserve.gov/newsevents/pressreleases/bcreg20200206a.htm for additional information and for the details of the supervisory scenarios.

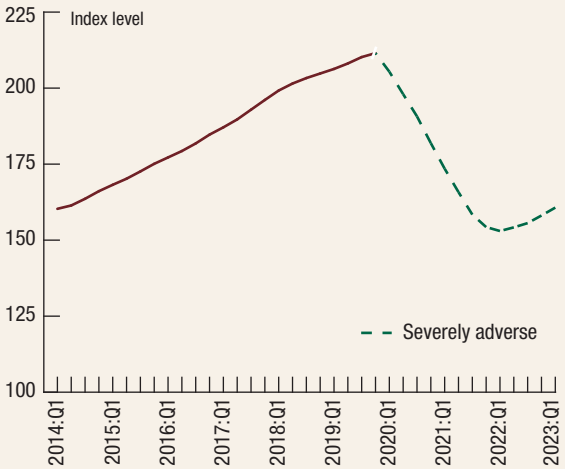
[11] See 12 C.F.R. pt. 252, appendix A.

Figure 6. Real GDP growth rate in the severely adverse scenario, 2014:Q1–2023:Q1



Source: Bureau of Economic Analysis for historical data and Federal Reserve assumptions for the severely adverse scenario.

Figure 8. National House Price Index in the severely adverse scenario, 2014:Q1–2023:Q1

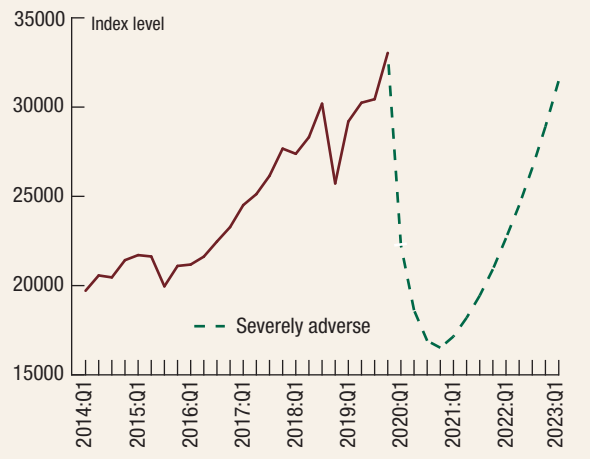


Source: CoreLogic for historical data (seasonally adjusted by Federal Reserve) and Federal Reserve assumptions for the severely adverse scenario.

2020, before gradually rising to average 1¾ percent in 2022.

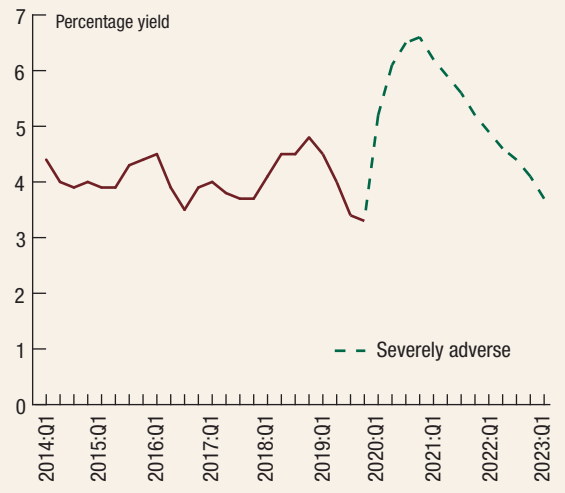
In line with the severe decline in real activity, the interest rate for 3-month Treasury bills immediately falls near zero and remains at that level through the end of the scenario. The 10-year Treasury yield immediately falls to ¾ percent during the first quarter of 2020 and rises gradually thereafter to 2¼ percent by the end of the stress-test period. The result is a gradual steepening of the yield curve over most of the stress-test period. Financial conditions in corporate and real estate lending markets are stressed severely. The spread between yields on investment-grade corporate bonds and yields on long-term Treasury securities widens to 5½ percentage points by the third quarter of 2020, an increase of 4 percentage points relative to the fourth quarter of 2019. The spread between mortgage rates and 10-year Treasury yields widens to 3½ percentage points over the same period.

Figure 7. Dow Jones Total Stock Market Index in the severely adverse scenario, 2014:Q1–2023:Q1



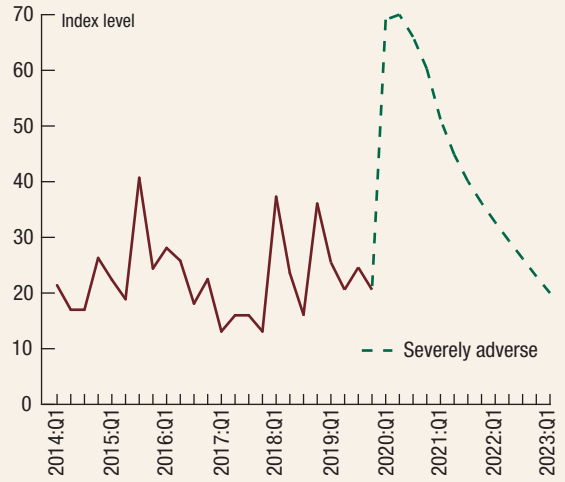
Source: Dow Jones for historical data and Federal Reserve assumptions for the severely adverse scenario.

Figure 9. U.S. BBB corporate yield in the severely adverse scenario, 2014:Q1–2023:Q1



Source: ICE Data Indices, LLC, used with permission for historical data and Federal Reserve assumptions for the severely adverse scenario.

Figure 10. U.S. Market Volatility Index (VIX) in the severely adverse scenario, 2014:Q1–2023:Q1



Source: Chicago Board Options Exchange for historical data (converted to quarterly by Federal Reserve using the maximum quarterly close-of-day value) and Federal Reserve assumptions for the severely adverse scenario.

Asset prices drop sharply in this scenario. Equity prices fall 50 percent through the end of 2020, accompanied by a rise in the U.S. Market Volatility Index (VIX), which reaches a peak of 70. House prices and commercial real estate prices also experience large overall declines of about 28 percent and 35 percent, respectively, during the first nine quarters of the scenario.

The international component of this scenario features sharp slowdowns in all country blocs, leading to severe recessions in the euro area, the United Kingdom, and Japan and a pronounced deceleration of activity in developing Asia. As a result of the sharp contraction in economic activity, three of the foreign economies included in the scenario—the euro area, Japan, and developing Asia—experience sharp declines in inflation rates. The U.S. dollar appreciates against the euro, the pound sterling, and the currencies of developing Asia, but depreciates modestly against the yen because of flight-to-safety capital flows.

Comparison of the 2020 Severely Adverse Scenario and the 2019 Severely Adverse Scenario

This year's severely adverse scenario features a slightly greater increase in the unemployment rate in the United States compared to last year's severely adverse scenario. This difference reflects the Board's Policy Statement on the Scenario Design Framework for Stress Testing, which calls for a more pronounced economic downturn when current conditions are stronger. Given a lower unemployment rate at the beginning of this year's scenario compared to last year's, the framework calls for a correspondingly larger increase in the unemployment rate in order to reach a peak of 10 percent. In this year's scenario, interest rates do not fall as much as in last year's scenario, given their lower starting values. The declines in equity prices, house prices, and commercial real estate prices are similar to the declines in last year's severely adverse scenario.

Global Market Shock and Counterparty Default Components

The Federal Reserve applied a global market shock to the trading portfolios of 11 firms with large trading and private equity exposures.[12] In addition, the Federal Reserve applied a largest counterparty default (LCPD) component, which assumes the default of a firm's largest counterparty under the global market shock, to the same 11 firms and 2 other firms with substantial trading, processing, or custodial operations.[13] These components are each an add-on to the economic conditions and financial market environment specified in the severely adverse scenarios.

Global Market Shock Component for Supervisory Severely Adverse Scenario

The global market shock is a set of hypothetical shocks to a large set of risk factors reflecting general market distress and heightened uncertainty. Firms with significant trading activity must consider the global market shock as part of their supervisory severely adverse scenario, and recognize associated

[12] The 11 firms subject to the global market shock are Bank of America Corporation; Barclays US LLC; Citigroup Inc.; Credit Suisse Holdings (USA), Inc.; DB USA Corporation; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; JPMorgan Chase & Co.; Morgan Stanley; UBS Americas Holding LLC; and Wells Fargo & Company. See 12 C.F.R. § 252.54(b)(2).

[13] The 13 firms subject to the LCPD component are Bank of America Corporation; The Bank of New York Mellon Corporation; Barclays US LLC; Citigroup Inc.; Credit Suisse Holdings (USA), Inc.; DB USA Corporation; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; JPMorgan Chase & Co.; Morgan Stanley; State Street Corporation; UBS Americas Holding LLC; and Wells Fargo & Company. See 12 C.F.R. § 252.54(b)(2)(ii).

losses in the first quarter of the projection period.[14] In addition, certain large and highly interconnected firms must apply the same global market shock to project losses under the counterparty default scenario component. The global market shock is applied to asset positions held by the firms on a given as-of date. The as-of date for the global market shock is October 18, 2019.[15] These shocks do not represent a forecast of the Federal Reserve.

The design and specification of the global market shock differ from that of the macroeconomic scenarios for several reasons. First, profits and losses from trading and counterparty credit are measured in mark-to-market terms, while revenues and losses from traditional banking are generally measured using the accrual method. Another key difference is the timing of loss recognition. The global market shock affects the mark-to-market value of trading positions and counterparty credit losses in the first quarter of the projection horizon. This timing is based on an observation that market dislocations can happen rapidly and unpredictably any time under stress conditions. Applying the global market shock in the first quarter of the projection horizon ensures that potential losses from trading and counterparty exposures are incorporated into trading companies' capital ratios at all points in the projection horizon.

The global market shock includes a standardized set of risk factor shocks to financial market variables that apply to all firms with significant trading activity. Depending on the type of financial market vulnerabilities the global market shock assesses, the market shocks could be based on a single historical episode, multiple historical periods, hypothetical (but plausible) events that are based on salient risks, or a hybrid approach comprising some combination of historical episodes and hypothetical events. A market shock based on hypothetical events may result in changes in risk factors that were not previously observed.

Risk factor shocks are calibrated based on assumed time horizons. The calibration horizons reflect a number of considerations related to the scenario being modeled. One important consideration is the liquidity characteristics of different risk factors, which vary based on the specified market shock narrative. More specifically, calibration horizons reflect the variation in the speed at which trading companies could reasonably close out, or effectively hedge, risk exposures in the event of market stress. The calibration horizons are generally longer than the typical time needed to liquidate assets under normal conditions because they are designed to capture the unpredictable liquidity conditions that prevail in times of stress, among other factors.[16] For example, changes within more liquid markets, such as interest rates, foreign exchange, or public equities, are calibrated to shorter horizons, such as three months, while changes within less liquid markets, such as nonagency securitized products or private equities, have longer calibration horizons, such as 12 months.

The global market shock component is specified by a large set of risk factors that include but are not limited to

- equity prices of key developed markets and developing and emerging market nations to which trading companies may have exposure, along with selected points along term structures of implied volatilities;
- foreign exchange rates of most advanced economy and some emerging economy currencies, along with selected points along term structures of implied volatilities;
- selected maturity government rates (e.g., U.S. Treasuries), swap rates, and other key rates for key developed markets and for developing and emerging market nations to which trading companies may have exposure;
- selected maturities and expiries of implied volatilities that are key inputs to the pricing of interest rate derivatives;
- selected expiries of futures prices for energy products including crude oil (differentiated by country of origin), natural gas, and power;

[14] The global market shock component applies to a firm that is subject to the supervisory stress test and that has aggregate trading assets and liabilities of $50 billion or more, or aggregate trading assets and liabilities equal to 10 percent or more of total consolidated assets, and is not a large and noncomplex firm under the Board's capital plan rule (12 C.F.R. § 225.8).

[15] A firm may use data as of the date that corresponds to its weekly internal risk reporting cycle as long as it falls during the business week of the as-of date for the global market shock (i.e., October 14–18, 2019).

[16] Markets that are well-functioning and that appear to be very liquid can abruptly change in times of financial stress, and the timing and severity of such changes in market liquidity may diverge from historical experience. For example, prior to the 2007–2009 financial crisis, AAA-rated private-label residential mortgage-backed securities would likely have been considered highly liquid, but their liquidity changed drastically during the crisis period.

- selected expiries of futures prices for metals and agricultural commodities; and
- credit spreads or prices for selected credit-sensitive products including corporate bonds, credit default swaps, and loans by risk; non-agency residential mortgage-backed securities and commercial mortgage-backed securities by risk and vintage; sovereign debt; and municipal bonds.

2020 Severely Adverse Scenario

The 2020 global market shock component for the severely adverse scenario is designed to be generally consistent with a macroeconomic background in which the U.S. economy has entered a sharp recession, characterized by widespread defaults on a range of debt instruments by business borrowers. Under the scenario, weaker obligors struggle to maintain their financial conditions due to material declines in earnings associated with the poor economic environment while rating agencies downgrade large portions of debt outstanding. The historically high levels of nonfinancial corporate debt to GDP amplify the losses resulting from the wave of corporate sector defaults. This dynamic creates feedback effects between the economy and the corporate sector.

Spreads widen sharply for non-investment grade and low investment grade bonds as ratings-sensitive investors anticipate further downgrades and sell assets. Similarly, the leveraged loan market comes under considerable pressure. Open-ended mutual funds and exchange-traded funds (ETFs) that hold leveraged loans and high yield bonds face heavy redemptions. Due to liquidity mismatches, mutual fund and ETF managers sell their most liquid holdings, leading to more extensive declines in the prices of fixed income securities and other related assets. Price declines on leveraged loans flow through to the prices for collateralized loan obligations (CLOs). CLO prices suffer severe corrections associated with the devaluation of the underlying collateral and selling by concentrated holders desiring to reduce risk.

The broad selloff of corporate bonds and leveraged loans spills over to prices for other risky credit and private equity instruments. Credit spreads for emerging market corporate credit and sovereign bonds widen due to flight-to-safety considerations. Asset values for private equity experience sizable declines as leveraged firms face lower earnings and a weak economic outlook. Municipal bond spreads widen in line with lower municipal tax revenues associated with the severe weakening of the U.S. economy.

Short-term U.S. Treasury rates fall sharply reflecting an accommodative monetary policy response to the hypothetical economic downturn. Longer-term U.S. Treasury rates fall more modestly as the United States benefits from a flight-to-safety. Short-term U.S. interbank lending rates rise as firms face increased funding pressure from a pullback in overnight lending, while longer-term swap rates fall in sync with the decreases in long-term U.S. Treasury rates. This is not a forecast of how monetary policy would necessarily respond to these conditions.

Flight-to-safety considerations cause the U.S. dollar to appreciate somewhat against the currencies of most advanced economies, except the Swiss franc and the Japanese yen. The yen appreciates against the U.S. dollar as investors unwind positions and view the yen as a safe-haven currency. The Swiss franc appreciates against the U.S. dollar as investors seek an alternative safe-haven currency. Safe-haven considerations cause traditional precious metals to experience an increase in value while non-precious metals prices fall due to lower demand from the general economic weakness.

Comparison of the 2020 Severely Adverse Scenario and the 2019 Severely Adverse Scenario

This year's global market shock for the severely adverse scenario emphasizes a heightened stress to highly leveraged markets that causes CLOs and private equity investments to experience larger market value declines relative to 2019. There is a general spike in short-term interbank lending rates instead of a decline, as this year's scenario highlights a severe increase in funding pressures. European equity markets weaken at more modest levels relative to 2019, while U.S. equity markets fall more sharply. In addition, European currencies depreciate less severely against the U.S. dollar this year, reflecting the U.S.-focused nature of this year's scenario.

Counterparty Default Component for Supervisory Severely Adverse Scenario

Firms with substantial trading or custodial operations will be required to incorporate a counterparty default scenario component into the severely adverse

scenario used in their company-run stress test.[17] The counterparty default scenario component involves the instantaneous and unexpected default of the firm's largest counterparty.[18]

In connection with the counterparty default scenario component, these firms will be required to estimate and report the potential losses and related effects on capital associated with the instantaneous and unexpected default of the counterparty that would generate the largest losses across their derivatives and securities financing activities, including securities lending and repurchase or reverse repurchase agreement activities. The counterparty default scenario component is an add-on to the macroeconomic conditions and financial market environment specified in the Federal Reserve's severely adverse stress scenario.

The largest counterparty of each firm will be determined by net stressed losses. Net stressed losses are estimated by applying the global market shock to revalue non-cash securities financing transactions (SFT) (securities or collateral) posted or received and, for derivatives, the trade position and non-cash collateral exchanged. The as-of date for the counterparty default scenario component is October 18, 2019—the same date as the global market shock.[19]

[17] The Board may require a covered company to include one or more additional components in its severely adverse scenario in the annual stress test based on the company's financial condition, size, complexity, risk profile, scope of operations, or activities, or based on risks to the U.S. economy. See 12 C.F.R. § 252.54(b)(2)(ii).

[18] In selecting its largest counterparty, a firm subject to the counterparty default component will not consider certain sovereign entities (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) or qualifying central counterparties (QCCP). See definition of QCCP at 12 C.F.R. § 217.2.

U.S. intermediate holding companies (IHC) are not required to include any affiliate of the U.S. IHC as a counterparty. An affiliate of the company includes a parent company of the counterparty, as well as any other firm that is consolidated with the counterparty under applicable accounting standards, including U.S. generally accepted accounting principles (GAAP) or international financial reporting standards (IFRS).

[19] As with the global market shock, a firm subject to the counterparty default component may use data as of the date that corresponds to its weekly internal risk reporting cycle as long as it falls during the business week of the as-of date for the counterparty default scenario component (i.e., October 14–18, 2019). Losses will be assumed to occur in the first quarter of the projection horizon.

Supervisory Stress Test Framework and Model Methodology

Overview of Modeling Framework

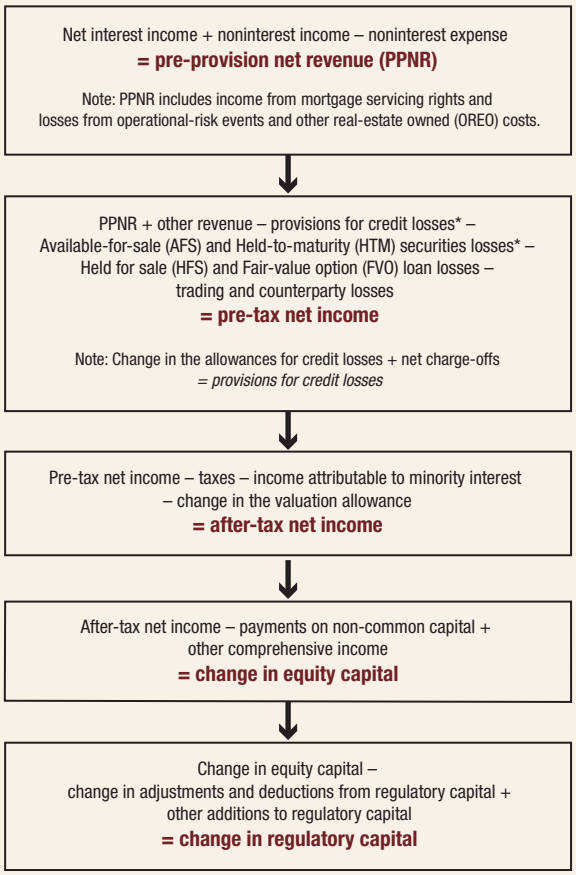
The Federal Reserve estimates the effect of supervisory scenarios on the regulatory capital ratios of firms participating in the supervisory stress test by projecting net income and other components of regulatory capital for each firm over a nine-quarter projection horizon. Projected net income, adjusted for the effect of taxes, is combined with non-common capital action assumptions and other components of regulatory capital to produce post-stress capital ratios. The Federal Reserve's approach to modeling post-stress capital ratios generally follows U.S. generally accepted accounting principles (GAAP) and the regulatory capital framework.[20] Figure 11 illustrates the framework used to calculate changes in net income and regulatory capital.

Projecting Pre-tax Net Income

The Federal Reserve calculates projected pre-tax net income for the firms subject to the supervisory stress test by combining projections of revenue, expenses, provisions for credit losses, and other losses, including

- PPNR;
- provisions for credit losses;
- losses on loans held for sale (HFS) or for investment and measured under the fair-value option (FVO);
- credit losses on investment securities in the available-for-sale (AFS) and held-to-maturity (HTM) portfolios;[21]
- losses on market risk exposures, credit valuation adjustment (CVA), and incremental default risk (IDR) for firms subject to the global market shock; and
- losses from a default of the largest counterparty for firms with substantial trading, processing, or custodial operations.

Figure 11. Projecting net income and regulatory capital



*For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses, in accordance with Financial Accounting Standards Board (FASB), *Financial Instruments–Credit Losses* (Topic 326), FASB Accounting Standards Update (ASU) 2016-13 (Norwalk, Conn.: FASB, June 2016).

[20] See 12 C.F.R. pt. 217.

[21] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses, in accordance with Financial Accounting Standards Board (FASB), *Financial Instruments–Credit Losses* (Topic 326), FASB Accounting Standards Update (ASU) 2016-13 (Norwalk, Conn.: FASB, June 2016).

The Federal Reserve projects these components of pre-tax net income using supervisory models that take the Board's scenarios and firm-provided data as inputs. The projections are based on the assumption that firms' balance sheets remain unchanged throughout the projection period. Macroeconomic variables used in select supervisory models vary across geographic locations (e.g., by state or by county). The Federal Reserve projects the paths of these variables as a function of aggregate macroeconomic variables included in the Board's scenarios.

Pre-provision Net Revenue

PPNR is defined as net interest income (interest income minus interest expense) plus noninterest income minus noninterest expense. Consistent with U.S. GAAP, the projection of PPNR includes projected losses due to operational-risk events and expenses related to the disposition of real-estate-owned properties.[22]

The Federal Reserve models most components of PPNR using a suite of models that generally relate specific revenue and non-provision-related expenses to the characteristics of firms and to macroeconomic variables. These include eight components of interest income, seven components of interest expense, six components of noninterest income, and three components of noninterest expense.

The Federal Reserve separately models losses from operational risk and other real-estate-owned (OREO) expenses. Operational risk is defined as "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events."[23] OREO expenses are those expenses related to the disposition of real-estate-owned properties and stem from losses on first-lien mortgages.

Loan Losses and Provisions on the Accrual Loan Portfolio

The Federal Reserve projects 13 quarters of losses on loans in the accrual loan portfolio using one of two modeling approaches: the expected-loss framework or the net charge-off approach.

For certain loans, expected losses under the macroeconomic scenario are estimated by projecting the probability of default (PD), loss given default (LGD), and exposure at default (EAD) for each quarter of the projection horizon. Expected losses in each quarter are the product of these three components.

Losses are modeled under the expected-loss framework for the following loan categories:

- corporate loans, including graded commercial and industrial (C&I) loans, agricultural loans, domestic farm loans, international farm loans, loans to foreign governments, loans for purchasing and carrying securities, other non-consumer loans, and other leases
- commercial real estate (CRE) loans, including domestic and international non-owner-occupied multifamily or nonfarm, nonresidential property loans and construction and land development (C&LD) loans
- domestic first-lien residential mortgages
- domestic home equity loans (HELs) and home equity lines of credit (HELOCs)
- domestic credit cards
- domestic auto loans

The net charge-off approach projects losses over the projection horizon using models that capture the historical behavior of net charge-offs as a function of macroeconomic and financial market conditions and loan portfolio characteristics. The Federal Reserve models losses under the net charge-off approach for other consumer loans, business and corporate credit card loans, small-business loans, student loans, and international retail loans.

Losses on the accrual loan portfolio flow into net income through provisions for loan and lease losses. Generally, provisions for loan and lease losses for each quarter equal projected loan losses for the quarter plus the change in the allowance needed to cover the subsequent four quarters of expected loan losses, taking into account the allowance established by the firm as of the effective date of the stress test exercise.[24]

[22] PPNR projections do not include debt valuation adjustment, which is not included in regulatory capital.

[23] See Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards* (Basel, Switzerland: BCBS, June 2004), 149, https://www.bis.org/publ/bcbs107.pdf.

[24] To reduce uncertainty, allow for better capital planning at affected firms, and gather additional information on the impact of the current expected credit loss methodology (CECL), the Federal Reserve maintained the framework used prior to the adoption of CECL for calculating allowances on loans in the 2020 supervisory stress test, and plans to do so for 2021. See

The Federal Reserve assumes that the allowance at the end of each quarter covers projected loan losses for four quarters into the future. The supervisory estimate of the allowance at the start of the projection horizon, which is based on projected losses under the severely adverse scenario, may differ from a firm's established allowance at the beginning of the projection horizon, which is based on the firm's estimate of losses on the effective date of the stress test. Any difference between the supervisory calculation of the allowance and the firm's reported allowance at the beginning of the projection horizon is linearly smoothed into the Federal Reserve's provisions projection over the nine quarters.

Losses on Loans Measured on a Fair-Value Basis

Certain loans are accounted for on a fair-value basis instead of on an accrual basis. For example, if a loan is accounted for using the FVO, it is marked to market, and the accounting value of the loan changes as market risk factors and fundamentals change. Similarly, loans that are held for sale are accounted for at the lower of cost or market value.

The models for these asset classes project gains and losses on the banks' FVO/HFS loan portfolios over the nine-quarter projection horizon, net of any hedges, by applying the scenario-specific path of interest rates and credit spreads to loan yields.

Losses are modeled under this approach for the following loan categories:

- FVO/HFS C&I loans
- FVO/HFS CRE loans
- FVO/HFS residential mortgages, student loans, auto loans, and credit cards

Gains and losses on HFS C&I and CRE loans are estimated using a model specific to those asset classes. Gains and losses on FVO/HFS retail loans are modeled separately.

Losses on Securities in the Available-for-Sale and Held-to-Maturity Portfolios

The Federal Reserve estimates two types of losses on AFS or HTM securities related to investment activities.[25] First, for securities classified as AFS, projected changes in the fair value of the securities due to changes in interest rates and other factors will result in unrealized gains or losses that are recognized in capital for some firms through other comprehensive income (OCI).[26] Second, credit losses on the security may be recorded. With the exception of certain government-backed obligations, both AFS and HTM securities are at risk of incurring credit losses.[27] The models project security-level credit losses, using as an input the projected fair value for each security over the nine-quarter projection horizon under the macroeconomic scenarios.

Securities at risk of credit losses include the following securitizations and direct debt obligations:

- corporate debt securities
- sovereign debt securities (other than U.S. government obligations)
- municipal debt securities
- mortgage-backed, asset-backed, collateralized loan obligation (CLO), and collateralized debt obligation (CDO) securities

Gains or Losses on the Fair Value of Available-for-Sale Securities

The fair value of securities in the AFS portfolio may change in response to the macroeconomic scenarios. Under U.S. GAAP, unrealized gains and losses on AFS securities are reflected in accumulated OCI (AOCI) but do not flow through net income.[28] Under the regulatory capital rule, AOCI must be incorporated into common equity tier 1 capital for

Board of Governors of the Federal Reserve System, "Statement on the Current Expected Credit Loss Methodology (CECL) and Stress Testing," press release, December 21, 2018, https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20181221b1.pdf.

[25] This portfolio does not include securities held for trading. Losses on these securities are projected by the model that projects gains and losses on trading exposures.

[26] Other comprehensive income is accounted for outside of net income. Under regulatory capital rules, accumulated OCI (AOCI) that arises from unrealized changes in the value of available-for-sale (AFS) securities must be incorporated into common equity tier 1 capital for firms subject to the advanced approaches and other firms that do not opt out of including AOCI in regulatory capital.

[27] Certain government-backed securities, such as U.S. Treasuries, U.S. government agency obligations, U.S. government agency or government-sponsored enterprise (GSE) mortgage-backed securities, Federal Family Education Loan Program student loan asset-backed securities, and pre-refunded municipal bonds, are assumed not to be subject to credit losses.

[28] Unrealized gains and losses on equity securities are recognized in net income and affect regulatory capital for all firms. See Financial Accounting Standards Board (FASB), *Financial Instruments—Overall* (Subtopic 825-10), FASB Accounting Standards Update (ASU) 2016-01 (Norwalk, Conn.: FASB, January 2016).

certain firms.[29] The incorporation of AOCI in regulatory capital is described in "Calculation of Regulatory Capital Ratios" below.

Unrealized gains and losses are calculated as the difference between each security's fair value and its amortized cost. The amortized cost of each AFS security is equivalent to the purchase price of a debt security, which is periodically adjusted if the debt security was purchased at a price other than par or face value, has a principal repayment, or has an impairment recognized in earnings.[30]

OCI losses from AFS securities are computed directly from the projected change in fair value, taking into account credit losses and applicable interest-rate hedges on securities. All debt securities held in the AFS portfolio are subject to OCI losses, including

- U.S. Treasuries;
- U.S. agency securities;
- corporate debt securities;
- sovereign debt securities;
- municipal debt securities; and
- mortgage-backed, asset-backed, CLO, and CDO securities.

Losses on Trading and Private Equity Exposures and Credit Valuation Adjustment

The trading and private equity model generates loss estimates related to trading and private equity positions under the global market shock. In addition, the global market shock is applied to firm counterparty exposures to generate losses due to changes in CVA.

The trading and private equity model covers a wide range of firms' exposures to asset classes such as public equity, foreign exchange, interest rates, commodities, securitized products, traded credit (e.g., municipals, auction rate securities, corporate credit, and sovereign credit), private equity, and other fair-value assets. Loss projections are constructed by applying movements specified in the global market shock to market values of firm-provided positions and risk factor sensitivities.[31]

Incremental Default Risk

The Federal Reserve separately estimates the risk of losses arising from a jump-to-default of issuers of debt securities in the trading book, in excess of mark-to-market losses calculated by the trading model. Trading losses associated with IDR account for concentration risk in agencies, trading book securitization positions, and corporate, sovereign, and municipal bonds. These losses are applied in each of the nine quarters of the projection horizon.

Largest Counterparty Default Losses

The largest counterparty default scenario component is applied to firms with substantial trading or custodial operations. The LCPD captures the risk of losses due to an unexpected default of the counterparty whose default on all derivatives and SFTs would generate the largest stressed losses for a firm.

Consistent with the Federal Reserve's modeling principles, losses associated with the LCPD component are recognized in the first quarter of the projection horizon.

Balance Projections and the Calculation of Regulatory Capital Ratios

Balance Sheet Items and Risk-Weighted Assets

The Federal Reserve generally projects that a firm takes actions to maintain its current level of assets, including its securities, trading assets, and loans, over the projection horizon. The Federal Reserve assumes that a firm's risk-weighted assets (RWAs) and leverage ratio denominators remain unchanged over the projection horizon except for changes primarily related to items subject to deduction from regulatory capital or due to changes to the Board's regulations.[32]

Calculation of Regulatory Capital Ratios

The five regulatory capital measures that are included in the supervisory stress test are the

[29] The Board amended its prudential standards to allow firms with total consolidated assets of less than $700 billion and cross-jurisdictional activity of less than $75 billion to opt out of including AOCI in regulatory capital (84 Fed. Reg. 59230 (Nov. 1, 2019)).

[30] The fair value of each AFS security is projected over the nine-quarter projection horizon using either a present-value calculation, a full revaluation using a security-specific discounted cash flow model, or a duration-based approach, depending on the asset class.

[31] The trading model is also used to calculate gains or losses on firms' portfolios of hedges on credit valuation adjustment exposures (CVA hedges).

[32] See 12 C.F.R. pt. 252, appendix B.

(1) CET1, (2) tier 1 risk-based capital, (3) total risk-based capital, (4) tier 1 leverage, and (5) supplementary leverage ratios (see table 1). A firm's regulatory capital ratios are calculated in accordance with the Board's regulatory capital rules using Federal Reserve projections of pre-tax net income and other scenario-dependent components of the regulatory capital ratios.

Pre-tax net income and the other scenario-dependent components of the regulatory capital ratios are combined with additional information, including assumptions about taxes and capital distributions, to calculate post-stress regulatory capital. In that calculation, the Federal Reserve first adjusts pre-tax net income to account for taxes and other components of net income, such as income attributable to minority interests, to arrive at after-tax net income.[33]

The Federal Reserve calculates the change in equity capital over the projection horizon by combining projected after-tax net income with changes in OCI, assumed capital distributions, and other components of equity capital. The path of regulatory capital over the projection horizon is calculated by combining the projected change in equity capital with the firm's starting capital position and accounting for other adjustments to regulatory capital specified in the Board's regulatory capital framework.[34]

The denominator of each firm's regulatory capital ratios, other than the leverage ratios, is calculated using the standardized approach for calculating RWAs for each quarter of the projection horizon, in accordance with the transition arrangements in the Board's capital rules.[35]

Capital Action Assumptions

To project post-stress capital ratios for the Dodd-Frank Act supervisory stress test, the Federal Reserve uses a standardized set of capital action assumptions that are specified in the Dodd-Frank Act stress test rules. As previously noted, in March 2020 the Board amended the capital action assumptions in its stress testing requirements.[36] According to these amended requirements, common stock dividend payments are assumed to be zero over the projection horizon. Scheduled dividend, interest, or principal payments that qualify as additional tier 1 capital or tier 2 capital are assumed to be paid, and repurchases of such capital instruments are assumed to be zero. The capital action assumptions do not include issuances of new common stock or preferred stock. The projection of post-stress capital ratios do not include capital actions or other changes in the balance sheet associated with any business plan changes.

Data Inputs

Most of the data used in the Federal Reserve's stress test projections are collected through the Capital Assessments and Stress Testing (FR Y-14A/Q/M) information collection, which includes a set of annual, quarterly, or monthly schedules.[37] These reports collect detailed data on PPNR, loans, securities, trading and counterparty risk, losses related to operational-risk events, and business plan changes. Each of the 33 firms participating in DFAST 2020 submitted data as of December 31, 2019, through the FR Y-14M and FR Y-14Q reports in February, March, and April 2020. The same firms submitted the FR Y-14A reports, which also include projected data, on April 6, 2020.

Consistent with the Board's Stress Testing Policy Statement, the Federal Reserve makes certain assumptions about missing data or data with deficiencies significant enough to preclude the use of supervisory models. Given a reasonable set of assumptions or approaches, all else equal, the Federal Reserve will opt to use those that result in larger losses or lower revenue.

The conservative assumptions applied depend on the nature of the data deficiency.[38] Where possible and appropriate, conservative values are assigned to specific deficient data items reported in the FR Y-14

[33] The Federal Reserve applies a consistent tax rate of 21 percent to pre-tax net income and accounts for deferred tax assets.

[34] The regulatory capital framework specifies that regulatory capital ratios account for items subject to adjustment or deduction in regulatory capital, limits the recognition of certain assets that are less loss-absorbing, and imposes other restrictions.

[35] 12 C.F.R. pt. 217, subpt. G.

[36] 85 Fed. Reg. 15576 (Mar. 18, 2020).

[37] The FR Y-14 reports are available on the Federal Reserve website at https://www.federalreserve.gov/apps/reportforms/default.aspx.

[38] The Federal Reserve has established conservative approaches for missing or insufficient data for its core PPNR, operational-risk loss, retail loan loss, wholesale loan loss, securities loss, fair value loan loss, and CVA models. The methodology the Federal Reserve uses to implement these assumptions may vary somewhat across supervisory models.

information collection. For example, if certain observations in the first-lien mortgage portfolio were missing credit scores, the Federal Reserve would apply to those observations the 90th percentile credit score across all FR Y-14M submissions for that portfolio.

In other cases in which the data deficiency is severe enough that a modeled estimate cannot be produced for a portfolio segment or portfolio, the Federal Reserve may assign a conservative rate (e.g., the 10th percentile PPNR rate or the 90th percentile loss rate) to that segment or portfolio. In general, conservative portfolio loss rates are calculated at the most granular definition of a portfolio possible. For example, home equity losses are comprised of losses on HELOCs and HELs. If a given firm reported deficient data for its HELOC portfolio only, then the overall home equity losses for that firm would be based on a conservative loss rate applied to the HELOC portfolio, but HEL projected losses would be modeled using the supervisory model.

Firms are required to submit detailed loan and securities information for all material portfolios, where portfolios categories are defined in the FR Y-14M and FR Y-14Q instructions. The definition of a portfolio's materiality varies and depends primarily on the firm's complexity. Each firm has the option to either submit or not submit the relevant data schedule for a given portfolio that does not meet the materiality threshold. If the firm does not submit data on its immaterial portfolio(s), the Federal Reserve will assign the median loss rate estimated across the set of firms with material portfolios.

Box 1. Model Changes for the 2020 Supervisory Stress Test

Each year, the Federal Reserve has refined both the substance and process of the supervisory stress test, including its development and enhancement of independent supervisory models. The supervisory stress test models may be enhanced to reflect advances in modeling techniques; enhancements in response to model validation findings; incorporation of richer and more detailed data; and identification of more stable models or models with improved performance, particularly under stressful economic conditions.

For the 2020 supervisory stress test, the Federal Reserve aligned the calculation of regulatory capital ratios and balances with recent changes in regulations; enhanced the models that project certain components of pre-provision net revenue (PPNR), credit card losses, and corporate loan losses; completed a phase-in for the auto loan model; and modified the trading and private equity model. In addition to these model changes, the Federal Reserve made less material enhancements to simplify models and account for changes in the historical data used to estimate the models.[1]

Alignments to Changes in Regulatory Capital Rules

The Federal Reserve modified the capital calculation to align the computations with the capital simplification, tailoring, and stress capital buffer rules. To conform the calculations to the simplifications rule, the Federal Reserve increased in its capital calculation the threshold for deducting mortgage servicing assets, certain deferred tax assets (DTAs) arising from temporary differences, and investments in the capital of unconsolidated financial institutions from regulatory capital. Similarly, to align with the tailoring rule, the Federal Reserve no longer includes accumulated other comprehensive income in the calculation of certain firms' regulatory capital. Consistent with the stress capital buffer rule, the Federal Reserve no longer includes certain capital actions or the impacts of material business plan changes in its regulatory capital calculation and assumes that a firm's balances, RWAs, and leverage ratio denominators generally remain unchanged over the projection horizon.[2] In addition, to maintain a consistent capital calculation methodology across all firms, the Federal Reserve limited the use of firms' projections in the capital calculation.

Refinements to Supervisory Models

PPNR Models

The Federal Reserve made two enhancements to the PPNR autoregressive models, which are the models used to project most PPNR components. In prior versions of the models, the Federal Reserve estimated firm fixed effects using the full set of data available since the financial crisis and included in each model one or more lags of the quarterly observations of the respective PPNR component. The enhanced versions estimate firm fixed effects using data from the more recent past (a trailing multiyear fixed effect) and include the lag of the respective PPNR component measured as the average of that component over the prior year. These enhancements increase the importance of firm performance in more recent years and diminish the degree to which quarterly volatility in historical PPNR affects projections over the horizon.

In addition, the Federal Reserve re-estimated its full suite of PPNR models on an expanded sample, re-specifying models based on performance testing. While those re-specifications have a small effect on overall PPNR, they result in larger offsetting effects on the projections of individual components. For example, the effect of model enhancements on projections of noninterest income is offset, in part, by the effect on the projections of noninterest expenses. Overall, the changes improve model performance for total PPNR.

These refinements have material effects on projections for certain firms.[3] Consistent with the Federal Reserve's stated policy for material model changes, the PPNR estimates for the 2020 supervisory stress test are the average of the model used in 2019 and

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[1] Portfolios with material model changes are defined as those in which the change in revenue or losses exceeds 50 basis points for any firm individually under the severely adverse scenario, expressed as a percentage of risk-weighted assets (RWAs), based on data and scenarios from the 2019 supervisory stress test. In cases in which a portfolio contains more than one change, materiality is defined by the net change.

[2] In projecting a firm's RWAs and leverage ratio denominators, the Federal Reserve accounts for the effect of changes associated with the calculation of regulatory capital or changes to the Board's regulations.

[3] Analysis was conducted using data and scenarios from the 2019 and 2020 supervisory stress test. The effect on projections for future tests is uncertain and will depend on changes in firm portfolios, data, and scenarios.

(continued on next page)

Box 1. Model Changes for the 2020 Supervisory Stress Test—*continued*

the updated model.[4] PPNR estimates for the 2021 supervisory stress test will only reflect the updated model.

Credit Card Model

The Federal Reserve refined the credit card model by applying an adjustment to card losses for firms with credit card revenue and loss sharing agreements (RLSAs). In these agreements, a portion of the revenues and losses generated by a specified credit card portfolio may be shared with a private entity. The previous version of the credit card model did not fully account for RLSAs. These agreements were reflected only in supervisory projections of the firm's PPNR to the extent that firms reported historical PPNR net of these agreements. In cases for which revenues but not losses on RLSAs are reported in historical PPNR, the updated credit card model adjusts losses to reflect the portion shared with the private entity. This update increases consistency in the treatment across firms with RLSAs. The Federal Reserve also re-estimated the credit card model using additional data to better capture recent trends. The collective impact resulted in a slight increase in overall losses projected by the domestic credit card model, with larger increases for firms with material bank card exposures.[5]

Corporate Loan Model

The Federal Reserve modified the corporate model to separately calibrate financial and nonfinancial obligors. This modification reflects updated expected default frequency (EDF) data that has broader coverage and an extended sample period. The Federal Reserve also re-estimated the corporate model using this extended sample to better capture the effects of the financial crisis. The collective impact resulted in a slight decrease in overall losses projected by the corporate model, mainly due to lower loss rates on financial obligors, with no material impacts on any firm.[6]

Other Model Changes

Phase-in of the Auto Loan Model

The Federal Reserve began a two-year transition to an updated auto loan model in the 2019 supervisory stress test, with the updated model fully in effect for 2020. The two-year phase-in policy was employed because the auto model refinements materially affected the forecast auto loan losses for a number of firms.[7] The 2019 changes to the auto loan model are described in the 2019 document on the supervisory stress test methodology.[8] Collectively, the enhancements resulted in a small increase in overall projected auto loan losses; however, for firms with large domestic auto loan portfolios, the changes resulted in materially higher projected losses.[9]

Trading and Private Equity Model

The Federal Reserve modified the estimate of losses on private equity investments in affordable housing that qualify as Public Welfare Investments (PWI) under Regulation Y. These investments were separately identified and losses were calculated using the market shock that was applied to Section 42 Housing Credits. The Federal Reserve collected additional information to refine its approach to identifying these investments and estimating their losses.

Minor Refinements and Re-estimation

Each year, the Federal Reserve makes a number of relatively minor refinements to models that may include re-estimation with new data, re-specification based on performance testing, and other refinements to the code used to produce supervisory projections. In 2019, the Federal Reserve made such refinements to the models for commercial real estate, counterparty, fair value for debt and equity securities, first- and second-lien mortgages, and operational risk. The refinements collectively resulted in a minimal change in post-stress capital ratios with no material impacts on any disclosed firm.[10]

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4 Starting in DFAST 2017, the Federal Reserve began to adhere to a policy of phasing in the most material model enhancements over two stress test cycles to smooth the effect on post-stress capital ratios. See Stress Testing Policy Statement, 82 Fed. Reg. 59528 (Dec. 15, 2017).

5 See note 3 in this box.

6 See note 3 in this box.

7 See note 4 in this box.

8 See Board of Governors of the Federal Reserve System, *Dodd-Frank Act Stress Test 2019: Supervisory Stress Test Methodology* (Washington: Board of Governors, March 2019); https://www.federalreserve.gov/publications/files/2019-march-supervisory-stress-test-methodology.pdf.

9 See note 3 in this box.

10 See note 3 in this box.

Supervisory Stress Test Results under the Severely Adverse Scenario

This section describes the Federal Reserve's projections of losses, revenues, expenses, and capital positions for the 33 large firms participating in DFAST 2020 under the severely adverse scenario. Results are presented both in the aggregate and for individual firms. The aggregate results provide a sense of the stringency of the severely adverse scenario projections and the sensitivities of losses, revenues, and capital at these firms as a group to the stressed economic and financial market conditions contained in those scenarios. The range of results across individual firms reflects differences in business focus, asset composition, revenue and expense sources, and portfolio risk characteristics. The comprehensive results for individual firms are reported in appendix B.

Year-over-year changes in supervisory stress test results reflect changes in

- firm starting capital positions;
- scenarios used for the supervisory stress test;
- portfolio composition and risk characteristics; and
- models used in the supervisory stress test.

Under the supervisory severely adverse scenario, the aggregate capital ratio is projected to decline to a minimum of 9.9 percent, before rising to 10.3 percent at the end of nine quarters (see table 2). In the aggregate, each of the five capital and leverage ratios decline over the course of the projection horizon from their fourth quarter of 2019 levels, with first-quarter 2022 levels ranging from 0.8 percentage points to 1.8 percentage points lower than at the start of the projection horizon (see table 2).

The changes in post-stress capital ratios vary considerably across firms (see figure 13), and table 4 presents these ratios for each of the 33 firms. Differences in the declines in ratios across firms are primarily related to differences in the Federal Reserve's projections of losses, revenues, and expenses but are also influenced by the regulatory capital treatment for different types of firms.

Projected Losses

The Federal Reserve projects that the 33 large firms as a group would experience significant losses on loans and other positions under the severely adverse scenario. In this scenario, losses are projected to be $550 billion[39] for the 33 firms in the aggregate over the nine quarters of the projection horizon.

These losses include

- $433 billion in accrual loan portfolio losses;
- $6 billion in securities losses;[40]
- $83 billion in trading and/or counterparty losses at the 13 firms with substantial trading, processing, or custodial operations; and
- $29 billion in additional losses from items such as loans booked under the fair-value option (see table 2).

Losses on accrual loan portfolios account for 79 percent of the projected losses for the 33 firms, while trading and/or counterparty losses account for 15 percent (figure 12).

Loan Losses

Total loan losses are $433 billion for the 33 firms. For the 18 firms subject to an annual supervisory stress test, total loan losses this year are $316 billion, compared to $296 billion in projected loan losses for the same firms last year.

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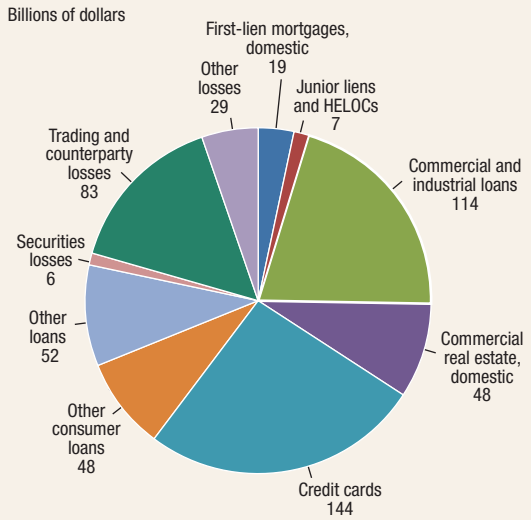
[39] Projected losses in the subsequent list sum to $551 billion due to rounding.

[40] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses, in accordance with Financial Accounting Standards Board (FASB), *Financial Instruments–Credit Losses* (Topic 326), FASB Accounting Standards Update (ASU) 2016-13 (Norwalk, Conn.: FASB, June 2016). Prior to the adoption of ASU 2016-13, securities credit losses were realized through other-than-temporary impairment (OTTI).

Figure 12. Projected losses in the severely adverse scenario



Note: The projected losses are not comparable to DFAST 2019. There were 18 participating firms in DFAST 2019 and 33 participating firms in DFAST 2020.

Loan losses for the full group of 33 firms are roughly equally split between consumer products (domestic residential mortgages, domestic junior liens and HELOCs, credit cards, and other consumer loans) and commercial products (domestic commercial real estate, commercial and industrial loans, and other loans) (see table 2). Consumer and commercial products represent 40 and 38 percent of total projected losses, respectively. Commercial and industrial loan losses and credit card losses are the two largest categories of loan losses at $114 billion and $144 billion, respectively.

For the full group of 33 firms, the nine-quarter cumulative loss rate for all accrual loan portfolios is 6.3 percent, where the loss rate is calculated as total projected loan losses over the nine quarters of the projection horizon divided by average loan balances over the horizon. However, total loan loss rates vary significantly across firms, ranging between 0.9 percent and 17.0 percent across these institutions (see table 7 and figure 14).

The differences in total loan loss rates across the firms reflect differences in the risk characteristics of the portfolios held by each firm owing to both the composition of lending across portfolios and the characteristics of the loans within each portfolio. Loan portfolio composition matters because projected loss rates vary significantly for different types of loans. In the aggregate, nine-quarter cumulative loss rates vary from 1.5 percent on domestic first-lien mortgages to 17.1 percent on credit cards, reflecting both differences in typical performance of these loans—some loan types tend to generate higher losses, though generally also higher revenue—and differences in the sensitivity of different types of loans to the severely adverse scenario. In particular, lending categories for which performance is sensitive to credit spreads or unemployment rates may experience high stressed loss rates due to the considerable stress on these factors in the severely adverse scenario.[41]

Projected loss rates on most loan categories show similar dispersion across firms (see table 7 and figures C.1 through C.7). There are significant differences across firms in the projected loan loss rates for similar types of loans. For example, while the median projected loss rate on commercial and industrial loans is 6.7 percent, the rates among firms with commercial and industrial loans vary from a low of 1.0 percent to a high of 20.9 percent. For credit card loans, the range of projected loss rates is from 10.4 percent to 26.4 percent, with a median of 18.7 percent. Differences in projected loss rates across firms primarily reflect differences in loan and borrower characteristics.

Differences in projected loss rates over time primarily reflect changes in loan and borrower characteristics and changes in the scenarios. The composition of firms' loan portfolios shifted during 2019, with consumer lending experiencing the most rapid growth. However, in the aggregate, risk in overall bank loan holdings did not change materially during 2019. The severely adverse scenario features a larger increase in the unemployment rate and a larger increase in the corporate bond spread relative to last year, leading to a higher total loan loss rate in DFAST 2020.

Losses on Trading, Private Equity, SFT, and Derivatives Positions

The severely adverse scenario results include $83 billion in trading losses from the global market shock at the 11 firms with large trading and private-equity exposures and losses from the largest counterparty default component at the 13 firms with substantial trading, processing, or custodial operations. Trading and counterparty losses range between $0.6 billion

[41] Additionally, losses are calculated based on the exposure at default (EAD), which includes both outstanding balances and any additional drawdown of the credit line that occurs prior to default, while loss rates are calculated as a percent of average outstanding balances over the projection horizon.

and $22 billion across the 13 firms (see table 5) subject to the full global market shock.

The relative size of losses across firms depends not on nominal portfolio size but rather on the specific risk characteristics of each firm's trading positions, inclusive of hedges. Importantly, these projected losses are based on the trading positions and counterparty exposures held by these firms on a single date (October 18, 2019) and could have differed if they had been based on a different date.

Projected PPNR

In the aggregate, the 33 firms are projected to generate $430 billion in PPNR cumulatively over the nine quarters of the projection horizon, equal to 2.6 percent of their combined average assets (see table 2). The Federal Reserve's PPNR projections are driven by the shape of the yield curve, the path of asset prices, equity market volatility, and measures of economic activity in the severely adverse scenario. In addition, the PPNR projections incorporate expenses stemming from estimates of elevated levels of losses from operational-risk events such as fraud, employee lawsuits, litigation-related expenses, or computer system or other operating disruptions.[42] In aggregate for the 33 firms, operational-risk losses are $144 billion this year. For the 18 firms disclosed in DFAST 2019, operational-risk losses were $123 billion, compared to $129 billion for the same 18 firms in DFAST 2020.

Aggregate PPNR as a percent of average assets is higher in DFAST 2020 relative to DFAST 2019. That difference is primarily attributable to the inclusion of the smaller firms. For the 18 firms for which stress test results were disclosed both last year and this year, PPNR as a percent of average assets remained nearly unchanged compared to DFAST 2019.

The ratio of projected cumulative PPNR to average assets varies across firms (see figure 15). A significant portion of this variation reflects differences in business focus across the institutions. For instance, the ratio of PPNR to assets tends to be higher at firms focusing on credit card lending, reflecting the higher net interest income that credit cards generally produce relative to other forms of lending.[43] Importantly, lower PPNR rates do not necessarily imply lower net income, because the same business focus and revenue risk characteristics determining differences in PPNR across firms could also result in offsetting differences in projected losses across firms.

Net Income and Regulatory Capital Treatment

Projected PPNR and losses are the primary determinants of projected pre-tax net income. The projected decline in pre-tax net income is 1.1 percent of average total assets, compared to a decline of 0.8 percent in the DFAST 2019 exercise (see figure 4). Table 5 presents projections of the components of pre-tax net income, including provisions into the allowance and one-time income and expense and extraordinary items, under the severely adverse scenario for each of the 33 firms (see table 2 for aggregate). The projections are cumulative for the nine quarters of the projection horizon.

The Federal Reserve's projections of pre-tax net income under the severely adverse scenario imply negative net income at most of the 33 firms individually and for the firms as a group over the nine-quarter projection horizon. Projected net income before taxes (pre-tax net income) is an aggregate net loss of $177 billion over the projection horizon for the 33 firms.

The net income projections incorporate loan losses indirectly through provisions, which equal projected loan losses plus the amount needed for the allowance to be at an appropriate level at the end of each quarter.[44] The $489 billion in total provisions includes $433 billion in net charge-offs, with the remainder being the reserve build. These amounts are cumulative over the projection horizon and do not fully reveal variation in the allowance during the course of the nine quarters. Specifically, the projected allowance increases during the early quarters of the projection horizon, given the increased economic stress in the severely adverse scenario, and then declines as the economic stress abates.

[42] These estimates are conditional on the severely adverse scenario and on conservative assumptions. They are not a supervisory estimate of the firms' current or expected legal liability.

[43] As noted, credit card lending also tends to generate relatively high loss rates, so the higher PPNR rates at these firms do not necessarily indicate higher profitability.

[44] See note 24.

The ratio of pre-tax net income to average assets for each of the 33 firms ranges from −4.3 percent to 2.2 percent (see figure 16). Projected cumulative net income for most of the firms (26 of 33) is negative over the projection horizon. Differences across the firms reflect differences in the sensitivity of the various components of net income to the economic and financial market conditions in the supervisory scenarios. Projected net income for the 13 firms subject to the global market shock, the supervisory market risk component, and/or the counterparty default component includes the effect of those additional scenario components in the severely adverse scenario, introducing some additional variation in projected net income between these firms and the other firms participating in DFAST 2020.

Firms that are required to include AOCI in regulatory capital and those that opt in to including it are also impacted by OCI (table 5), which is driven by unrealized gains and losses on AFS securities in the supervisory stress test. The severely adverse scenario features a smaller decline in the 10-year Treasury yield in the first quarter, leading to lower projected unrealized gains for AFS securities in DFAST 2020 for the 18 firms that were also in the DFAST 2019 exercise. The interest rate path and credit spreads assumed in the scenario result in $8.5 billion of OCI over the nine quarters of the projection horizon for firms required to include AOCI in regulatory capital and those that opt in to including it.

Since DFAST 2019, the Federal Reserve modified the capital calculation to align with the capital simplification, tailoring, and stress capital buffer rules, which affected the DFAST 2020 results. As a result of the tailoring rules, AOCI is excluded from regulatory capital for certain firms, which increases these firms' projected capital ratios due to AOCI generally being negative at the beginning of the projection horizon. The model changes related to the simplifications rule reduce capital deductions, which increases projected capital ratios in the stress test. Finally, the changes related to the stress capital buffer rule increase projected capital ratios due to no longer including certain capital actions in the projection horizon, as well as assuming no balance sheet growth.

Table 1. Applicable capital ratios and calculations for firms in the 2020 Dodd-Frank Act stress tests

Capital ratio	Calculation, by aspect of ratio	
	Capital in numerator	Denominator
Common equity tier 1 ratio	Definition of regulatory capital	Standardized approach RWAs
Tier 1 ratio	Definition of regulatory capital	Standardized approach RWAs
Total capital ratio	Definition of regulatory capital	Standardized approach RWAs
Tier 1 leverage ratio	Definition of regulatory capital	Average assets
Supplementary leverage ratio	Definition of regulatory capital	Average assets and off-balance sheet exposures

Table 2. 33 participating firms

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.0	10.3	9.9
Tier 1 capital ratio	13.6	11.8	11.4
Total capital ratio	15.8	14.4	14.1
Tier 1 leverage ratio	8.6	7.4	7.1
Supplementary leverage ratio	6.7	5.9	5.6

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	432.5	6.3
First-lien mortgages, domestic	19.4	1.5
Junior liens and HELOCs, domestic	7.4	3.1
Commercial and industrial[2]	114.0	7.2
Commercial real estate, domestic	47.6	6.3
Credit cards	144.0	17.1
Other consumer[3]	48.4	6.5
Other loans[4]	51.7	3.6

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	10,353.8	10,255.7

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	429.7	2.6
equals		
Net interest income	790.0	4.7
Noninterest income	794.5	4.8
less		
Noninterest expense[2]	1,154.7	6.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	489.0	
Credit losses on investment securities (AFS/HTM)[4]	5.5	
Trading and counterparty losses[5]	83.2	
Other losses/gains[6]	28.7	
equals		
Net income before taxes	-176.7	-1.1
Memo items		
Other comprehensive income[7]	8.5	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-54.3	-45.2

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table 3. Projected minimum common equity tier 1 ratio under the severely adverse scenario, 2020:Q1–2022:Q1
33 participating firms
Percent

Firm	Stressed ratios with DFA stress testing capital action assumptions
Ally Financial Inc.	6.3
American Express Company	10.8
Bank of America Corporation	9.6
The Bank of New York Mellon Corporation	12.3
Barclays US LLC	13.4
BMO Financial Corp.	5.4
BNP Paribas USA, Inc.	10.8
Capital One Financial Corporation	6.8
Citigroup Inc.	10.3
Citizens Financial Group, Inc.	7.1
Credit Suisse Holdings (USA), Inc.	19.5
DB USA Corporation	18.4
Discover Financial Services	8.2
Fifth Third Bancorp	8.1
The Goldman Sachs Group, Inc.	7.0
HSBC North America Holdings Inc.	7.3
Huntington Bancshares Incorporated	8.5
JPMorgan Chase & Co.	9.8
KeyCorp	8.0
M&T Bank Corporation	8.5
Morgan Stanley	11.3
MUFG Americas Holdings Corporation	9.7
Northern Trust Corporation	12.8
The PNC Financial Services Group, Inc.	9.2
RBC US Group Holdings LLC	13.6
Regions Financial Corporation	7.3
Santander Holdings USA, Inc.	13.2
State Street Corporation	11.5
TD Group US Holdings LLC	16.2
Truist Financial Corporation	7.4
UBS Americas Holding LLC	17.9
U.S. Bancorp	8.9
Wells Fargo & Company	9.1

Note: The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratio presented is for the period 2020:Q1 to 2022:Q1. In accordance with the regulatory capital framework, all risk-based capital ratios are calculated using standardized RWAs, which became effective on January 1, 2015.

Source: Federal Reserve estimates in the severely adverse scenario.

Table 4.A. Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1 under the severely adverse scenario: Risk-based Category I, II, and III firms

Percent

Firm	Common equity tier 1 capital ratio			Tier 1 capital ratio			Total capital ratio			Tier 1 leverage ratio			Supplementary leverage ratio[1]		
	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum
Bank of America Corporation	11.2	9.8	9.6	12.6	11.3	11.1	14.8	13.8	13.8	7.9	7.0	6.9	6.4	5.7	5.6
The Bank of New York Mellon Corporation	12.5	14.6	12.3	14.8	16.9	14.6	15.8	18.0	15.7	6.6	7.5	6.5	6.1	6.9	6.0
Barclays US LLC	16.3	13.7	13.4	19.4	16.9	16.6	23.0	20.7	20.5	9.4	7.9	7.7	7.8	6.6	6.4
Capital One Financial Corporation	12.2	6.8	6.8	13.7	8.3	8.3	16.1	10.7	10.7	11.7	7.0	7.0	9.9	5.9	5.9
Citigroup Inc.	11.8	11.8	10.3	13.4	13.4	11.9	16.6	16.7	15.3	8.0	7.9	7.0	6.2	6.2	5.4
Credit Suisse Holdings (USA), Inc.	24.7	21.6	19.5	25.5	22.4	20.4	25.6	22.5	20.5	13.7	11.1	10.3	12.1	9.8	9.1
DB USA Corporation	26.2	18.6	18.4	37.7	31.1	30.9	37.7	31.5	31.4	9.8	7.4	7.4	9.1	6.9	6.9
The Goldman Sachs Group, Inc.	13.3	8.4	7.0	15.2	10.3	8.9	17.8	13.2	11.9	8.7	5.8	5.0	6.2	4.1	3.6
HSBC North America Holdings Inc.	13.0	7.3	7.3	14.8	9.2	9.2	18.4	13.3	13.3	7.8	4.7	4.7	5.7	3.4	3.4
JPMorgan Chase & Co.	12.4	10.6	9.8	14.1	12.4	11.6	16.0	14.6	13.8	7.9	6.8	6.4	6.3	5.4	5.1
Morgan Stanley	16.4	12.5	11.3	18.6	14.7	13.5	21.0	17.3	16.2	8.3	6.4	5.9	6.4	4.9	4.5
Northern Trust Corporation	12.7	13.2	12.8	14.5	15.0	14.6	16.3	17.5	16.8	8.7	9.0	8.7	7.6	7.9	7.7
The PNC Financial Services Group, Inc.	9.5	10.0	9.2	10.7	11.1	10.3	12.7	13.5	12.6	9.1	9.4	8.8	7.6	7.8	7.3
State Street Corporation	11.7	12.9	11.5	14.6	15.8	14.3	15.7	17.2	15.7	6.9	7.5	6.8	6.1	6.6	6.0
TD Group US Holdings LLC	16.2	17.2	16.2	16.2	17.2	16.2	17.3	18.4	17.4	9.4	9.8	9.4	8.5	8.8	8.5
Truist Financial Corporation[2]	9.5	7.4	7.4	10.8	8.8	8.8	12.6	11.4	11.4	14.7	7.6	7.6	n/a	6.4	6.4
UBS Americas Holding LLC[2]	22.1	19.9	17.9	27.7	25.6	23.8	29.0	27.6	25.3	11.8	10.8	9.9	n/a	9.0	8.2
U.S. Bancorp	9.1	9.3	8.9	10.7	10.8	10.4	12.7	13.0	12.6	8.8	8.9	8.5	7.0	7.1	6.8
Wells Fargo & Company	11.1	9.7	9.1	12.8	11.3	10.7	15.8	14.7	14.2	8.3	7.3	6.9	7.1	6.2	5.9

Note: The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. In accordance with the regulatory capital framework, all risk-based capital ratios are calculated using standardized RWAs, which became effective on January 1, 2015.

[1] Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

[2] Truist Financial Corporation and UBS Americas Holding LLC were not subject to the supplementary leverage ratio requirement in 2019:Q4.

n/a Not applicable.

Source: Federal Reserve estimates in the severely adverse scenario.

Table 4.B. Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1 under the severely adverse scenario: Risk-based Category IV firms

Percent

Firm	Common equity tier 1 capital ratio			Tier 1 capital ratio			Total capital ratio			Tier 1 leverage ratio		
	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum
Ally Financial Inc.	9.5	6.3	6.3	11.2	7.9	7.9	12.8	9.9	9.9	9.1	6.4	6.4
American Express Company	10.7	12.7	10.8	11.6	13.6	11.7	13.2	15.2	13.3	10.2	11.9	10.3
BMO Financial Corp.	11.3	5.4	5.4	11.8	5.9	5.9	14.1	8.6	8.6	9.1	4.5	4.5
BNP Paribas USA, Inc.	15.8	10.8	10.8	15.8	10.8	10.8	18.0	13.6	13.6	10.5	7.1	7.1
Citizens Financial Group, Inc.	10.0	7.1	7.1	11.1	8.2	8.2	13.0	10.4	10.4	10.0	7.3	7.3
Discover Financial Services	11.2	8.5	8.2	11.8	9.0	8.8	13.5	10.7	10.6	10.3	7.8	7.6
Fifth Third Bancorp	9.7	8.1	8.1	11.0	9.4	9.3	13.8	12.5	12.4	9.5	8.2	8.1
Huntington Bancshares Incorporated	9.9	8.5	8.5	11.3	9.9	9.9	13.0	11.9	11.9	9.3	8.2	8.1
KeyCorp	9.4	8.1	8.0	10.9	9.5	9.4	12.8	11.8	11.8	9.9	8.7	8.6
M&T Bank Corporation	9.7	8.6	8.5	10.9	9.8	9.7	13.1	12.1	12.0	9.6	8.6	8.5
MUFG Americas Holdings Corporation	14.1	9.7	9.7	14.1	9.7	9.7	14.7	11.0	11.0	8.9	6.1	6.1
RBC US Group Holdings LLC	17.2	13.6	13.6	17.2	13.6	13.6	17.8	15.0	15.0	9.8	7.6	7.6
Regions Financial Corporation	9.7	7.3	7.3	10.9	8.5	8.5	12.7	10.7	10.7	9.6	7.5	7.5
Santander Holdings USA, Inc.	14.6	13.2	13.2	15.8	14.4	14.3	17.2	15.8	15.8	13.1	12.0	12.0

Note: The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1.

Source: Federal Reserve estimates in the severely adverse scenario.

Table 4.C. Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1 under the severely adverse scenario: 33 participating firms

Percent

Firm	Common equity tier 1 capital ratio			Tier 1 capital ratio			Total capital ratio			Tier 1 leverage ratio			Supplementary leverage ratio[1]		
	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4	Ending	Minimum	Actual 2019:Q4[2]	Ending	Minimum
33 participating firms	12.0	10.3	9.9	13.6	11.8	11.4	15.8	14.4	14.1	8.6	7.4	7.1	6.7	5.9	5.6

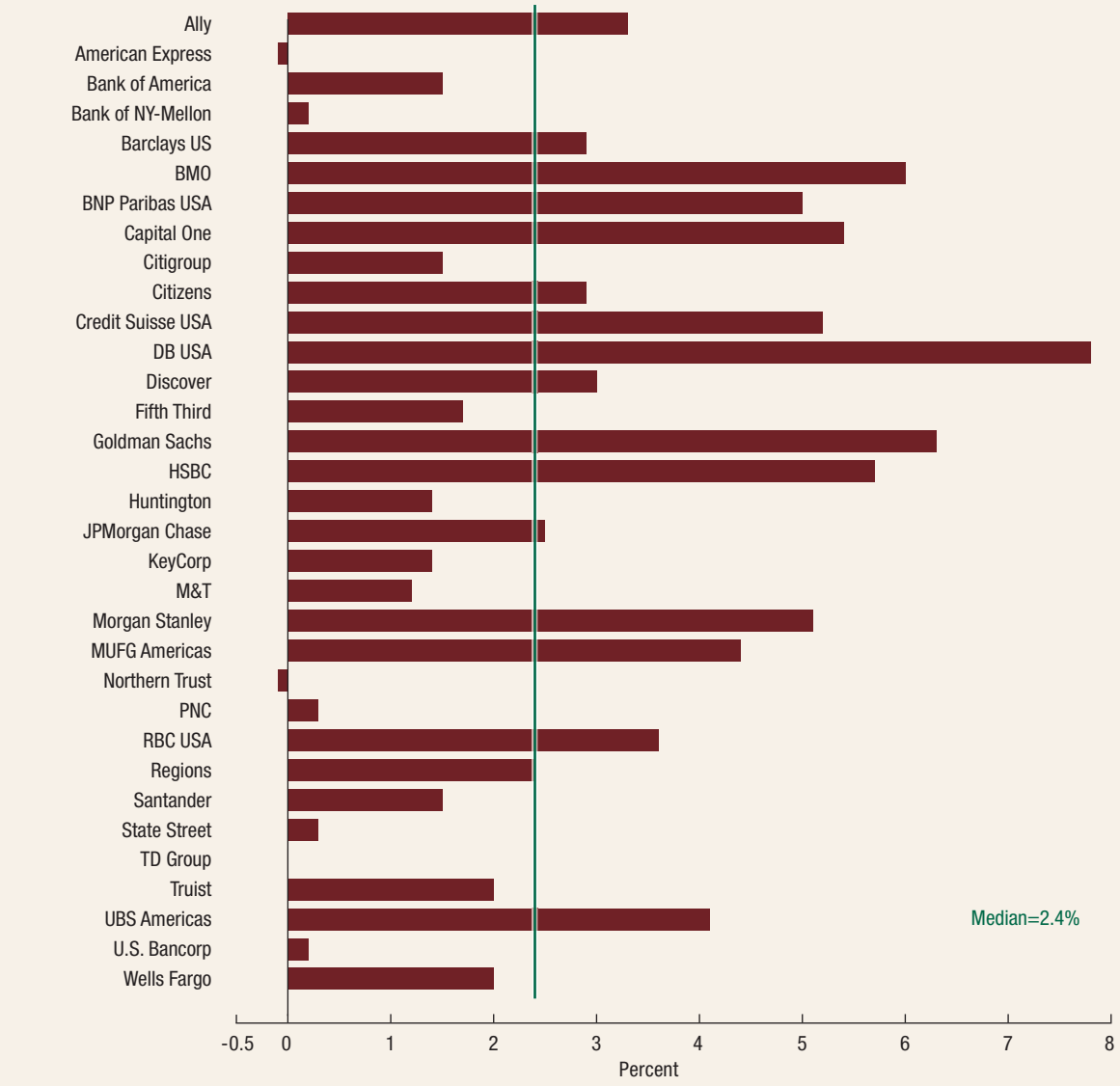
Note: The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. In accordance with the regulatory capital framework, all risk-based capital ratios are calculated using standardized RWAs, which became effective on January 1, 2015.

[1] Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

[2] Truist Financial Corporation and UBS Americas Holding LLC were not subject to the supplementary leverage ratio requirement in 2019:Q4.

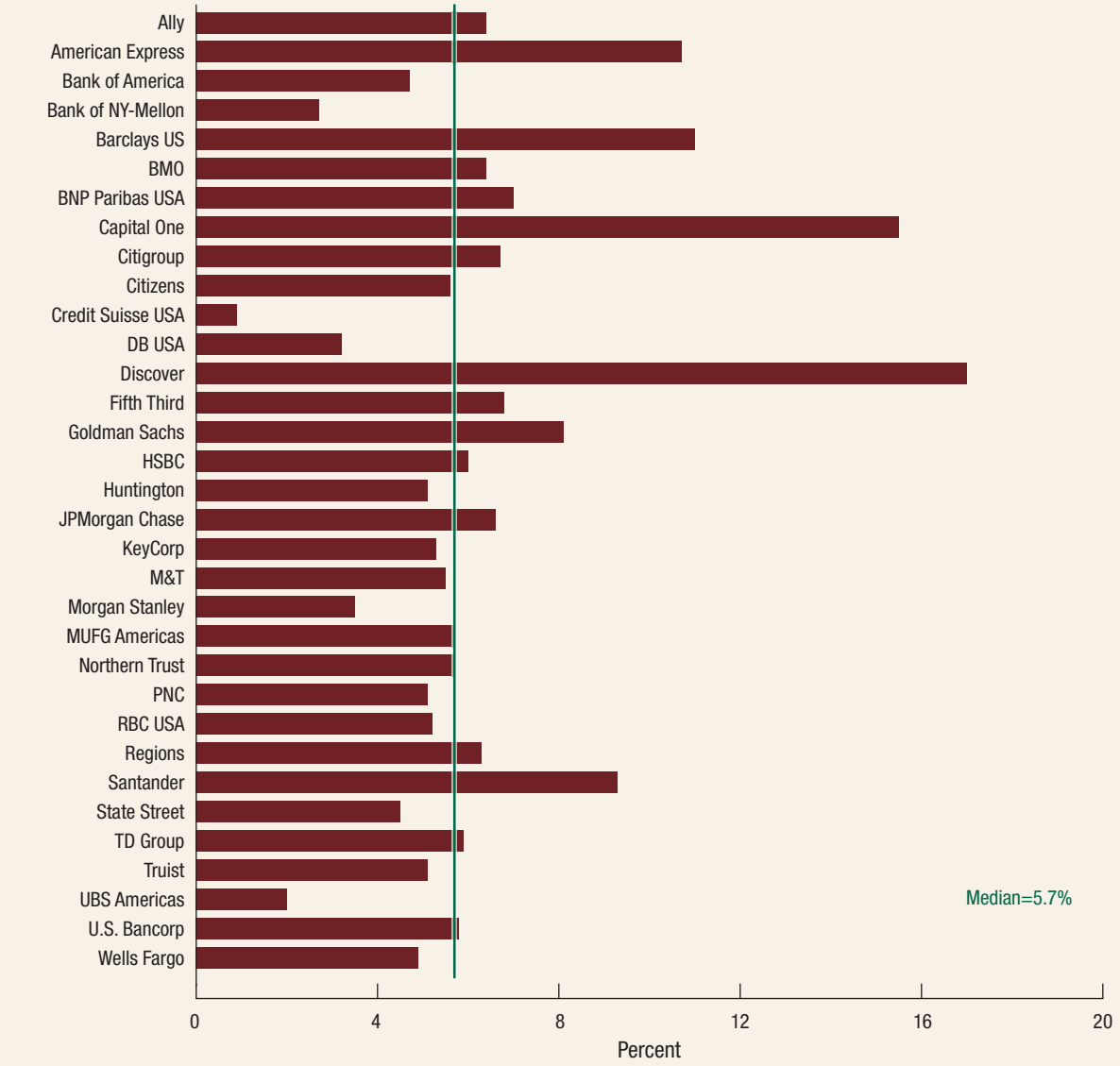
Source: Federal Reserve estimates in the severely adverse scenario.

Figure 13. Change from 2019:Q4 to minimum common equity tier 1 ratio in the severely adverse scenario



Note: Estimates are for the nine-quarter period from 2020:Q1–2022:Q1 as a percent of risk-weighted assets.

Figure 14. Total loan loss rates in the severely adverse scenario



Note: Estimates are for the nine-quarter period from 2020:Q1–2022:Q1 as a percent of average balances.

Table 5. Projected losses, revenue, and net income before taxes through 2022:Q1 under the severely adverse scenario: 33 participating firms

Billions of dollars

Firm	Sum of revenues		Minus sum of provisions and losses				Equals	Memo items	Other effects on capital
	Pre-provision net revenue[1]	Other revenue[2]	Provisions for loan and lease losses	Credit losses on investment securities (AFS/HTM)[3]	Trading and counterparty losses[4]	Other losses/ gains[5]	Net income before taxes	Other compre-hensive income[6]	AOCI included in capital (2022:Q1)
Ally Financial Inc.	5.1	0.0	10.1	0.3	0.0	0.1	-5.3	0.0	0.0
American Express Company	23.8	0.0	19.3	0.0	0.0	0.0	4.4	0.1	-2.7
Bank of America Corporation	42.3	0.0	53.1	0.2	10.5	4.2	-25.6	5.2	-1.1
The Bank of New York Mellon Corporation	7.2	0.0	1.8	0.2	0.8	0.0	4.4	0.0	-2.6
Barclays US LLC	4.2	0.0	4.7	0.0	0.9	0.0	-1.4	0.0	0.0
BMO Financial Corp.	-0.7	0.0	6.6	0.0	0.0	0.0	-7.2	0.0	0.0
BNP Paribas USA, Inc.	1.3	0.0	5.7	0.0	0.0	0.0	-4.5	0.0	0.0
Capital One Financial Corporation	31.0	0.0	47.7	0.1	0.0	0.1	-16.9	0.0	-0.1
Citigroup Inc.	59.3	0.0	50.0	0.7	5.7	2.6	0.4	3.3	-33.1
Citizens Financial Group, Inc.	3.9	0.0	8.0	0.0	0.0	0.1	-4.3	0.0	0.0
Credit Suisse Holdings (USA), Inc.	1.2	0.0	0.1	0.0	2.8	0.2	-1.8	0.0	0.0
DB USA Corporation	-0.2	0.0	0.5	0.0	1.3	0.0	-2.0	0.0	-0.2
Discover Financial Services	15.8	0.0	18.6	0.0	0.0	0.0	-2.8	0.0	0.0
Fifth Third Bancorp	6.4	0.0	8.5	0.0	0.0	0.1	-2.1	0.0	0.0
The Goldman Sachs Group, Inc.	10.6	0.0	11.1	0.0	17.8	8.5	-27.0	0.5	-1.0
HSBC North America Holdings Inc.	-0.1	0.0	4.5	0.1	1.4	0.2	-6.3	0.0	-0.2
Huntington Bancshares Incorporated	3.2	0.0	4.3	0.0	0.0	0.0	-1.1	0.0	0.0
JPMorgan Chase & Co.	73.0	0.0	72.3	0.7	21.8	2.7	-24.5	-1.4	0.2
KeyCorp	4.3	0.0	5.6	0.0	0.0	0.3	-1.5	0.0	0.0
M&T Bank Corporation	4.7	0.0	5.7	0.0	0.0	0.0	-1.0	0.0	0.0
Morgan Stanley	5.0	0.0	6.5	0.1	9.5	5.5	-16.5	1.2	-1.6
MUFG Americas Holdings Corporation	1.8	0.0	6.4	0.1	0.0	0.2	-4.9	0.0	0.0
Northern Trust Corporation	2.6	0.0	2.2	0.1	0.0	0.0	0.2	0.3	0.1
The PNC Financial Services Group, Inc.	12.9	0.0	13.2	0.1	0.0	0.3	-0.7	0.0	-0.1
RBC US Group Holdings LLC	1.6	0.0	3.9	0.3	0.0	0.0	-2.6	0.0	0.0
Regions Financial Corporation	3.8	0.0	6.3	0.0	0.0	0.1	-2.6	0.0	0.0
Santander Holdings USA, Inc.	7.3	0.0	8.3	0.0	0.0	0.1	-1.2	0.0	0.0
State Street Corporation	3.6	0.0	1.4	0.1	0.6	0.0	1.4	0.3	-0.6
TD Group US Holdings LLC	10.7	0.0	10.3	0.3	0.0	0.0	0.1	0.0	0.0
Truist Financial Corporation	11.9	0.0	19.3	0.0	0.0	0.6	-8.0	0.0	0.0
UBS Americas Holding LLC	3.4	0.0	1.5	0.0	1.4	0.0	0.5	0.0	0.0
U.S. Bancorp	18.5	0.0	18.6	0.0	0.0	0.0	-0.1	0.0	-0.1
Wells Fargo & Company	50.2	0.0	52.9	2.0	8.7	2.9	-16.3	-0.9	-1.9
33 participating firms	429.7	0.0	489.0	5.5	83.2	28.7	-176.7	8.5	-45.2

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. Values may not sum precisely due to rounding.

[1] Pre-provision net revenue includes losses from operational-risk events and other real estate owned costs.

[2] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[3] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[4] Trading and counterparty losses include mark-to-market and credit valuation adjustments losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[5] Other losses/gains includes projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[6] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Source: Federal Reserve estimates in the severely adverse scenario.

Table 6. Projected loan losses by type of loan for 2020:Q1–2022:Q1 under the severely adverse scenario: 33 participating firms

Billions of dollars

Firm	Loan losses	First-lien mortgages, domestic	Junior liens and HELOCs, domestic	Commercial and industrial[1]	Commercial real estate, domestic	Credit cards	Other consumer[2]	Other loans[3]
Ally Financial Inc.	8.1	0.2	0.0	2.6	0.2	0.0	5.0	0.2
American Express Company	16.0	0.0	0.0	5.6	0.0	10.0	0.4	0.0
Bank of America Corporation	47.2	2.9	1.0	15.3	4.9	15.6	1.6	5.9
The Bank of New York Mellon Corporation	1.5	0.1	0.0	0.1	0.3	0.0	0.3	0.6
Barclays US LLC	4.5	0.0	0.0	0.0	0.0	4.3	0.1	0.1
BMO Financial Corp.	5.7	0.1	0.1	2.9	1.0	0.1	0.2	1.3
BNP Paribas USA, Inc.	4.8	0.2	0.1	1.5	1.2	0.0	1.1	0.6
Capital One Financial Corporation	41.2	0.0	0.0	4.6	1.3	27.4	6.9	1.0
Citigroup Inc.	47.7	1.5	0.7	8.1	1.3	27.5	3.3	5.2
Citizens Financial Group, Inc.	6.7	0.3	0.5	2.2	1.4	0.3	1.7	0.3
Credit Suisse Holdings (USA), Inc.	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
DB USA Corporation	0.4	0.0	0.0	0.0	0.2	0.0	0.0	0.1
Discover Financial Services	16.3	0.0	0.1	0.0	0.0	14.4	1.7	0.0
Fifth Third Bancorp	7.4	0.3	0.2	3.4	1.7	0.6	0.8	0.4
The Goldman Sachs Group, Inc.	9.8	0.4	0.0	3.7	0.8	0.4	1.0	3.7
HSBC North America Holdings Inc.	3.9	0.4	0.1	1.6	0.9	0.4	0.0	0.6
Huntington Bancshares Incorporated	3.8	0.3	0.2	1.4	0.7	0.1	0.8	0.2
JPMorgan Chase & Co.	64.4	3.1	0.6	19.0	3.8	24.5	2.3	11.1
KeyCorp	5.1	0.2	0.2	2.4	1.0	0.2	0.5	0.5
M&T Bank Corporation	5.0	0.4	0.2	1.2	2.2	0.1	0.7	0.2
Morgan Stanley	5.3	0.5	0.0	1.1	1.0	0.0	0.2	2.5
MUFG Americas Holdings Corporation	5.1	0.9	0.1	1.8	1.1	0.1	0.7	0.5
Northern Trust Corporation	1.8	0.1	0.1	0.3	0.2	0.0	0.0	1.1
The PNC Financial Services Group, Inc.	12.1	0.4	0.3	6.1	2.2	1.3	1.0	0.9
RBC US Group Holdings LLC	3.2	0.3	0.0	1.0	0.9	0.0	0.2	0.7
Regions Financial Corporation	5.3	0.4	0.3	1.9	1.2	0.3	0.7	0.4
Santander Holdings USA, Inc.	8.6	0.2	0.2	0.8	0.7	0.1	6.5	0.3
State Street Corporation	1.2	0.0	0.0	0.3	0.0	0.0	0.0	0.9
TD Group US Holdings LLC	9.6	0.4	0.3	2.2	1.5	3.4	0.9	0.9
Truist Financial Corporation	15.3	1.0	0.5	4.4	3.3	0.7	3.9	1.5
UBS Americas Holding LLC	1.2	0.3	0.0	0.2	0.0	0.0	0.2	0.4
U.S. Bancorp	17.1	1.0	0.6	5.6	2.6	4.5	1.6	1.2
Wells Fargo & Company	47.4	3.4	1.0	12.6	10.0	7.7	4.2	8.6
33 participating firms	432.5	19.4	7.4	114.0	47.6	144.0	48.4	51.7

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. Values may not sum precisely due to rounding.

[1] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[2] Other consumer loans include student loans and automobile loans.

[3] Other loans include international real estate loans.

Source: Federal Reserve estimates in the severely adverse scenario.

Table 7. Projected loan losses by type of loan for 2020:Q1–2022:Q1 under the severely adverse scenario: 33 participating firms

Percent of average balances[1]

Firm	Loan losses	First-lien mortgages, domestic	Junior liens and HELOCs, domestic	Commercial and industrial[2]	Commercial real estate, domestic	Credit cards	Other consumer[3]	Other loans[4]
Ally Financial Inc.	6.4	1.3	4.1	6.4	3.7	0.0	7.7	11.1
American Express Company	10.7	0.0	0.0	11.0	0.0	10.4	16.0	6.0
Bank of America Corporation	4.7	1.2	2.4	5.3	6.6	16.0	2.0	3.0
The Bank of New York Mellon Corporation	2.7	1.5	7.6	4.5	6.2	0.0	11.1	1.7
Barclays US LLC	11.0	0.0	0.0	20.9	5.2	16.1	15.4	0.8
BMO Financial Corp.	6.4	1.4	4.2	7.3	9.1	16.8	3.6	6.2
BNP Paribas USA, Inc.	7.0	1.9	3.5	10.5	8.0	18.7	7.2	5.2
Capital One Financial Corporation	15.5	1.9	4.9	12.3	4.3	23.0	11.4	5.5
Citigroup Inc.	6.7	1.9	6.6	4.7	5.7	16.4	10.2	2.3
Citizens Financial Group, Inc.	5.6	1.7	4.1	6.2	8.1	16.4	6.5	4.0
Credit Suisse Holdings (USA), Inc.	0.9	0.0	0.0	0.0	20.9	0.0	15.4	0.6
DB USA Corporation	3.2	1.4	6.3	1.0	5.8	0.0	6.0	2.5
Discover Financial Services	17.0	1.9	10.0	18.4	12.2	18.7	9.9	5.8
Fifth Third Bancorp	6.8	2.1	3.9	7.5	10.8	23.5	5.2	4.3
The Goldman Sachs Group, Inc.	8.1	25.9	4.1	14.9	11.6	18.7	13.0	4.7
HSBC North America Holdings Inc.	6.0	2.2	7.5	6.1	7.8	26.4	10.2	7.0
Huntington Bancshares Incorporated	5.1	2.7	3.1	6.1	7.7	18.7	4.6	3.8
JPMorgan Chase & Co.	6.6	1.5	2.0	11.3	3.2	16.1	3.9	4.7
KeyCorp	5.3	2.4	3.1	6.5	6.8	18.7	5.1	3.0
M&T Bank Corporation	5.5	2.8	3.4	6.2	6.2	18.7	6.6	4.6
Morgan Stanley	3.5	1.6	4.1	10.4	8.6	0.0	0.8	3.2
MUFG Americas Holdings Corporation	5.7	2.4	2.8	11.5	5.7	18.7	16.2	4.7
Northern Trust Corporation	5.7	1.6	8.3	6.5	5.5	0.0	15.4	6.6
The PNC Financial Services Group, Inc.	5.1	1.3	1.6	6.4	6.3	19.9	4.1	2.7
RBC US Group Holdings LLC	5.2	2.0	3.8	11.9	7.1	18.7	14.1	3.0
Regions Financial Corporation	6.3	2.4	4.4	7.8	9.3	18.7	11.8	3.0
Santander Holdings USA, Inc.	9.3	2.2	3.8	4.8	4.2	17.2	17.3	3.1
State Street Corporation	4.5	0.0	0.0	6.8	1.8	0.0	0.6	4.3
TD Group US Holdings LLC	5.9	1.6	4.1	6.7	5.2	22.2	3.4	3.5
Truist Financial Corporation	5.1	1.8	2.8	6.0	5.8	18.1	7.1	3.5
UBS Americas Holding LLC	2.0	1.8	0.0	4.0	1.4	18.7	0.7	3.7
U.S. Bancorp	5.8	1.5	4.2	6.9	7.1	18.1	3.7	4.8
Wells Fargo & Company	4.9	1.2	2.5	6.7	8.0	18.7	5.6	4.1
33 participating firms	6.3	1.5	3.1	7.2	6.3	17.1	6.5	3.6

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. Values may not sum precisely due to rounding.

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

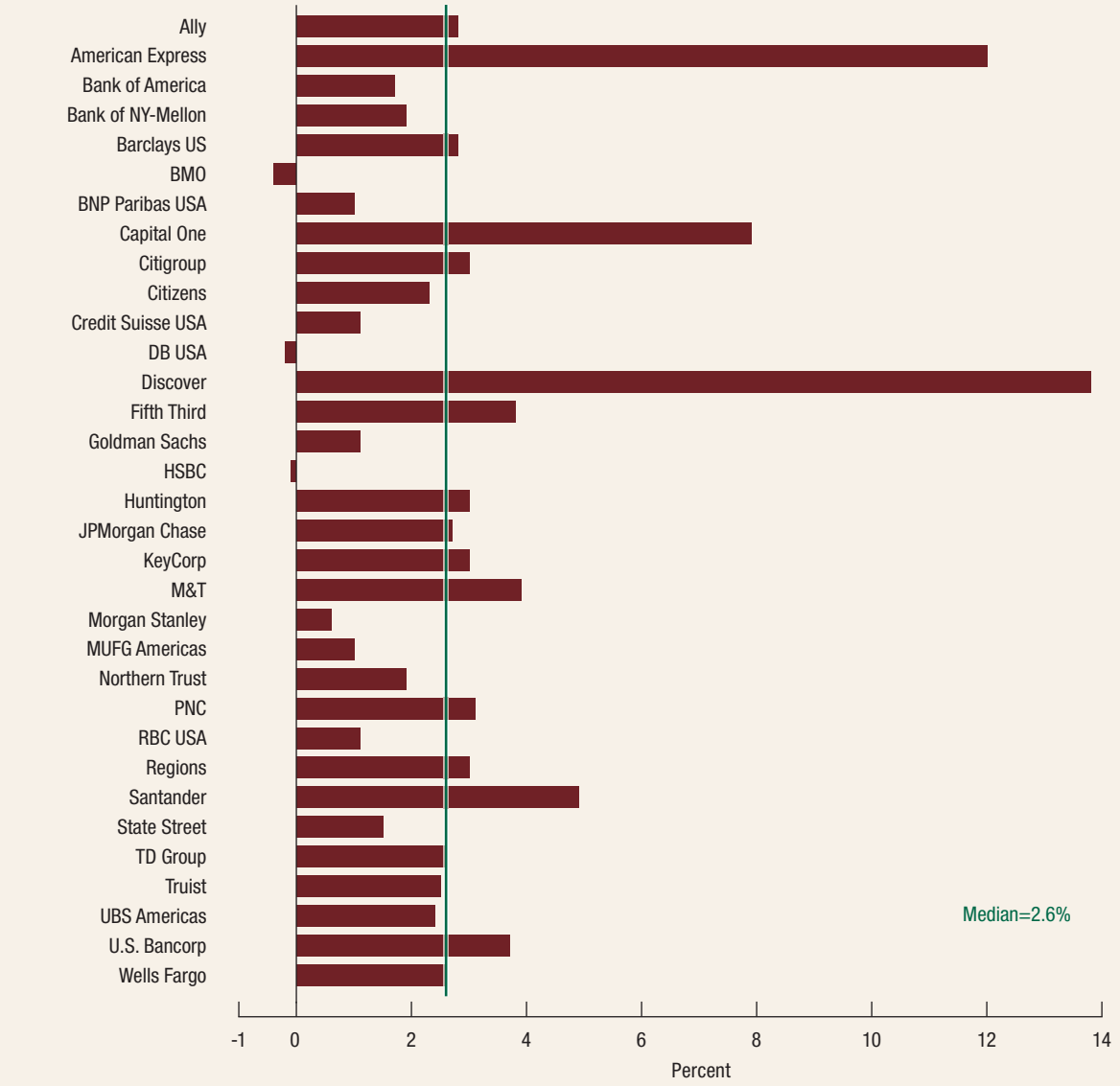
[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

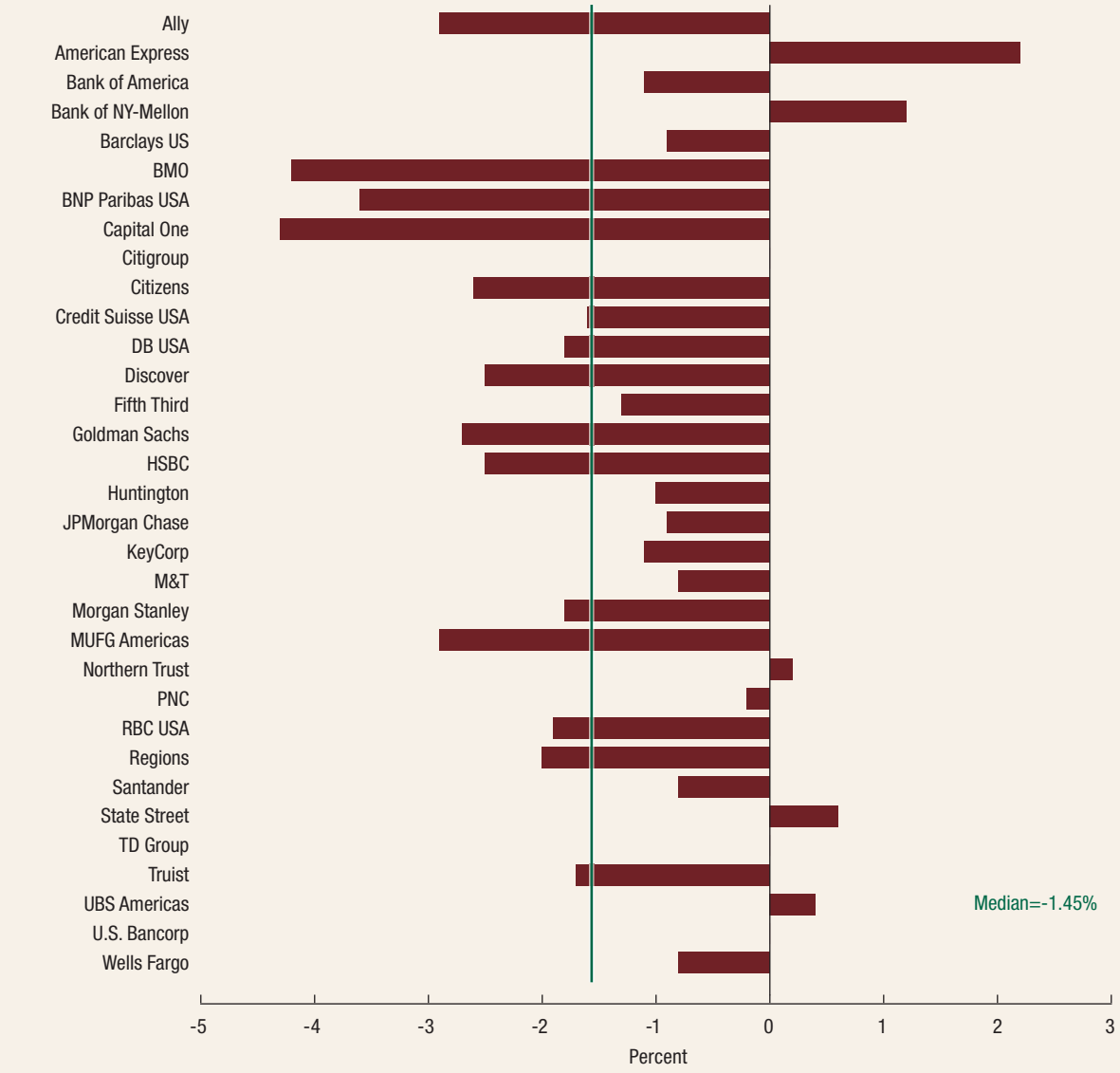
Source: Federal Reserve estimates in the severely adverse scenario.

Figure 15. PPNR rates in the severely adverse scenario



Note: Estimates are for the nine-quarter period from 2020:Q1–2022:Q1 as a percent of average assets.

Figure 16. Pre-tax net income rates in the severely adverse scenario



Note: Estimates are for the nine-quarter period from 2020:Q1–2022:Q1 as a percent of average assets.

Appendix A: Supervisory Scenarios

This appendix includes the severely adverse scenario provided by the Federal Reserve.

It is important to note that the severely adverse scenario is not a forecast but rather a hypothetical scenario designed to assess the strength of banking organizations and their resilience to adverse economic environments.

Table A.1. Historical data: Domestic variables, Q1:2000–Q4:2019

Percent, unless otherwise indicated.

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q1 2000	1.5	4.2	7.9	11.5	4.0	4.0	5.5	6.6	6.7	8.3	8.3	8.7	14,296	102	127	27.0
Q2 2000	7.5	10.2	4.5	6.4	3.9	3.2	5.7	6.5	6.4	8.6	8.3	9.2	13,619	105	126	33.5
Q3 2000	0.5	2.8	4.7	7.3	4.0	3.7	6.0	6.1	6.1	8.2	8.0	9.5	13,613	107	139	21.9
Q4 2000	2.5	4.7	1.4	3.7	3.9	2.9	6.0	5.6	5.8	8.0	7.6	9.5	12,176	110	144	31.7
Q1 2001	-1.1	1.3	3.7	6.5	4.2	3.9	4.8	4.9	5.3	7.5	7.0	8.6	10,646	112	143	32.8
Q2 2001	2.4	4.9	-0.7	1.2	4.4	2.8	3.7	4.9	5.5	7.5	7.1	7.3	11,407	114	142	34.7
Q3 2001	-1.6	-0.1	9.6	9.8	4.8	1.1	3.2	4.6	5.3	7.2	7.0	6.6	9,563	116	144	43.7
Q4 2001	1.1	2.4	-5.0	-4.7	5.5	-0.3	1.9	4.2	5.1	7.1	6.8	5.2	10,708	118	139	35.3
Q1 2002	3.5	4.9	9.3	10.1	5.7	1.3	1.7	4.5	5.4	7.4	7.0	4.8	10,776	120	139	26.1
Q2 2002	2.4	3.9	2.7	5.9	5.8	3.2	1.7	4.5	5.4	7.5	6.8	4.8	9,384	124	140	28.4
Q3 2002	1.8	3.7	-0.3	1.6	5.7	2.2	1.6	3.4	4.5	7.2	6.3	4.8	7,774	127	141	45.1
Q4 2002	0.6	2.9	2.4	4.3	5.9	2.4	1.3	3.1	4.3	6.9	6.1	4.5	8,343	129	144	42.6
Q1 2003	2.2	4.1	0.9	3.8	5.9	4.2	1.2	2.9	4.2	6.2	5.8	4.3	8,052	132	152	34.7
Q2 2003	3.5	4.7	5.0	5.1	6.1	-0.7	1.0	2.6	3.8	5.3	5.5	4.2	9,342	135	151	29.1
Q3 2003	7.0	9.3	6.9	9.6	6.1	3.0	0.9	3.1	4.4	5.6	6.0	4.0	9,650	139	149	22.7
Q4 2003	4.7	7.2	1.1	2.9	5.8	1.5	0.9	3.2	4.4	5.4	5.9	4.0	10,800	143	147	21.1
Q1 2004	2.2	5.2	1.9	5.3	5.7	3.4	0.9	3.0	4.1	5.0	5.6	4.0	11,039	148	153	21.6
Q2 2004	3.1	6.5	4.7	7.6	5.6	3.2	1.1	3.7	4.7	5.7	6.1	4.0	11,145	154	163	20.0
Q3 2004	3.8	6.6	2.6	4.7	5.4	2.6	1.5	3.5	4.4	5.4	5.9	4.4	10,894	159	174	19.3
Q4 2004	4.1	7.3	5.1	8.8	5.4	4.4	2.0	3.5	4.3	5.1	5.7	4.9	11,952	165	178	16.6
Q1 2005	4.5	7.9	-4.6	-2.4	5.3	2.0	2.5	3.9	4.4	5.2	5.8	5.4	11,637	172	179	14.7
Q2 2005	1.9	4.7	3.9	6.4	5.1	2.7	2.9	3.9	4.2	5.4	5.7	5.9	11,857	179	185	17.7
Q3 2005	3.6	7.4	1.2	5.6	5.0	6.2	3.4	4.0	4.3	5.4	5.8	6.4	12,283	185	190	14.2
Q4 2005	2.5	5.9	5.2	8.6	5.0	3.8	3.8	4.4	4.6	5.8	6.2	7.0	12,497	190	198	16.5
Q1 2006	5.4	8.4	8.0	10.2	4.7	2.1	4.4	4.6	4.7	5.8	6.2	7.4	13,122	193	204	14.6
Q2 2006	0.9	4.4	1.0	4.3	4.6	3.7	4.7	5.0	5.2	6.3	6.6	7.9	12,809	193	212	23.8
Q3 2006	0.6	3.5	1.0	4.0	4.6	3.8	4.9	4.8	5.0	6.3	6.6	8.3	13,323	191	220	18.6
Q4 2006	3.5	5.0	5.4	4.7	4.4	-1.6	4.9	4.6	4.7	6.0	6.2	8.3	14,216	191	222	12.7
Q1 2007	0.9	5.0	3.4	7.4	4.5	4.0	5.0	4.6	4.8	6.0	6.2	8.3	14,354	189	230	19.6
Q2 2007	2.3	5.0	1.0	4.3	4.5	4.6	4.7	4.7	4.9	6.2	6.4	8.3	15,163	183	239	18.9
Q3 2007	2.2	4.3	0.4	2.6	4.7	2.6	4.3	4.5	4.8	6.5	6.6	8.2	15,318	178	247	30.8

(continued)

Table A.1.—*continued*

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q4 2007	2.5	4.1	0.3	4.3	4.8	5.0	3.4	3.8	4.4	6.3	6.2	7.5	14,754	172	247	31.1
Q1 2008	-2.3	-0.8	1.1	4.6	5.0	4.4	2.1	2.8	3.9	6.4	5.9	6.2	13,284	165	235	32.2
Q2 2008	2.1	4.3	7.5	12.0	5.3	5.3	1.6	3.2	4.1	6.7	6.1	5.1	13,016	157	224	24.1
Q3 2008	-2.1	0.8	-8.1	-4.3	6.0	6.3	1.5	3.1	4.1	7.1	6.3	5.0	11,826	150	230	46.7
Q4 2008	-8.4	-7.2	3.5	-2.5	6.9	-8.9	0.3	2.2	3.7	9.7	5.8	4.1	9,057	143	219	80.9
Q1 2009	-4.4	-4.5	-1.7	-4.0	8.3	-2.7	0.2	1.9	3.2	9.1	5.1	3.3	8,044	138	208	56.7
Q2 2009	-0.6	-1.2	4.4	6.3	9.3	2.1	0.2	2.3	3.7	8.1	5.0	3.3	9,343	138	180	42.3
Q3 2009	1.5	1.9	-4.4	-1.8	9.6	3.5	0.2	2.5	3.8	6.5	5.2	3.3	10,813	139	161	31.3
Q4 2009	4.5	5.9	-0.1	3.0	9.9	3.2	0.1	2.3	3.7	5.8	4.9	3.3	11,385	139	158	30.7
Q1 2010	1.5	2.6	2.3	3.7	9.8	0.6	0.1	2.4	3.9	5.6	5.0	3.3	12,033	139	154	27.3
Q2 2010	3.7	5.7	6.8	7.2	9.6	-0.1	0.1	2.3	3.6	5.4	4.9	3.3	10,646	139	166	45.8
Q3 2010	3.0	4.2	2.9	3.6	9.5	1.2	0.2	1.6	2.9	4.8	4.4	3.3	11,814	136	167	32.9
Q4 2010	2.0	4.3	2.3	4.8	9.5	3.3	0.1	1.5	3.0	4.7	4.4	3.3	13,132	135	167	23.5
Q1 2011	-1.0	1.2	4.1	7.8	9.0	4.3	0.1	2.1	3.5	5.0	4.8	3.3	13,909	133	171	29.4
Q2 2011	2.9	5.6	-0.9	3.1	9.1	4.6	0.0	1.8	3.3	4.8	4.7	3.3	13,844	133	174	22.7
Q3 2011	-0.1	2.5	1.8	3.7	9.0	2.6	0.0	1.1	2.5	4.5	4.3	3.3	11,677	134	169	48.0
Q4 2011	4.7	5.4	1.2	2.6	8.6	1.8	0.0	1.0	2.1	4.8	4.0	3.3	13,019	134	176	45.5
Q1 2012	3.2	5.8	7.7	10.7	8.3	2.3	0.1	0.9	2.1	4.4	3.9	3.3	14,628	135	181	23.0
Q2 2012	1.7	3.3	3.7	4.7	8.2	0.8	0.1	0.8	1.8	4.3	3.8	3.3	14,100	138	180	26.7
Q3 2012	0.5	2.6	-2.8	-1.7	8.0	1.8	0.1	0.7	1.6	3.9	3.6	3.3	14,895	141	184	20.5
Q4 2012	0.5	2.5	11.5	14.1	7.8	2.7	0.1	0.7	1.7	3.6	3.4	3.3	14,835	144	184	22.7
Q1 2013	3.6	5.3	-15.1	-13.9	7.7	1.6	0.1	0.8	1.9	3.7	3.5	3.3	16,396	148	187	19.0
Q2 2013	0.5	1.7	3.0	3.3	7.5	-0.4	0.1	0.9	2.0	3.8	3.7	3.3	16,771	152	197	20.5
Q3 2013	3.2	5.2	1.7	3.4	7.2	2.2	0.0	1.5	2.7	4.7	4.4	3.3	17,718	155	207	17.0
Q4 2013	3.2	5.7	1.6	3.3	6.9	1.5	0.1	1.4	2.8	4.5	4.3	3.3	19,413	158	211	20.3
Q1 2014	-1.1	0.5	5.7	7.7	6.7	2.5	0.0	1.6	2.8	4.4	4.4	3.3	19,711	160	210	21.4
Q2 2014	5.5	7.9	5.6	7.6	6.2	2.1	0.0	1.7	2.7	4.0	4.2	3.3	20,569	161	215	17.0
Q3 2014	5.0	6.8	4.8	5.9	6.1	1.0	0.0	1.7	2.5	3.9	4.1	3.3	20,459	164	219	17.0
Q4 2014	2.3	2.9	5.4	4.9	5.7	-1.0	0.0	1.6	2.3	4.0	4.0	3.3	21,425	166	227	26.3
Q1 2015	3.2	3.0	4.6	2.8	5.5	-2.6	0.0	1.5	2.0	3.9	3.7	3.3	21,708	168	241	22.4
Q2 2015	3.0	5.3	3.0	5.1	5.4	2.8	0.0	1.5	2.2	3.9	3.8	3.3	21,631	170	245	18.9
Q3 2015	1.3	2.8	3.0	4.1	5.1	1.6	0.0	1.6	2.3	4.3	4.0	3.3	19,959	173	247	40.7
Q4 2015	0.1	0.1	1.3	0.9	5.0	0.0	0.1	1.6	2.2	4.4	3.9	3.3	21,101	175	247	24.4
Q1 2016	2.0	1.6	2.7	2.9	4.9	-0.2	0.3	1.4	2.0	4.5	3.7	3.5	21,179	177	239	28.1
Q2 2016	1.9	4.7	-0.4	2.0	4.9	2.9	0.3	1.3	1.8	3.9	3.6	3.5	21,622	179	245	25.8
Q3 2016	2.2	3.7	1.8	3.5	4.9	1.9	0.3	1.2	1.6	3.5	3.4	3.5	22,469	182	257	18.1
Q4 2016	2.0	4.0	2.4	4.3	4.8	2.6	0.4	1.7	2.2	3.9	3.8	3.5	23,277	185	260	22.5
Q1 2017	2.3	4.2	4.9	7.1	4.6	2.8	0.6	2.0	2.5	4.0	4.2	3.8	24,508	187	257	13.1
Q2 2017	2.2	3.5	2.7	3.6	4.4	0.4	0.9	1.8	2.3	3.8	4.0	4.0	25,125	190	265	16.0
Q3 2017	3.2	5.4	2.3	4.1	4.3	2.2	1.0	1.8	2.3	3.7	3.9	4.3	26,149	193	270	16.0
Q4 2017	3.5	6.4	3.7	6.5	4.1	3.1	1.2	2.1	2.4	3.7	3.9	4.3	27,673	196	279	13.1
Q1 2018	2.6	5.0	6.9	9.6	4.1	3.2	1.6	2.5	2.8	4.1	4.3	4.5	27,383	199	274	37.3
Q2 2018	3.5	7.1	2.7	4.9	3.9	2.1	1.8	2.8	2.9	4.5	4.5	4.8	28,314	202	288	23.6
Q3 2018	2.9	4.8	3.3	4.9	3.8	2.0	2.0	2.8	2.9	4.5	4.6	5.0	30,190	203	279	16.1
Q4 2018	1.1	2.9	2.8	4.2	3.8	1.5	2.3	2.9	3.0	4.8	4.8	5.3	25,725	205	280	36.1
Q1 2019	3.1	3.9	4.5	4.9	3.9	0.9	2.4	2.5	2.7	4.5	4.4	5.5	29,194	206	289	25.5
Q2 2019	2.0	4.7	1.5	3.9	3.6	2.9	2.3	2.1	2.4	4.0	4.0	5.5	30,244	208	303	20.6
Q3 2019	2.1	3.8	2.9	4.5	3.6	1.8	2.0	1.7	1.8	3.4	3.7	5.3	30,442	210	311	24.6
Q4 2019	2.0	4.0	2.1	4.5	3.5	2.6	1.6	1.6	1.8	3.3	3.7	4.8	33,035	212	316	20.6

Note: Refer to Notes Regarding Scenario Variables for more information on the definitions and sources of historical observations of the variables in the table.

Table A.2. Historical data: International variables, Q1:2000–Q4:2019

Percent, unless otherwise indicated.

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2000	5.0	2.6	0.957	7.3	1.5	100.0	7.4	-0.5	102.7	3.1	0.5	1.592
Q2 2000	3.5	0.9	0.955	6.9	-0.3	100.7	1.1	-1.1	106.1	2.3	0.4	1.513
Q3 2000	2.3	3.4	0.884	7.8	2.2	101.4	0.3	-0.3	107.9	1.1	1.0	1.479
Q4 2000	2.7	2.8	0.939	3.6	2.5	105.2	4.0	-1.1	114.4	0.6	1.9	1.496
Q1 2001	4.0	1.2	0.879	4.8	1.7	106.1	2.1	0.7	125.5	5.8	0.1	1.419
Q2 2001	0.4	4.0	0.847	5.3	2.1	106.2	-1.9	-2.3	124.7	3.4	3.1	1.408
Q3 2001	0.6	1.5	0.910	4.9	1.3	106.5	-4.1	-0.5	119.2	3.2	1.0	1.469
Q4 2001	0.5	1.7	0.890	8.4	0.0	106.9	-1.2	-1.9	131.0	1.5	0.0	1.454
Q1 2002	0.2	3.1	0.872	7.8	0.5	107.4	0.7	-1.1	132.7	1.8	1.9	1.425
Q2 2002	2.3	2.0	0.986	8.1	1.1	104.8	3.0	0.1	119.9	2.0	0.9	1.525
Q3 2002	1.7	1.6	0.988	7.3	1.5	105.5	1.2	-0.4	121.7	3.1	1.4	1.570
Q4 2002	0.7	2.3	1.049	6.7	0.8	104.5	1.1	-0.8	118.8	3.5	1.9	1.610
Q1 2003	-1.4	3.3	1.090	6.6	3.6	105.5	0.3	0.0	118.1	2.7	1.6	1.579
Q2 2003	0.4	0.5	1.150	1.9	1.1	104.0	2.6	0.3	119.9	3.8	0.3	1.653
Q3 2003	2.3	2.1	1.165	14.6	0.1	102.6	1.5	-0.5	111.4	4.2	1.7	1.662
Q4 2003	3.0	2.3	1.260	12.8	5.5	103.4	4.5	-1.0	107.1	3.4	1.6	1.784
Q1 2004	2.0	2.2	1.229	5.8	4.0	101.4	2.8	0.8	104.2	2.2	1.3	1.840
Q2 2004	2.4	2.6	1.218	7.1	4.1	102.8	0.1	-0.4	109.4	1.4	1.0	1.813
Q3 2004	1.0	2.0	1.242	8.2	4.1	102.7	2.5	-0.1	110.2	0.7	1.1	1.809
Q4 2004	1.5	2.4	1.354	6.3	0.8	98.9	-0.8	1.9	102.7	1.3	2.4	1.916
Q1 2005	0.9	1.4	1.297	10.6	2.9	98.5	2.0	-1.2	107.2	3.4	2.5	1.889
Q2 2005	2.5	2.2	1.210	8.7	1.5	98.9	2.7	-1.0	110.9	5.1	1.9	1.793
Q3 2005	3.0	3.1	1.206	9.4	2.4	98.5	3.9	-1.0	113.3	4.6	2.7	1.770
Q4 2005	2.5	2.5	1.184	11.6	1.6	98.1	0.7	0.1	117.9	6.1	1.4	1.719
Q1 2006	3.6	1.7	1.214	10.9	2.4	96.7	0.7	1.2	117.5	1.6	1.9	1.739
Q2 2006	4.4	2.5	1.278	7.2	3.2	96.6	1.0	0.4	114.5	1.0	3.0	1.849
Q3 2006	2.4	2.0	1.269	10.1	2.2	96.2	-0.7	0.4	118.0	0.4	3.3	1.872
Q4 2006	4.8	0.9	1.320	11.4	3.6	94.5	5.3	-0.5	119.0	2.1	2.6	1.959
Q1 2007	2.5	2.3	1.337	13.9	3.6	93.9	3.0	-0.7	117.6	3.8	2.6	1.969
Q2 2007	2.8	2.3	1.352	10.6	4.9	91.8	0.5	0.4	123.4	2.5	1.7	2.006
Q3 2007	1.8	2.1	1.422	8.6	7.6	90.5	-2.0	0.3	115.0	3.1	0.2	2.039
Q4 2007	2.3	4.9	1.460	13.1	5.9	89.4	1.9	2.2	111.7	1.9	4.0	1.984
Q1 2008	1.8	4.2	1.581	7.1	8.1	88.0	1.1	1.2	99.9	2.2	3.7	1.986
Q2 2008	-1.4	3.2	1.575	6.0	6.3	88.7	-1.5	1.8	106.2	-2.2	5.7	1.991
Q3 2008	-2.2	3.2	1.408	2.9	3.0	91.6	-5.0	3.4	105.9	-6.1	5.8	1.780
Q4 2008	-6.7	-1.4	1.392	0.6	-1.1	92.3	-9.4	-2.1	90.8	-8.0	0.5	1.462
Q1 2009	-12.0	-1.0	1.326	4.2	-1.4	94.3	-17.8	-3.6	99.2	-6.8	-0.1	1.430
Q2 2009	-0.1	0.0	1.402	15.0	2.3	92.3	8.6	-1.6	96.4	-1.0	2.2	1.645
Q3 2009	1.5	1.1	1.463	12.6	4.1	91.3	0.1	-1.4	89.5	0.3	3.5	1.600
Q4 2009	2.1	1.6	1.433	9.7	5.0	90.7	5.7	-1.5	93.1	1.2	3.0	1.617
Q1 2010	1.5	1.8	1.353	9.6	4.4	89.8	3.5	1.0	93.4	2.6	4.0	1.519
Q2 2010	4.0	1.9	1.229	9.5	3.4	91.1	5.5	-1.4	88.5	4.1	3.2	1.495
Q3 2010	1.8	1.6	1.360	8.8	4.2	88.4	7.4	-1.9	83.5	2.7	2.3	1.573
Q4 2010	2.5	2.6	1.327	9.6	7.5	87.4	-3.2	1.3	81.7	0.3	4.0	1.539
Q1 2011	3.4	3.7	1.418	9.6	6.2	86.5	-5.5	-0.1	82.8	2.5	6.7	1.605
Q2 2011	0.0	3.1	1.452	6.9	5.4	85.3	-2.6	-0.7	80.6	0.4	4.7	1.607
Q3 2011	0.4	1.3	1.345	5.5	5.3	87.4	10.3	0.3	77.0	1.2	3.7	1.562
Q4 2011	-1.4	3.5	1.297	6.6	3.0	87.3	-0.6	-0.6	77.0	0.7	3.4	1.554
Q1 2012	-0.9	2.9	1.333	7.6	3.2	86.3	4.9	2.2	82.4	2.6	2.1	1.599
Q2 2012	-1.3	2.2	1.267	5.8	3.9	88.1	-2.8	-1.4	79.8	-0.3	2.0	1.569

(continued)

Table A.2.—*continued*

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q3 2012	-0.4	1.5	1.286	6.6	2.2	86.3	-1.5	-1.9	77.9	5.0	2.2	1.613
Q4 2012	-1.7	2.5	1.319	7.3	3.5	86.0	1.0	0.1	86.6	-0.6	4.0	1.626
Q1 2013	-1.5	1.3	1.282	6.7	4.6	86.3	5.0	0.6	94.2	2.6	2.9	1.519
Q2 2013	2.1	0.2	1.301	6.2	2.8	87.2	3.2	0.0	99.2	2.2	1.7	1.521
Q3 2013	1.2	1.1	1.354	7.7	3.5	86.6	3.4	2.7	98.3	3.8	2.1	1.618
Q4 2013	0.9	0.5	1.378	7.0	4.0	85.8	-0.2	2.6	105.3	2.1	1.5	1.657
Q1 2014	1.9	1.0	1.378	5.8	1.4	86.9	4.0	1.0	103.0	2.7	1.9	1.668
Q2 2014	0.8	-0.4	1.369	7.3	2.6	86.6	-7.4	8.3	101.3	2.6	1.4	1.711
Q3 2014	1.9	0.1	1.263	6.6	2.4	87.0	0.4	1.8	109.7	2.3	0.8	1.622
Q4 2014	1.7	-0.1	1.210	6.1	1.1	88.1	2.0	-0.9	119.9	2.3	-0.4	1.558
Q1 2015	3.0	-0.7	1.074	5.7	0.9	88.1	5.5	0.5	120.0	2.1	-1.1	1.485
Q2 2015	1.6	2.4	1.115	6.8	2.7	88.4	0.5	0.8	122.1	2.9	0.7	1.573
Q3 2015	1.9	-0.2	1.116	6.6	2.7	91.1	-0.2	0.4	119.8	1.7	0.7	1.512
Q4 2015	1.7	-0.4	1.086	6.1	1.3	92.3	-1.6	-0.9	120.3	3.0	0.0	1.475
Q1 2016	2.4	-1.4	1.139	7.5	3.1	91.8	1.9	-0.4	112.4	0.7	0.0	1.438
Q2 2016	1.1	1.4	1.103	7.3	2.8	94.2	0.7	0.0	102.8	2.1	0.7	1.324
Q3 2016	1.8	1.2	1.124	6.4	1.1	93.7	1.1	-0.5	101.2	1.8	2.1	1.302
Q4 2016	3.1	1.7	1.055	5.9	1.9	97.6	0.9	2.0	116.8	2.6	2.0	1.234
Q1 2017	2.6	2.7	1.070	6.3	1.4	95.2	4.6	-0.3	111.4	2.3	3.8	1.254
Q2 2017	2.9	0.4	1.141	6.4	1.9	94.8	1.6	0.3	112.4	1.0	3.1	1.300
Q3 2017	3.1	1.0	1.181	7.1	2.2	93.7	2.7	0.5	112.6	1.4	2.3	1.340
Q4 2017	3.2	1.5	1.202	6.0	2.9	91.1	1.2	1.5	112.7	1.6	2.9	1.353
Q1 2018	1.1	2.2	1.232	6.7	2.8	89.1	-1.9	2.7	106.2	0.2	2.6	1.403
Q2 2018	1.4	2.1	1.168	6.2	1.3	93.5	2.1	-1.8	110.7	2.1	1.9	1.320
Q3 2018	0.8	2.6	1.162	5.5	2.9	97.2	-2.4	2.4	113.5	2.4	2.7	1.305
Q4 2018	1.4	0.8	1.146	5.6	1.6	96.2	1.0	0.3	109.7	0.9	1.9	1.276
Q1 2019	1.8	0.3	1.123	5.4	1.4	94.8	2.6	0.4	110.7	2.5	1.1	1.303
Q2 2019	0.6	2.0	1.137	5.2	4.1	96.4	2.0	0.1	107.8	-0.7	2.5	1.270
Q3 2019	1.1	0.7	1.091	4.5	3.6	99.8	1.8	0.5	108.1	1.7	1.8	1.231
Q4 2019	1.1	1.1	1.123	5.4	7.1	98.0	0.8	0.6	108.7	1.1	0.2	1.327

Note: Refer to Notes Regarding Scenario Variables for more information on the definitions and sources of historical observations of the variables in the table.

Table A.3. Supervisory baseline scenario: Domestic variables, Q1:2020–Q1:2023

Percent, unless otherwise indicated.

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q1 2020	1.6	3.7	2.2	4.1	3.6	2.2	1.6	1.7	1.8	3.3	3.6	4.8	33,381	213	319	22.8
Q2 2020	1.9	4.0	2.0	3.8	3.6	2.1	1.5	1.7	1.9	3.4	3.6	4.7	33,754	214	323	24.5
Q3 2020	1.8	3.9	1.9	3.6	3.6	2.0	1.5	1.7	1.9	3.5	3.6	4.7	34,123	216	327	25.3
Q4 2020	1.9	4.0	2.1	3.7	3.7	1.9	1.4	1.8	2.0	3.5	3.5	4.6	34,508	217	331	25.8
Q1 2021	1.9	4.0	2.2	4.0	3.7	2.1	1.4	1.8	2.0	3.6	3.6	4.6	34,895	218	335	25.9
Q2 2021	1.9	4.1	2.0	3.8	3.7	2.1	1.4	1.9	2.1	3.7	3.6	4.6	35,292	220	339	26.1
Q3 2021	1.9	4.1	2.0	3.8	3.8	2.1	1.5	2.0	2.1	3.8	3.7	4.6	35,694	221	344	26.3
Q4 2021	2.0	4.2	2.0	3.8	3.8	2.1	1.5	2.0	2.2	3.8	3.7	4.6	36,107	222	348	26.3
Q1 2022	2.0	4.2	2.0	3.9	3.9	2.3	1.6	2.1	2.2	3.9	3.8	4.7	36,526	224	351	26.6
Q2 2022	2.0	4.1	2.0	3.9	3.9	2.2	1.6	2.1	2.4	4.0	3.9	4.7	36,947	226	353	26.4
Q3 2022	2.0	4.1	2.0	3.9	3.9	2.2	1.7	2.1	2.5	4.2	4.0	4.8	37,373	228	356	26.4
Q4 2022	2.0	4.1	2.0	3.9	3.9	2.2	1.7	2.2	2.6	4.3	4.1	4.8	37,804	229	359	26.5
Q1 2023	2.0	4.1	2.0	3.9	3.9	2.2	1.8	2.2	2.7	4.3	4.1	4.8	38,240	231	361	26.5

Note: Refer to Notes Regarding Scenario Variables for more information on the definitions and sources of historical observations of the variables in the table.

Table A.4. Supervisory baseline scenario: International variables, Q1:2020–Q1:2023

Percent, unless otherwise indicated.

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2020	1.1	1.3	1.127	5.3	3.0	98.3	0.8	0.6	108.5	1.1	1.7	1.330
Q2 2020	1.1	1.3	1.132	5.3	2.7	98.6	0.7	0.7	108.4	1.2	1.8	1.333
Q3 2020	1.1	1.4	1.136	5.3	2.4	98.8	0.7	0.7	108.2	1.2	1.8	1.336
Q4 2020	1.2	1.4	1.141	5.3	2.4	99.1	0.7	0.7	108.1	1.3	1.8	1.339
Q1 2021	1.3	1.4	1.149	5.4	2.5	99.0	0.7	0.7	108.0	1.3	1.8	1.346
Q2 2021	1.3	1.4	1.157	5.4	2.7	99.0	0.6	0.8	107.9	1.3	1.8	1.353
Q3 2021	1.3	1.5	1.165	5.4	2.8	98.9	0.6	0.8	107.8	1.4	1.9	1.360
Q4 2021	1.3	1.5	1.173	5.4	2.9	98.8	0.6	0.8	107.7	1.4	1.9	1.366
Q1 2022	1.3	1.6	1.173	5.4	3.0	98.8	0.6	0.8	107.7	1.4	1.9	1.366
Q2 2022	1.2	1.6	1.173	5.3	3.0	98.8	0.6	0.9	107.7	1.4	1.9	1.366
Q3 2022	1.2	1.6	1.173	5.3	3.1	98.8	0.6	0.9	107.7	1.4	1.9	1.366
Q4 2022	1.2	1.7	1.173	5.3	3.1	98.8	0.6	0.9	107.7	1.4	1.9	1.366
Q1 2023	1.2	1.7	1.173	5.3	3.1	98.8	0.6	0.9	107.7	1.4	1.9	1.366

Note: Refer to Notes Regarding Scenario Variables for more information on the definitions and sources of historical observations of the variables in the table.

Table A.5. Supervisory severely adverse scenario: Domestic variables, Q1:2020–Q1:2023
Percent, unless otherwise indicated.

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q1 2020	-5.3	-3.8	-5.5	-4.2	4.5	1.7	0.1	0.5	0.7	5.2	3.9	3.4	22,262	205	308	69.1
Q2 2020	-9.9	-8.7	-7.3	-6.6	6.1	1.1	0.1	0.6	0.9	6.1	4.2	3.4	18,623	198	299	70.0
Q3 2020	-7.6	-6.5	-5.0	-4.4	7.4	1.0	0.1	0.6	1.0	6.5	4.4	3.3	16,910	191	288	66.0
Q4 2020	-5.3	-4.1	-3.4	-2.7	8.4	1.1	0.1	0.7	1.1	6.6	4.4	3.3	16,518	182	272	60.3
Q1 2021	-4.1	-2.9	-2.7	-1.8	9.2	1.3	0.1	0.8	1.2	6.2	4.4	3.3	17,151	174	255	51.2
Q2 2021	-1.6	-0.3	-1.5	-0.4	9.7	1.4	0.1	0.9	1.3	5.9	4.3	3.3	18,193	166	239	44.9
Q3 2021	-0.4	1.1	-0.7	0.4	10.0	1.5	0.1	1.0	1.4	5.6	4.2	3.3	19,440	158	222	40.1
Q4 2021	2.9	4.4	1.0	2.4	9.9	1.7	0.1	1.0	1.5	5.2	4.1	3.2	20,915	154	211	36.2
Q1 2022	3.7	5.2	1.7	3.2	9.7	1.8	0.1	1.1	1.6	4.9	4.0	3.2	22,662	153	205	32.7
Q2 2022	4.2	5.6	1.9	3.3	9.5	1.8	0.1	1.2	1.8	4.6	4.0	3.2	24,497	154	205	29.4
Q3 2022	4.5	5.9	2.0	3.5	9.2	1.8	0.1	1.3	1.9	4.4	3.9	3.2	26,589	156	206	26.2
Q4 2022	4.7	6.1	2.1	3.6	8.8	1.8	0.1	1.4	2.1	4.1	3.9	3.2	28,905	158	208	23.0
Q1 2023	4.7	6.1	2.1	3.5	8.5	1.7	0.1	1.5	2.2	3.7	3.8	3.2	31,454	161	211	20.0

Note: Refer to Notes Regarding Scenario Variables for more information on the definitions and sources of historical observations of the variables in the table.

Table A.6. Supervisory severely adverse scenario: International variables, Q1:2020–Q1:2023
Percent, unless otherwise indicated.

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2020	-6.9	1.2	1.019	-1.5	3.7	104.1	-4.5	-0.1	107.5	-5.1	1.3	1.246
Q2 2020	-8.0	0.7	0.989	-1.2	2.4	107.9	-7.2	-0.7	106.2	-6.2	0.7	1.199
Q3 2020	-5.9	0.4	0.997	0.9	0.9	109.3	-8.3	-1.5	106.4	-5.0	0.1	1.194
Q4 2020	-4.0	-0.2	1.008	2.4	-1.6	109.7	-8.8	-2.4	105.0	-3.6	0.0	1.188
Q1 2021	-1.9	-0.6	1.020	4.7	-2.2	107.9	-3.3	-2.6	107.3	-1.7	-0.1	1.198
Q2 2021	-0.3	-0.8	1.033	5.7	-2.3	106.4	-1.5	-2.4	107.1	-0.2	-0.1	1.207
Q3 2021	0.8	-0.7	1.045	6.1	-2.0	104.9	-0.6	-2.1	107.1	0.8	0.1	1.216
Q4 2021	1.5	-0.4	1.059	6.2	-1.5	103.7	0.0	-1.5	107.2	1.6	0.4	1.224
Q1 2022	1.8	-0.1	1.065	6.1	-0.9	102.6	0.5	-1.2	107.4	2.1	0.6	1.225
Q2 2022	2.0	0.1	1.072	6.1	-0.4	101.8	0.8	-0.8	107.5	2.3	0.8	1.227
Q3 2022	2.0	0.3	1.078	6.1	0.1	101.1	1.0	-0.6	107.7	2.4	1.0	1.230
Q4 2022	1.9	0.5	1.085	6.2	0.6	100.5	1.1	-0.4	107.7	2.4	1.2	1.233
Q1 2023	1.8	0.7	1.091	6.3	0.9	100.0	1.0	-0.2	107.6	2.4	1.3	1.237

Note: Refer to Notes Regarding Scenario Variables for more information on the definitions and sources of historical observations of the variables in the table.

Notes Regarding Scenario Variables

Sources for data through 2019:Q4 (as released through January 18, 2020). The 2019:Q4 values of variables marked with an asterisk (*) are projected.

***U.S. real GDP growth**: Percent change in real gross domestic product, chained (2009) dollars, expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.1.6, line 1).

***U.S. nominal GDP growth:** Percent change in gross domestic product (current dollars), expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.1.5, line 1).

***U.S. real disposable income growth:** Percent change in disposable personal income (current dollars) divided by the price index for personal consumption expenditures, expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 2.1, line 27, and NIPA table 1.1.4, line 2).

***U.S. nominal disposable income growth:** Percent change in disposable personal income (current dollars), expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 2.1, line 27).

U.S. unemployment rate: Quarterly average of seasonally-adjusted monthly data for the unemployment rate of the civilian, noninstitutional population of age 16 years and older, Bureau of Labor Statistics (series LNS14000000).

U.S. CPI inflation: Percent change in the quarterly average of seasonally adjusted monthly data for the CPI for all urban consumers (CPI-U), expressed at an annualized rate, Bureau of Labor Statistics (series CUSR0000SA0).

U.S. 3-month Treasury rate: Quarterly average of 3-month Treasury bill secondary market rate on a discount basis, H.15 Release, Selected Interest Rates, Federal Reserve Board (series RIFSGFSM03_N.B).

U.S. 5-year Treasury yield: Quarterly average of the yield on 5-year U.S. Treasury notes, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model; see Lars E. O. Svensson (1995), "Estimating Forward Interest Rates with the Extended Nelson-Siegel Method," *Quarterly Review*, no. 3, Sveriges Riksbank, pp. 13–26.

U.S. 10-year Treasury yield: Quarterly average of the yield on 10-year U.S. Treasury notes, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model; see id.

U.S. BBB corporate yield: Quarterly average of ICE BofAML US Corporate 7-10 Year Yield-to-Maturity Index, ICE Data Indices, LLC, used with permission. (C4A4 series).

U.S. mortgage rate: Quarterly average of weekly series for the interest rate of a conventional, conforming, 30-year fixed-rate mortgage, obtained from the Primary Mortgage Market Survey of the Federal Home Loan Mortgage Corporation.

U.S. prime rate: Quarterly average of monthly series, H.15 Release (Selected Interest Rates), Federal Reserve Board (series RIFSPBLP_N.M).

U.S. Dow Jones Total Stock Market (Float Cap) Index: End-of-quarter value via Bloomberg Finance L.P.

***U.S. House Price Index**: Price Index for Owner-Occupied Real Estate, CoreLogic National, Z.1 Release (Financial Accounts of the United States), Federal Reserve Board (series FL075035243.Q).

***U.S. Commercial Real Estate Price Index:** Commercial Real Estate Price Index, Z.1 Release (Financial Accounts of the United States), Federal Reserve Board (series FL075035503.Q divided by 1000).

U.S. Market Volatility Index (VIX): VIX converted to quarterly frequency using the maximum close-of-day value in any quarter, Chicago Board Options Exchange via Bloomberg Finance LP.

***Euro area real GDP growth:** Percent change in real gross domestic product at an annualized rate, staff calculations based on Statistical Office of the European Communities via Haver, extended back using ECB Area Wide Model dataset (ECB Working Paper series no. 42).

Euro area inflation: Percent change in the quarterly average of the harmonized index of consumer prices at an annualized rate, staff calculations based on Statistical Office of the European Communities via Haver.

***Developing Asia real GDP growth:** Percent change in real gross domestic product at an annualized rate,

staff calculations based on data from Bank of Korea via Haver; National Bureau of Statistics of China via Haver; Indian Central Statistics Office via Haver; Census and Statistics Department of Hong Kong via Haver; and Taiwan Directorate-General of Budget, Accounting and Statistics via Haver.

***Developing Asia inflation:** Percent change in the quarterly average of the consumer price index, or local equivalent, at an annualized rate, staff calculations based on data from National Bureau of Statistics of China via Haver; Indian Ministry of Statistics and Programme Implementation via Haver; Labour Bureau of India via Haver; National Statistical Office of the Republic of Korea via Haver; Census and Statistics Department of Hong Kong via Haver; and Taiwan Directorate-General of Budget, Accounting and Statistics via Haver.

***Japan real GDP growth:** Percent change in gross domestic product at an annualized rate from 1980 to present and percent change in gross domestic expenditure at an annualized rate prior to 1980, Cabinet Office of Japan via Haver.

Japan inflation: Percent change in the quarterly average of the consumer price index at an annualized rate, based on data from the Ministry of Internal Affairs and Communications via Haver.

***U.K. real GDP growth:** Percent change in gross domestic product at an annualized rate, U.K. Office for National Statistics via Haver.

U.K. inflation: Percent change in the quarterly average of the consumer price index at an annualized rate from 1988 to present and percent change in the quarterly average of the retail prices index prior to 1988, staff calculations based on data from the U.K. Office for National Statistics via Haver.

Exchange rates: End-of-quarter exchange rates, H.10 Release (Foreign Exchange Rates), Federal Reserve Board.

Appendix B: Firm-Specific Results

Table B.1. Ally Financial Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.5	6.3	6.3
Tier 1 capital ratio	11.2	7.9	7.9
Total capital ratio	12.8	9.9	9.9
Tier 1 leverage ratio	9.1	6.4	6.4
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	8.1	6.4
First-lien mortgages, domestic	0.2	1.3
Junior liens and HELOCs, domestic	0.0	4.1
Commercial and industrial[2]	2.6	6.4
Commercial real estate, domestic	0.2	3.7
Credit cards	0.0	0.0
Other consumer[3]	5.0	7.7
Other loans[4]	0.2	11.1

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	145.1	144.0

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	5.1	2.8
equals		
Net interest income	9.1	5.0
Noninterest income	6.9	3.8
less		
Noninterest expense[2]	10.9	6.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	10.1	
Credit losses on investment securities (AFS/HTM)[4]	0.3	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	-5.3	-2.9
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.2. American Express Company

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	10.7	12.7	10.8
Tier 1 capital ratio	11.6	13.6	11.7
Total capital ratio	13.2	15.2	13.3
Tier 1 leverage ratio	10.2	11.9	10.3
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	16.0	10.7
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	5.6	11.0
Commercial real estate, domestic	0.0	0.0
Credit cards	10.0	10.4
Other consumer[3]	0.4	16.0
Other loans[4]	0.0	6.0

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	168.5	169.5

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	23.8	12.0
equals		
Net interest income	16.8	8.5
Noninterest income	79.1	39.9
less		
Noninterest expense[2]	72.1	36.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	19.3	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	4.4	2.2
Memo items		
Other comprehensive income[7]	0.1	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-2.7	-2.7

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.3. Bank of America Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.2	9.8	9.6
Tier 1 capital ratio	12.6	11.3	11.1
Total capital ratio	14.8	13.8	13.8
Tier 1 leverage ratio	7.9	7.0	6.9
Supplementary leverage ratio	6.4	5.7	5.6

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	47.2	4.7
First-lien mortgages, domestic	2.9	1.2
Junior liens and HELOCs, domestic	1.0	2.4
Commercial and industrial[2]	15.3	5.3
Commercial real estate, domestic	4.9	6.6
Credit cards	15.6	16.0
Other consumer[3]	1.6	2.0
Other loans[4]	5.9	3.0

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	1,493.5	1,481.7

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	42.3	1.7
equals		
Net interest income	103.0	4.2
Noninterest income	81.9	3.4
less		
Noninterest expense[2]	142.6	5.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	53.1	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	10.5	
Other losses/gains[6]	4.2	
equals		
Net income before taxes	-25.6	-1.1
Memo items		
Other comprehensive income[7]	5.2	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-6.3	-1.1

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.4. The Bank of New York Mellon Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.5	14.6	12.3
Tier 1 capital ratio	14.8	16.9	14.6
Total capital ratio	15.8	18.0	15.7
Tier 1 leverage ratio	6.6	7.5	6.5
Supplementary leverage ratio	6.1	6.9	6.0

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.5	2.7
First-lien mortgages, domestic	0.1	1.5
Junior liens and HELOCs, domestic	0.0	7.6
Commercial and industrial[2]	0.1	4.5
Commercial real estate, domestic	0.3	6.2
Credit cards	0.0	0.0
Other consumer[3]	0.3	11.1
Other loans[4]	0.6	1.7

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	148.7	148.7

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	7.2	1.9
equals		
Net interest income	6.4	1.7
Noninterest income	27.8	7.3
less		
Noninterest expense[2]	26.9	7.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.8	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	0.8	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	4.4	1.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-2.6	-2.6

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.5. Barclays US LLC

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	16.3	13.7	13.4
Tier 1 capital ratio	19.4	16.9	16.6
Total capital ratio	23.0	20.7	20.5
Tier 1 leverage ratio	9.4	7.9	7.7
Supplementary leverage ratio	7.8	6.6	6.4

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	4.5	11.0
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.0	20.9
Commercial real estate, domestic	0.0	5.2
Credit cards	4.3	16.1
Other consumer[3]	0.1	15.4
Other loans[4]	0.1	0.8

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	84.0	80.8

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	4.2	2.8
equals		
Net interest income	6.2	4.2
Noninterest income	13.0	8.7
less		
Noninterest expense[2]	15.0	10.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	4.7	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.9	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-1.4	-0.9
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-0.1	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.6. BMO Financial Corp.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.3	5.4	5.4
Tier 1 capital ratio	11.8	5.9	5.9
Total capital ratio	14.1	8.6	8.6
Tier 1 leverage ratio	9.1	4.5	4.5
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.7	6.4
First-lien mortgages, domestic	0.1	1.4
Junior liens and HELOCs, domestic	0.1	4.2
Commercial and industrial[2]	2.9	7.3
Commercial real estate, domestic	1.0	9.1
Credit cards	0.1	16.8
Other consumer[3]	0.2	3.6
Other loans[4]	1.3	6.2

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	129.7	128.4

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	-0.7	-0.4
equals		
Net interest income	7.8	4.5
Noninterest income	1.6	0.9
less		
Noninterest expense[2]	10.1	5.8
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	6.6	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-7.2	-4.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.7. BNP Paribas USA, Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	15.8	10.8	10.8
Tier 1 capital ratio	15.8	10.8	10.8
Total capital ratio	18.0	13.6	13.6
Tier 1 leverage ratio	10.5	7.1	7.1
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	4.8	7.0
First-lien mortgages, domestic	0.2	1.9
Junior liens and HELOCs, domestic	0.1	3.5
Commercial and industrial[2]	1.5	10.5
Commercial real estate, domestic	1.2	8.0
Credit cards	0.0	18.7
Other consumer[3]	1.1	7.2
Other loans[4]	0.6	5.2

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	87.9	87.0

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.3	1.0
equals		
Net interest income	5.8	4.6
Noninterest income	3.4	2.7
less		
Noninterest expense[2]	7.8	6.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	5.7	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-4.5	-3.6
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.8. Capital One Financial Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.2	6.8	6.8
Tier 1 capital ratio	13.7	8.3	8.3
Total capital ratio	16.1	10.7	10.7
Tier 1 leverage ratio	11.7	7.0	7.0
Supplementary leverage ratio	9.9	5.9	5.9

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	41.2	15.5
First-lien mortgages, domestic	0.0	1.9
Junior liens and HELOCs, domestic	0.0	4.9
Commercial and industrial[2]	4.6	12.3
Commercial real estate, domestic	1.3	4.3
Credit cards	27.4	23.0
Other consumer[3]	6.9	11.4
Other loans[4]	1.0	5.5

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	313.2	310.4

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	31.0	7.9
equals		
Net interest income	54.4	13.9
Noninterest income	12.0	3.1
less		
Noninterest expense[2]	35.4	9.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	47.7	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	-16.9	-4.3
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.8	-0.1

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.9. Citigroup Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.8	11.8	10.3
Tier 1 capital ratio	13.4	13.4	11.9
Total capital ratio	16.6	16.7	15.3
Tier 1 leverage ratio	8.0	7.9	7.0
Supplementary leverage ratio	6.2	6.2	5.4

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	47.7	6.7
First-lien mortgages, domestic	1.5	1.9
Junior liens and HELOCs, domestic	0.7	6.6
Commercial and industrial[2]	8.1	4.7
Commercial real estate, domestic	1.3	5.7
Credit cards	27.5	16.4
Other consumer[3]	3.3	10.2
Other loans[4]	5.2	2.3

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	1,166.5	1,151.7

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	59.3	3.0
equals		
Net interest income	112.2	5.8
Noninterest income	54.2	2.8
less		
Noninterest expense[2]	107.2	5.5
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	50.0	
Credit losses on investment securities (AFS/HTM)[4]	0.7	
Trading and counterparty losses[5]	5.7	
Other losses/gains[6]	2.6	
equals		
Net income before taxes	0.4	0.0
Memo items		
Other comprehensive income[7]	3.3	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-36.4	-33.1

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.10. Citizens Financial Group, Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	10.0	7.1	7.1
Tier 1 capital ratio	11.1	8.2	8.2
Total capital ratio	13.0	10.4	10.4
Tier 1 leverage ratio	10.0	7.3	7.3
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	6.7	5.6
First-lien mortgages, domestic	0.3	1.7
Junior liens and HELOCs, domestic	0.5	4.1
Commercial and industrial[2]	2.2	6.2
Commercial real estate, domestic	1.4	8.1
Credit cards	0.3	16.4
Other consumer[3]	1.7	6.5
Other loans[4]	0.3	4.0

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	142.9	142.6

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	3.9	2.3
equals		
Net interest income	9.5	5.7
Noninterest income	3.7	2.2
less		
Noninterest expense[2]	9.3	5.6
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	8.0	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	-4.3	-2.6
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.11. Credit Suisse Holdings (USA), Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	24.7	21.6	19.5
Tier 1 capital ratio	25.5	22.4	20.4
Total capital ratio	25.6	22.5	20.5
Tier 1 leverage ratio	13.7	11.1	10.3
Supplementary leverage ratio	12.1	9.8	9.1

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	0.1	0.9
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.0	0.0
Commercial real estate, domestic	0.0	20.9
Credit cards	0.0	0.0
Other consumer[3]	0.0	15.4
Other loans[4]	0.1	0.6

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	62.3	56.9

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.2	1.1
equals		
Net interest income	-0.4	-0.4
Noninterest income	12.2	10.6
less		
Noninterest expense[2]	10.5	9.2
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	0.1	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	2.8	
Other losses/gains[6]	0.2	
equals		
Net income before taxes	-1.8	-1.6
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-0.3	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.12. DB USA Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1, 2]	
		Ending	Minimum
Common equity tier 1 capital ratio	26.2	18.6	18.4
Tier 1 capital ratio	37.7	31.1	30.9
Total capital ratio	37.7	31.5	31.4
Tier 1 leverage ratio	9.8	7.4	7.4
Supplementary leverage ratio	9.1	6.9	6.9

1 The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

2 DWS USA Corporation, the second U.S. intermediate holding company subsidiary of Deutsche Bank AG, was subject to DFAST 2020 and maintained capital above each minimum regulatory capital ratio on a post-stress basis. DWS USA Corporation had about $2 billion in assets as of the end of 2019.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	0.4	3.2
First-lien mortgages, domestic	0.0	1.4
Junior liens and HELOCs, domestic	0.0	6.3
Commercial and industrial[2]	0.0	1.0
Commercial real estate, domestic	0.2	5.8
Credit cards	0.0	0.0
Other consumer[3]	0.0	6.0
Other loans[4]	0.1	2.5

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

2 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

3 Other consumer loans include student loans and automobile loans.

4 Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	36.6	33.6

1 For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	-0.2	-0.2
equals		
Net interest income	0.8	0.8
Noninterest income	10.2	9.3
less		
Noninterest expense[2]	11.2	10.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	0.5	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	1.3	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-2.0	-1.8
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-0.2	-0.2

1 Average assets is the nine-quarter average of total assets.

2 Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

3 Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

4 For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

5 Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

6 Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

7 Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.13. Discover Financial Services

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.2	8.5	8.2
Tier 1 capital ratio	11.8	9.0	8.8
Total capital ratio	13.5	10.7	10.6
Tier 1 leverage ratio	10.3	7.8	7.6
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	16.3	17.0
First-lien mortgages, domestic	0.0	1.9
Junior liens and HELOCs, domestic	0.1	10.0
Commercial and industrial[2]	0.0	18.4
Commercial real estate, domestic	0.0	12.2
Credit cards	14.4	18.7
Other consumer[3]	1.7	9.9
Other loans[4]	0.0	5.8

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	98.2	98.2

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	15.8	13.8
equals		
Net interest income	22.1	19.4
Noninterest income	3.9	3.4
less		
Noninterest expense[2]	10.2	9.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	18.6	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-2.8	-2.5
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.14. Fifth Third Bancorp

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.7	8.1	8.1
Tier 1 capital ratio	11.0	9.4	9.3
Total capital ratio	13.8	12.5	12.4
Tier 1 leverage ratio	9.5	8.2	8.1
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	7.4	6.8
First-lien mortgages, domestic	0.3	2.1
Junior liens and HELOCs, domestic	0.2	3.9
Commercial and industrial[2]	3.4	7.5
Commercial real estate, domestic	1.7	10.8
Credit cards	0.6	23.5
Other consumer[3]	0.8	5.2
Other loans[4]	0.4	4.3

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	142.1	143.2

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	6.4	3.8
equals		
Net interest income	10.4	6.2
Noninterest income	7.2	4.2
less		
Noninterest expense[2]	11.2	6.6
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	8.5	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	-2.1	-1.3
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.15. The Goldman Sachs Group, Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	13.3	8.4	7.0
Tier 1 capital ratio	15.2	10.3	8.9
Total capital ratio	17.8	13.2	11.9
Tier 1 leverage ratio	8.7	5.8	5.0
Supplementary leverage ratio	6.2	4.1	3.6

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	9.8	8.1
First-lien mortgages, domestic	0.4	25.9
Junior liens and HELOCs, domestic	0.0	4.1
Commercial and industrial[2]	3.7	14.9
Commercial real estate, domestic	0.8	11.6
Credit cards	0.4	18.7
Other consumer[3]	1.0	13.0
Other loans[4]	3.7	4.7

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	563.6	550.6

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	10.6	1.1
equals		
Net interest income	10.4	1.0
Noninterest income	58.8	5.9
less		
Noninterest expense[2]	58.6	5.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	11.1	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	17.8	
Other losses/gains[6]	8.5	
equals		
Net income before taxes	-27.0	-2.7
Memo items		
Other comprehensive income[7]	0.5	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-1.5	-1.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.16. HSBC North America Holdings Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	13.0	7.3	7.3
Tier 1 capital ratio	14.8	9.2	9.2
Total capital ratio	18.4	13.3	13.3
Tier 1 leverage ratio	7.8	4.7	4.7
Supplementary leverage ratio	5.7	3.4	3.4

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	3.9	6.0
First-lien mortgages, domestic	0.4	2.2
Junior liens and HELOCs, domestic	0.1	7.5
Commercial and industrial[2]	1.6	6.1
Commercial real estate, domestic	0.9	7.8
Credit cards	0.4	26.4
Other consumer[3]	0.0	10.2
Other loans[4]	0.6	7.0

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	128.7	123.3

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	-0.1	-0.1
equals		
Net interest income	5.2	2.1
Noninterest income	4.5	1.8
less		
Noninterest expense[2]	9.8	3.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	4.5	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	1.4	
Other losses/gains[6]	0.2	
equals		
Net income before taxes	-6.3	-2.5
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-0.5	-0.2

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.17. Huntington Bancshares Incorporated

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.9	8.5	8.5
Tier 1 capital ratio	11.3	9.9	9.9
Total capital ratio	13.0	11.9	11.9
Tier 1 leverage ratio	9.3	8.2	8.1
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	3.8	5.1
First-lien mortgages, domestic	0.3	2.7
Junior liens and HELOCs, domestic	0.2	3.1
Commercial and industrial[2]	1.4	6.1
Commercial real estate, domestic	0.7	7.7
Credit cards	0.1	18.7
Other consumer[3]	0.8	4.6
Other loans[4]	0.2	3.8

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	87.5	87.8

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	3.2	3.0
equals		
Net interest income	6.9	6.3
Noninterest income	3.0	2.7
less		
Noninterest expense[2]	6.6	6.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	4.3	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-1.1	-1.0
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.18. JPMorgan Chase & Co.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.4	10.6	9.8
Tier 1 capital ratio	14.1	12.4	11.6
Total capital ratio	16.0	14.6	13.8
Tier 1 leverage ratio	7.9	6.8	6.4
Supplementary leverage ratio	6.3	5.4	5.1

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	64.4	6.6
First-lien mortgages, domestic	3.1	1.5
Junior liens and HELOCs, domestic	0.6	2.0
Commercial and industrial[2]	19.0	11.3
Commercial real estate, domestic	3.8	3.2
Credit cards	24.5	16.1
Other consumer[3]	2.3	3.9
Other loans[4]	11.1	4.7

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	1,515.9	1,500.9

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	73.0	2.7
equals		
Net interest income	119.2	4.4
Noninterest income	118.1	4.4
less		
Noninterest expense[2]	164.2	6.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	72.3	
Credit losses on investment securities (AFS/HTM)[4]	0.7	
Trading and counterparty losses[5]	21.8	
Other losses/gains[6]	2.7	
equals		
Net income before taxes	-24.5	-0.9
Memo items		
Other comprehensive income[7]	-1.4	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	1.5	0.2

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.19. KeyCorp

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.4	8.1	8.0
Tier 1 capital ratio	10.9	9.5	9.4
Total capital ratio	12.8	11.8	11.8
Tier 1 leverage ratio	9.9	8.7	8.6
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.1	5.3
First-lien mortgages, domestic	0.2	2.4
Junior liens and HELOCs, domestic	0.2	3.1
Commercial and industrial[2]	2.4	6.5
Commercial real estate, domestic	1.0	6.8
Credit cards	0.2	18.7
Other consumer[3]	0.5	5.1
Other loans[4]	0.5	3.0

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	130.9	132.1

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	4.3	3.0
equals		
Net interest income	8.6	5.9
Noninterest income	5.2	3.6
less		
Noninterest expense[2]	9.5	6.5
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	5.6	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.3	
equals		
Net income before taxes	-1.5	-1.1
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.20. M&T Bank Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.7	8.6	8.5
Tier 1 capital ratio	10.9	9.8	9.7
Total capital ratio	13.1	12.1	12.0
Tier 1 leverage ratio	9.6	8.6	8.5
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.0	5.5
First-lien mortgages, domestic	0.4	2.8
Junior liens and HELOCs, domestic	0.2	3.4
Commercial and industrial[2]	1.2	6.2
Commercial real estate, domestic	2.2	6.2
Credit cards	0.1	18.7
Other consumer[3]	0.7	6.6
Other loans[4]	0.2	4.6

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	103.3	103.6

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	4.7	3.9
equals		
Net interest income	8.1	6.7
Noninterest income	4.0	3.3
less		
Noninterest expense[2]	7.3	6.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	5.7	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-1.0	-0.8
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.21. Morgan Stanley

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	16.4	12.5	11.3
Tier 1 capital ratio	18.6	14.7	13.5
Total capital ratio	21.0	17.3	16.2
Tier 1 leverage ratio	8.3	6.4	5.9
Supplementary leverage ratio	6.4	4.9	4.5

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.3	3.5
First-lien mortgages, domestic	0.5	1.6
Junior liens and HELOCs, domestic	0.0	4.1
Commercial and industrial[2]	1.1	10.4
Commercial real estate, domestic	1.0	8.6
Credit cards	0.0	0.0
Other consumer[3]	0.2	0.8
Other loans[4]	2.5	3.2

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	394.2	387.8

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	5.0	0.6
equals		
Net interest income	10.6	1.2
Noninterest income	67.4	7.5
less		
Noninterest expense[2]	72.9	8.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	6.5	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	9.5	
Other losses/gains[6]	5.5	
equals		
Net income before taxes	-16.5	-1.8
Memo items		
Other comprehensive income[7]	1.2	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-2.8	-1.6

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.22. MUFG Americas Holdings Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	14.1	9.7	9.7
Tier 1 capital ratio	14.1	9.7	9.7
Total capital ratio	14.7	11.0	11.0
Tier 1 leverage ratio	8.9	6.1	6.1
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.1	5.7
First-lien mortgages, domestic	0.9	2.4
Junior liens and HELOCs, domestic	0.1	2.8
Commercial and industrial[2]	1.8	11.5
Commercial real estate, domestic	1.1	5.7
Credit cards	0.1	18.7
Other consumer[3]	0.7	16.2
Other loans[4]	0.5	4.7

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	107.0	106.4

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.8	1.0
equals		
Net interest income	7.4	4.3
Noninterest income	4.9	2.9
less		
Noninterest expense[2]	10.5	6.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	6.4	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.2	
equals		
Net income before taxes	-4.9	-2.9
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.23. Northern Trust Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.7	13.2	12.8
Tier 1 capital ratio	14.5	15.0	14.6
Total capital ratio	16.3	17.5	16.8
Tier 1 leverage ratio	8.7	9.0	8.7
Supplementary leverage ratio	7.6	7.9	7.7

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.8	5.7
First-lien mortgages, domestic	0.1	1.6
Junior liens and HELOCs, domestic	0.1	8.3
Commercial and industrial[2]	0.3	6.5
Commercial real estate, domestic	0.2	5.5
Credit cards	0.0	0.0
Other consumer[3]	0.0	15.4
Other loans[4]	1.1	6.6

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	70.1	70.2

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	2.6	1.9
equals		
Net interest income	3.0	2.2
Noninterest income	9.6	7.0
less		
Noninterest expense[2]	10.0	7.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	2.2	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	0.2	0.2
Memo items		
Other comprehensive income[7]	0.3	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-0.2	0.1

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.24. The PNC Financial Services Group, Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.5	10.0	9.2
Tier 1 capital ratio	10.7	11.1	10.3
Total capital ratio	12.7	13.5	12.6
Tier 1 leverage ratio	9.1	9.4	8.8
Supplementary leverage ratio	7.6	7.8	7.3

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	12.1	5.1
First-lien mortgages, domestic	0.4	1.3
Junior liens and HELOCs, domestic	0.3	1.6
Commercial and industrial[2]	6.1	6.4
Commercial real estate, domestic	2.2	6.3
Credit cards	1.3	19.9
Other consumer[3]	1.0	4.1
Other loans[4]	0.9	2.7

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	340.8	339.0

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	12.9	3.1
equals		
Net interest income	22.7	5.5
Noninterest income	16.5	4.0
less		
Noninterest expense[2]	26.2	6.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	13.2	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.3	
equals		
Net income before taxes	-0.7	-0.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.5	-0.1

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.25. RBC US Group Holdings LLC

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	17.2	13.6	13.6
Tier 1 capital ratio	17.2	13.6	13.6
Total capital ratio	17.8	15.0	15.0
Tier 1 leverage ratio	9.8	7.6	7.6
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	3.2	5.2
First-lien mortgages, domestic	0.3	2.0
Junior liens and HELOCs, domestic	0.0	3.8
Commercial and industrial[2]	1.0	11.9
Commercial real estate, domestic	0.9	7.1
Credit cards	0.0	18.7
Other consumer[3]	0.2	14.1
Other loans[4]	0.7	3.0

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	75.3	73.4

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.6	1.1
equals		
Net interest income	5.7	4.1
Noninterest income	10.3	7.4
less		
Noninterest expense[2]	14.5	10.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	3.9	
Credit losses on investment securities (AFS/HTM)[4]	0.3	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-2.6	-1.9
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.26. Regions Financial Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.7	7.3	7.3
Tier 1 capital ratio	10.9	8.5	8.5
Total capital ratio	12.7	10.7	10.7
Tier 1 leverage ratio	9.6	7.5	7.5
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.3	6.3
First-lien mortgages, domestic	0.4	2.4
Junior liens and HELOCs, domestic	0.3	4.4
Commercial and industrial[2]	1.9	7.8
Commercial real estate, domestic	1.2	9.3
Credit cards	0.3	18.7
Other consumer[3]	0.7	11.8
Other loans[4]	0.4	3.0

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	105.7	105.3

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	3.8	3.0
equals		
Net interest income	7.6	6.0
Noninterest income	4.6	3.7
less		
Noninterest expense[2]	8.4	6.7
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	6.3	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	-2.6	-2.0
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.27. Santander Holdings USA, Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	14.6	13.2	13.2
Tier 1 capital ratio	15.8	14.4	14.3
Total capital ratio	17.2	15.8	15.8
Tier 1 leverage ratio	13.1	12.0	12.0
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	8.6	9.3
First-lien mortgages, domestic	0.2	2.2
Junior liens and HELOCs, domestic	0.2	3.8
Commercial and industrial[2]	0.8	4.8
Commercial real estate, domestic	0.7	4.2
Credit cards	0.1	17.2
Other consumer[3]	6.5	17.3
Other loans[4]	0.3	3.1

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	118.9	120.1

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	7.3	4.9
equals		
Net interest income	14.4	9.6
Noninterest income	8.0	5.3
less		
Noninterest expense[2]	15.1	10.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	8.3	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	-1.2	-0.8
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.28. State Street Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.7	12.9	11.5
Tier 1 capital ratio	14.6	15.8	14.3
Total capital ratio	15.7	17.2	15.7
Tier 1 leverage ratio	6.9	7.5	6.8
Supplementary leverage ratio	6.1	6.6	6.0

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.2	4.5
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.3	6.8
Commercial real estate, domestic	0.0	1.8
Credit cards	0.0	0.0
Other consumer[3]	0.0	0.6
Other loans[4]	0.9	4.3

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	104.0	104.1

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	3.6	1.5
equals		
Net interest income	4.7	1.9
Noninterest income	19.4	7.9
less		
Noninterest expense[2]	20.5	8.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.4	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.6	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	1.4	0.6
Memo items		
Other comprehensive income[7]	0.3	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-0.9	-0.6

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.29. TD Group US Holdings LLC

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	16.2	17.2	16.2
Tier 1 capital ratio	16.2	17.2	16.2
Total capital ratio	17.3	18.4	17.4
Tier 1 leverage ratio	9.4	9.8	9.4
Supplementary leverage ratio	8.5	8.8	8.5

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	9.6	5.9
First-lien mortgages, domestic	0.4	1.6
Junior liens and HELOCs, domestic	0.3	4.1
Commercial and industrial[2]	2.2	6.7
Commercial real estate, domestic	1.5	5.2
Credit cards	3.4	22.2
Other consumer[3]	0.9	3.4
Other loans[4]	0.9	3.5

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	221.6	218.0

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	10.7	2.6
equals		
Net interest income	20.9	5.1
Noninterest income	6.6	1.6
less		
Noninterest expense[2]	16.9	4.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	10.3	
Credit losses on investment securities (AFS/HTM)[4]	0.3	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	0.1	0.0
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-0.3	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.30. Truist Financial Corporation

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.5	7.4	7.4
Tier 1 capital ratio	10.8	8.8	8.8
Total capital ratio	12.6	11.4	11.4
Tier 1 leverage ratio	14.7	7.6	7.6
Supplementary leverage ratio [2]	n/a	6.4	6.4

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

[2] Truist Financial Corporation was not subject to the supplementary leverage ratio requirement in 2019:Q4.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	15.3	5.1
First-lien mortgages, domestic	1.0	1.8
Junior liens and HELOCs, domestic	0.5	2.8
Commercial and industrial[2]	4.4	6.0
Commercial real estate, domestic	3.3	5.8
Credit cards	0.7	18.1
Other consumer[3]	3.9	7.1
Other loans[4]	1.5	3.5

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	376.1	375.2

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	11.9	2.5
equals		
Net interest income	27.4	5.8
Noninterest income	17.5	3.7
less		
Noninterest expense[2]	33.0	7.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	19.3	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.6	
equals		
Net income before taxes	-8.0	-1.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.31. UBS Americas Holding LLC

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	22.1	19.9	17.9
Tier 1 capital ratio	27.7	25.6	23.8
Total capital ratio	29.0	27.6	25.3
Tier 1 leverage ratio	11.8	10.8	9.9
Supplementary leverage ratio [2]	n/a	9.0	8.2

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

[2] UBS Americas Holding LLC was not subject to the supplementary leverage ratio requirement in 2019:Q4.

n/a Not applicable.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.2	2.0
First-lien mortgages, domestic	0.3	1.8
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.2	4.0
Commercial real estate, domestic	0.0	1.4
Credit cards	0.0	18.7
Other consumer[3]	0.2	0.7
Other loans[4]	0.4	3.7

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	54.1	53.4

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	3.4	2.4
equals		
Net interest income	3.8	2.7
Noninterest income	23.8	17.1
less		
Noninterest expense[2]	24.2	17.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.5	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	1.4	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	0.5	0.4
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.32. U.S. Bancorp

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.1	9.3	8.9
Tier 1 capital ratio	10.7	10.8	10.4
Total capital ratio	12.7	13.0	12.6
Tier 1 leverage ratio	8.8	8.9	8.5
Supplementary leverage ratio	7.0	7.1	6.8

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	17.1	5.8
First-lien mortgages, domestic	1.0	1.5
Junior liens and HELOCs, domestic	0.6	4.2
Commercial and industrial[2]	5.6	6.9
Commercial real estate, domestic	2.6	7.1
Credit cards	4.5	18.1
Other consumer[3]	1.6	3.7
Other loans[4]	1.2	4.8

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	391.3	392.5

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	18.5	3.7
equals		
Net interest income	28.5	5.8
Noninterest income	21.3	4.3
less		
Noninterest expense[2]	31.3	6.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	18.6	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-0.1	0.0
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-1.3	-0.1

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.33. Wells Fargo & Company

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2019:Q4 and projected 2020:Q1–2022:Q1

Percent

Regulatory ratio	Actual 2019:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.1	9.7	9.1
Tier 1 capital ratio	12.8	11.3	10.7
Total capital ratio	15.8	14.7	14.2
Tier 1 leverage ratio	8.3	7.3	6.9
Supplementary leverage ratio	7.1	6.2	5.9

[1] The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2020:Q1 to 2022:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2020:Q1–2022:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	47.4	4.9
First-lien mortgages, domestic	3.4	1.2
Junior liens and HELOCs, domestic	1.0	2.5
Commercial and industrial[2]	12.6	6.7
Commercial real estate, domestic	10.0	8.0
Credit cards	7.7	18.7
Other consumer[3]	4.2	5.6
Other loans[4]	8.6	4.1

[1] Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair-value option, and are calculated over nine quarters.

[2] Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.

[3] Other consumer loans include student loans and automobile loans.

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2019:Q4 and projected 2022:Q1

Billions of dollars

Item	Actual 2019:Q4	Projected 2022:Q1
Risk-weighted assets[1]	1,245.9	1,235.4

[1] For each quarter, risk-weighted assets are calculated under the Board's standardized capital risk-based approach in 12 C.F.R. pt. 217, subpt. D.

Projected losses, revenue, and net income before taxes through 2022:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	50.2	2.6
equals		
Net interest income	110.9	5.8
Noninterest income	74.2	3.8
less		
Noninterest expense[2]	134.9	7.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	52.9	
Credit losses on investment securities (AFS/HTM)[4]	2.0	
Trading and counterparty losses[5]	8.7	
Other losses/gains[6]	2.9	
equals		
Net income before taxes	-16.3	-0.8
Memo items		
Other comprehensive income[7]	-0.9	
Other effects on capital	*Actual 2019:Q4*	*2022:Q1*
AOCI included in capital (billions of dollars)	-1.0	-1.9

[1] Average assets is the nine-quarter average of total assets.

[2] Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.

[3] Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

[4] For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

[5] Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

[6] Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.

[7] Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Appendix C: Additional Aggregate Results

Figure C.1. First-lien mortgages, domestic loss rates in the severely adverse scenario

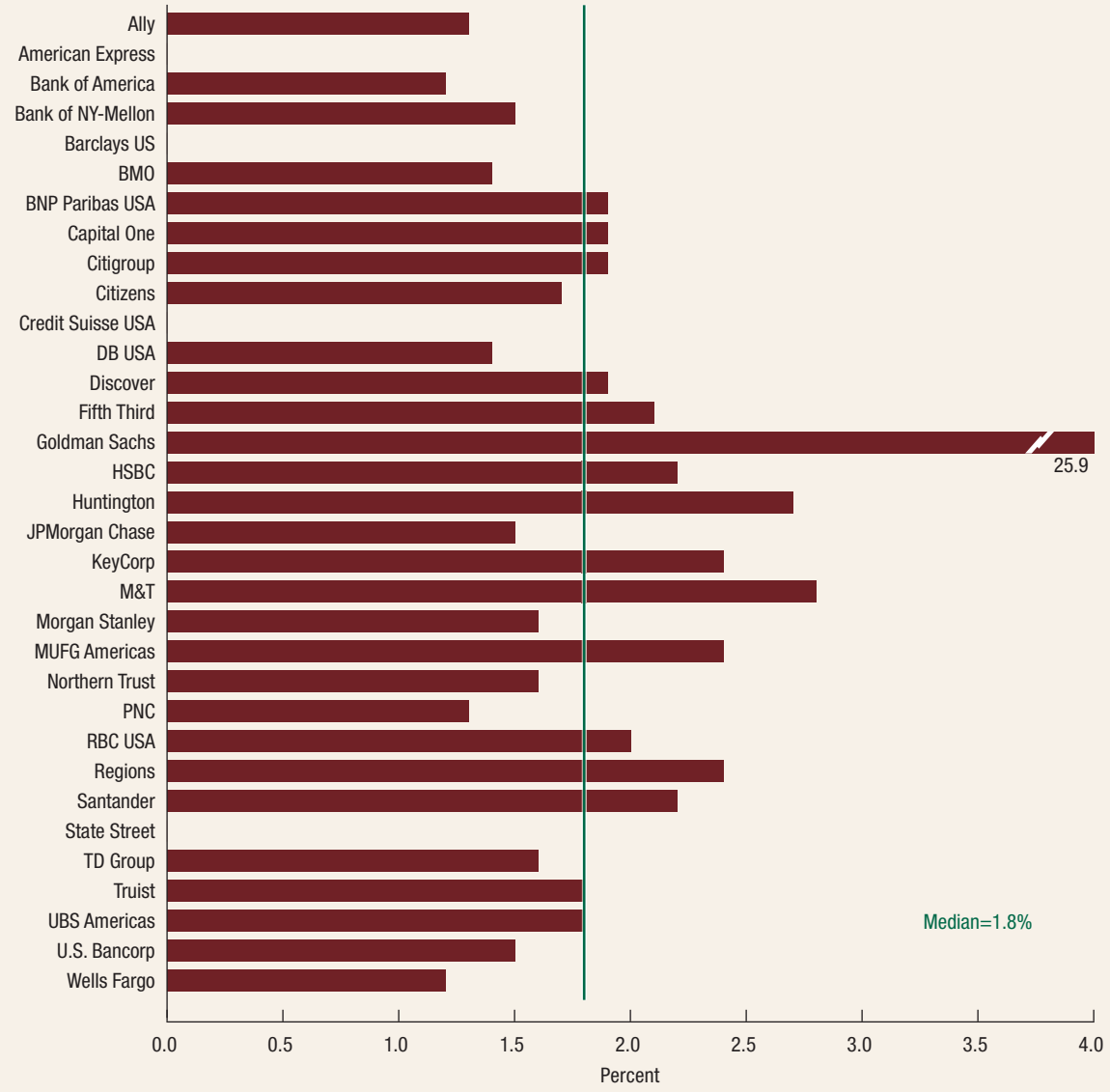


Figure C.2. Junior liens and HELOCs, domestic loss rates in the severely adverse scenario

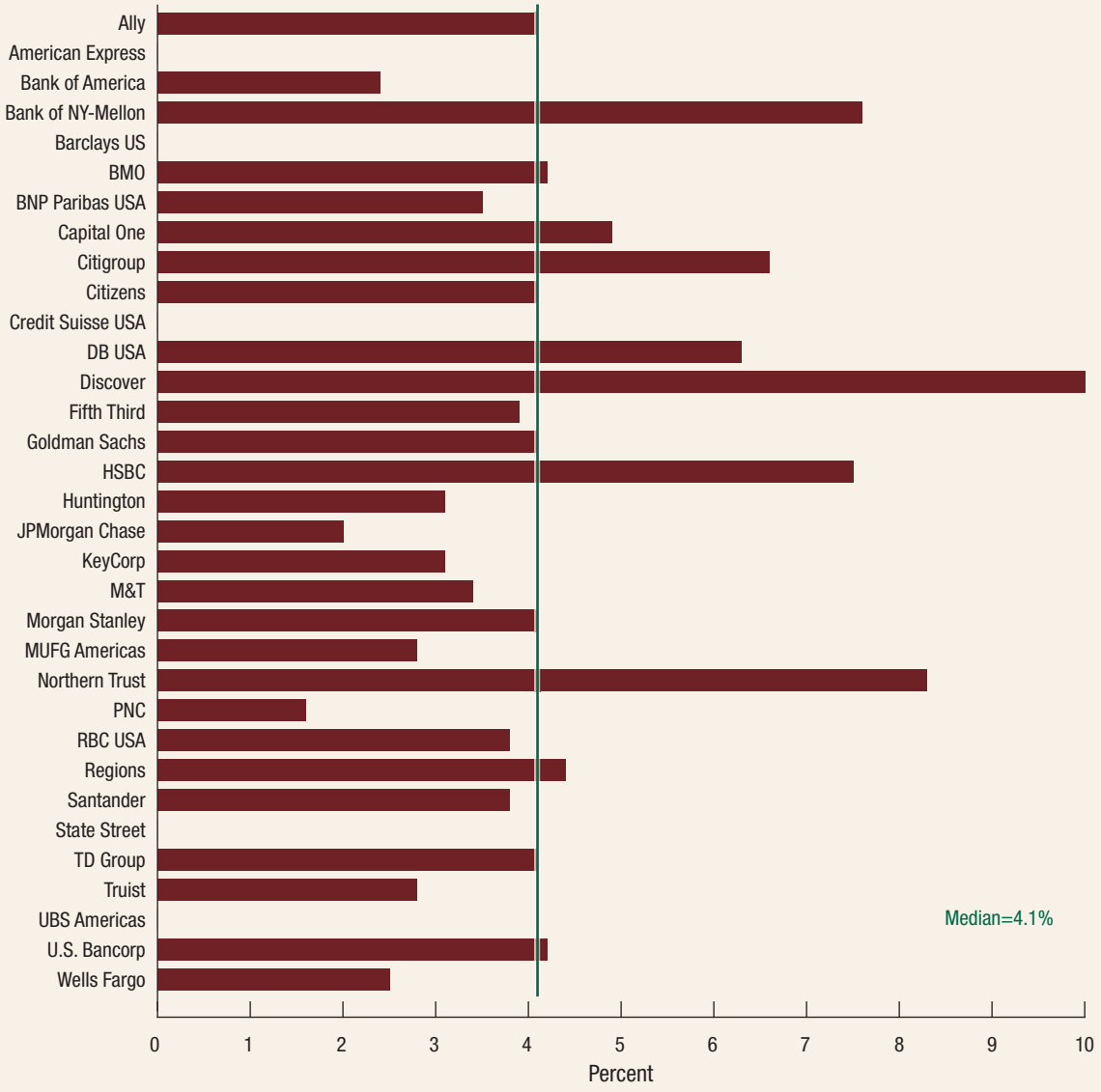


Figure C.3. Commercial and industrial loss rates in the severely adverse scenario

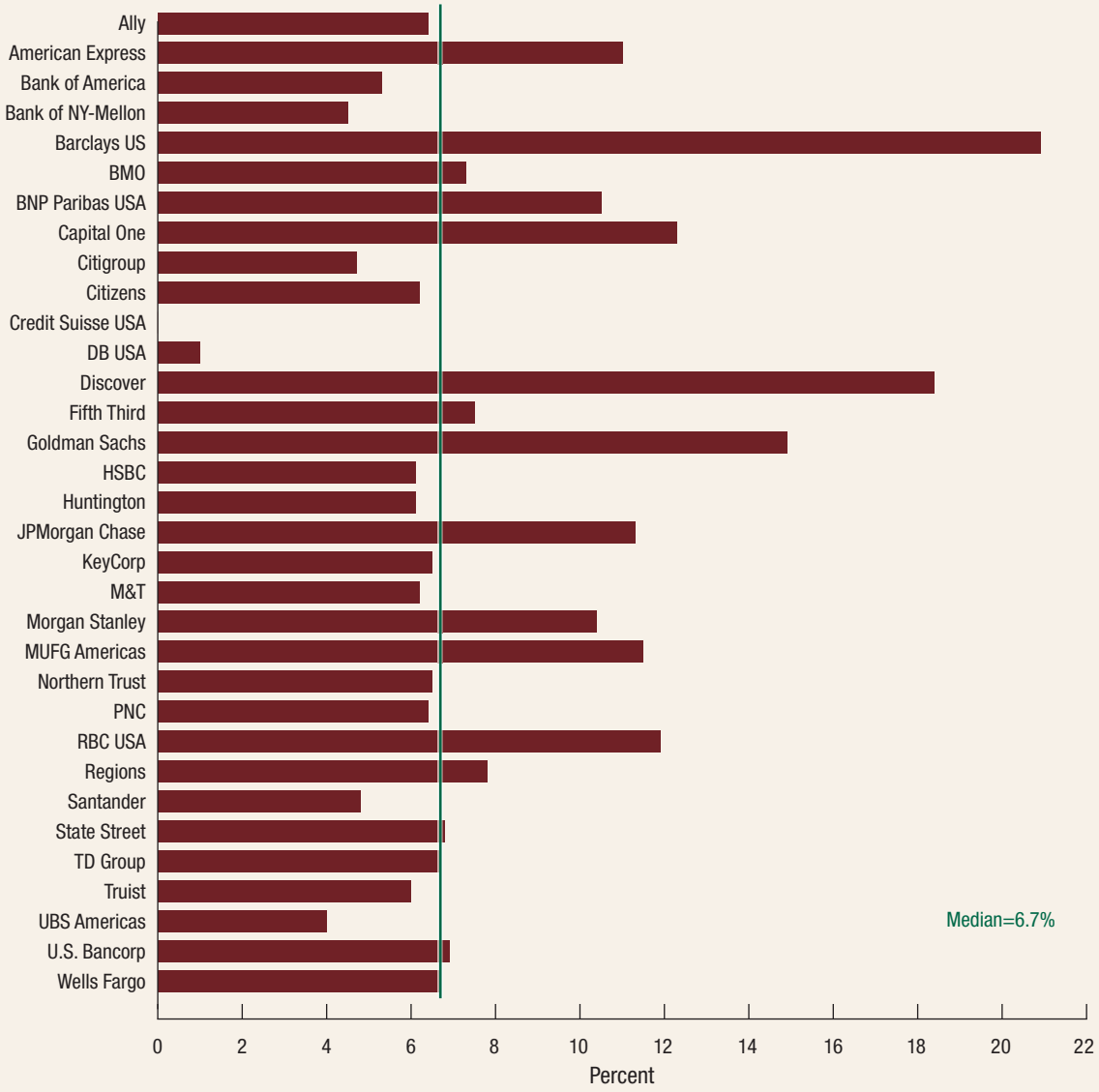


Figure C.4. Commercial real estate, domestic loss rates in the severely adverse scenario

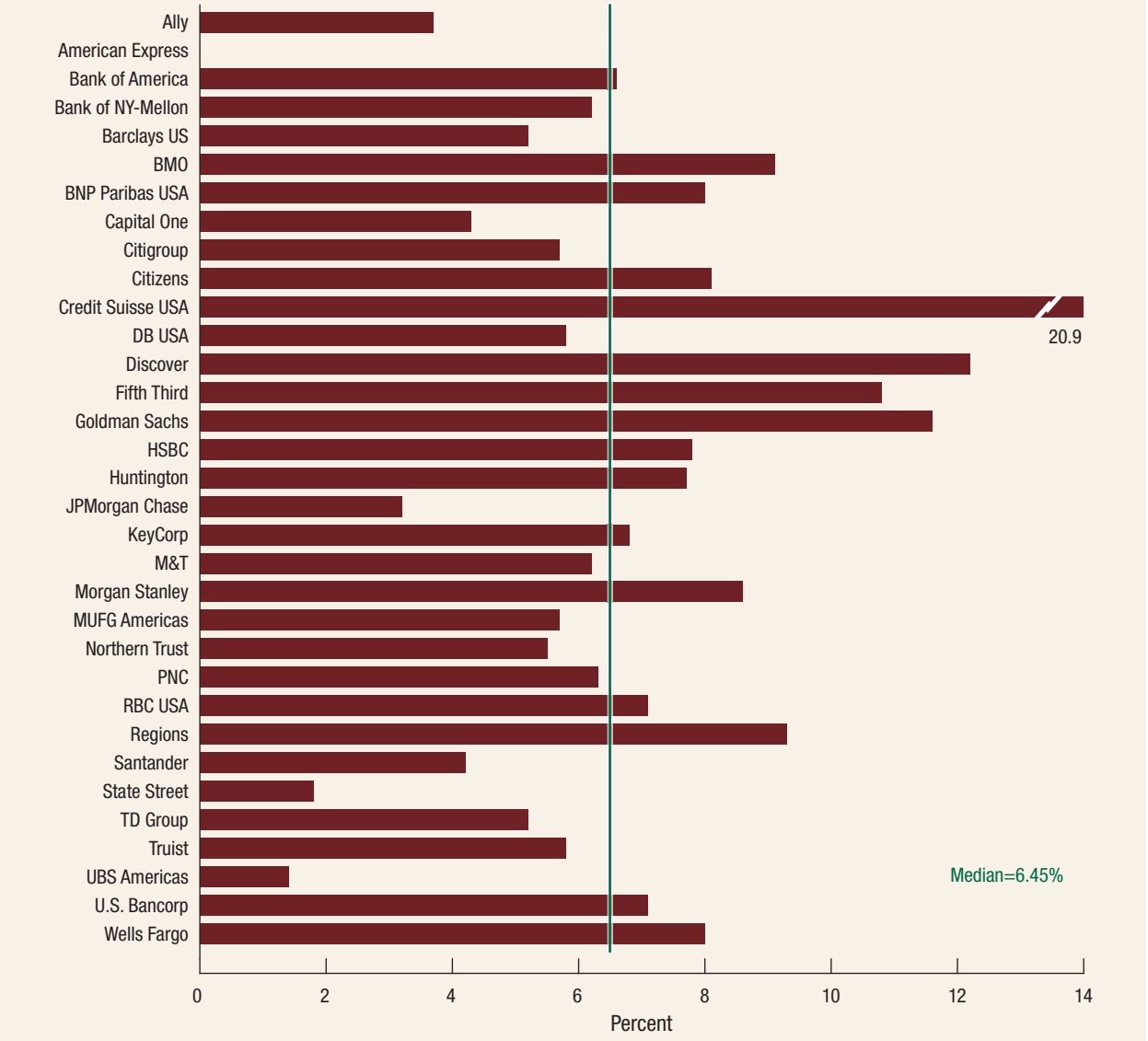


Figure C.5. Credit card loss rates in the severely adverse scenario

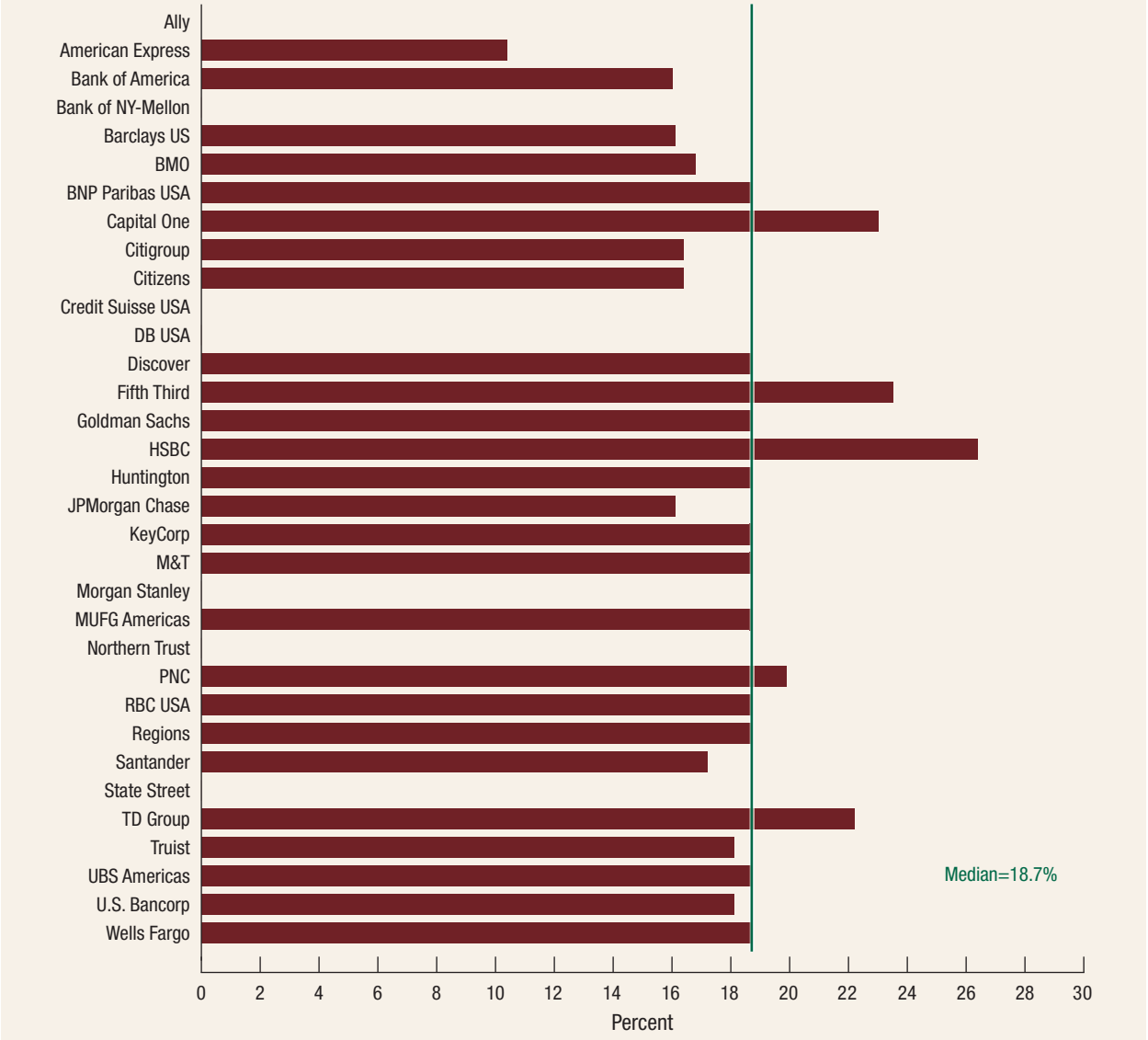


Figure C.6. Other consumer loss rates in the severely adverse scenario

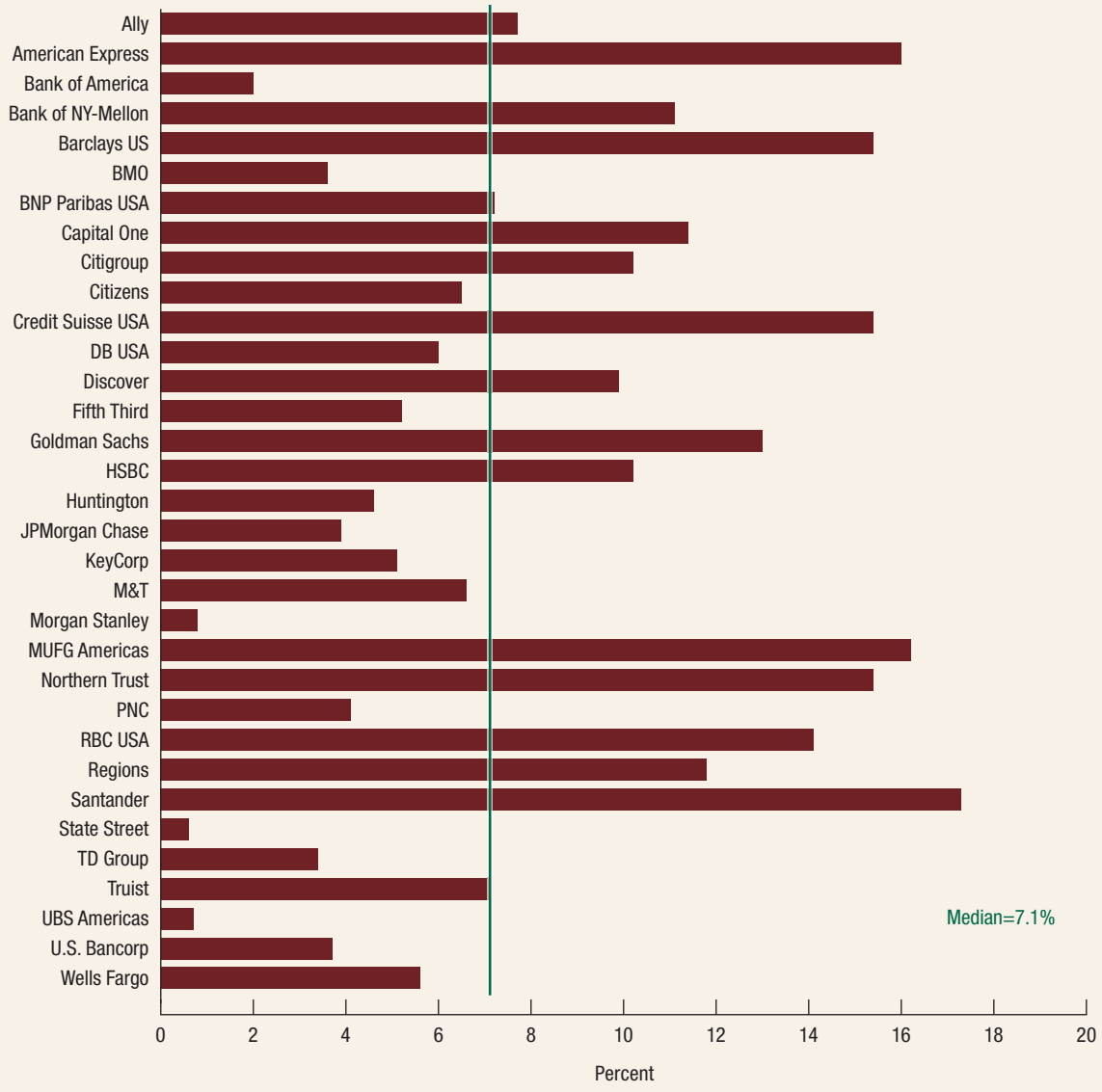
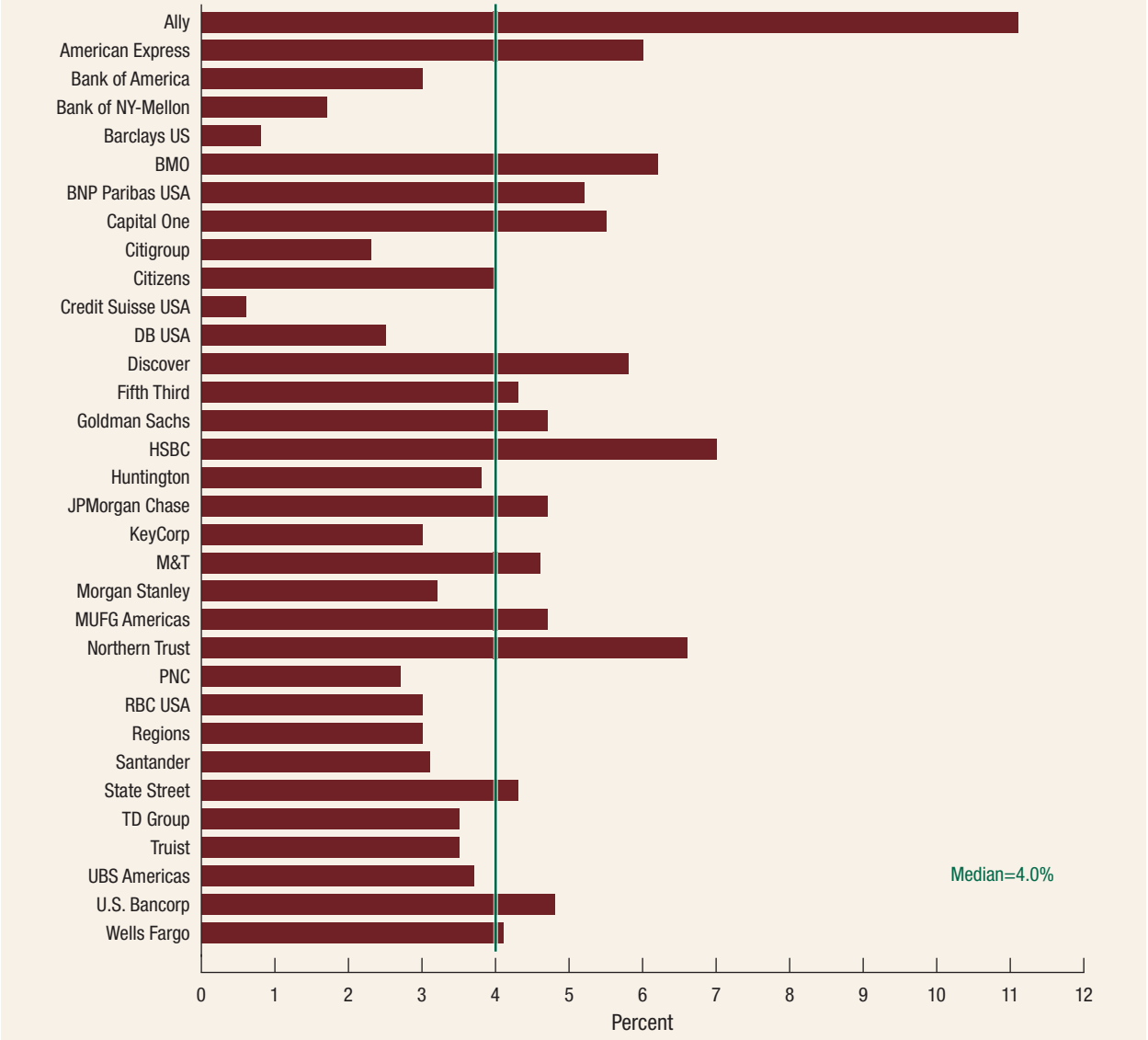


Figure C.7. Other loans loss rates in the severely adverse scenario



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