2023 Federal Reserve Stress Test Results

June 2023

BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

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The Federal Reserve

- **conducts the nation's monetary policy** to promote maximum employment and stable prices in the U.S. economy;
- **promotes the stability of the financial system** and seeks to minimize and contain systemic risks through active monitoring and engagement in the U.S. and abroad;
- **promotes the safety and soundness of individual financial institutions** and monitors their impact on the financial system as a whole;
- **fosters payment and settlement system safety and efficiency** through services to the banking industry and U.S. government that facilitate U.S.-dollar transactions and payments; and
- **promotes consumer protection and community development** through consumer-focused supervision and examination, research and analysis of emerging consumer issues and trends, community economic development activities, and administration of consumer laws and regulations.

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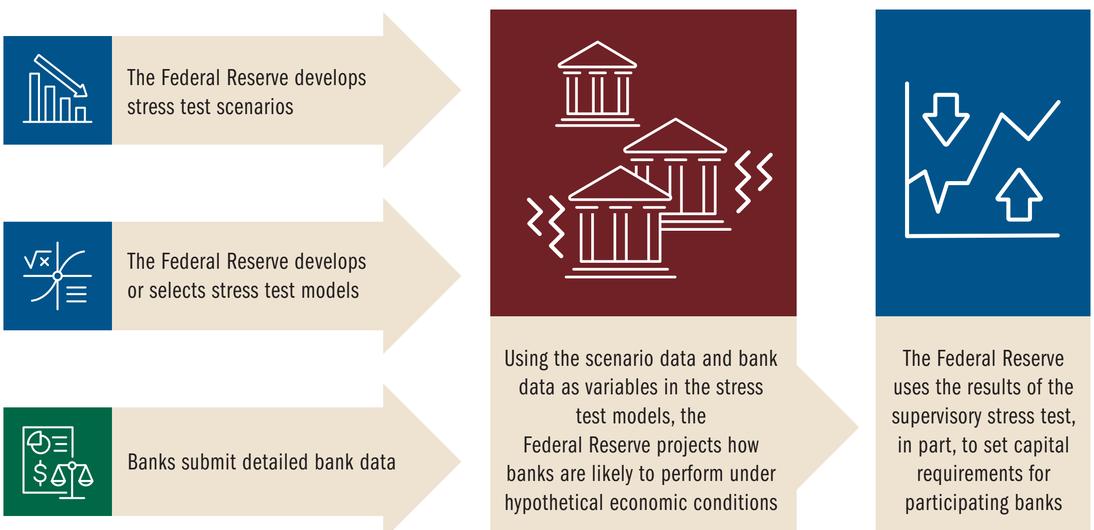
Preface

The Federal Reserve promotes a safe, sound, and efficient banking system that supports the U.S. economy through its supervision and regulation of domestic and foreign banks.

As part of its supervision efforts, the Federal Reserve conducts annually a supervisory stress test. The stress test assesses how large banks are likely to perform under hypothetical economic conditions.[1] Figure 1 summarizes the stress test cycle.

Figure 1. How stress testing works for large banks

The Federal Reserve conducts stress tests to ensure that large banks are sufficiently capitalized and able to lend to households and businesses even in a severe recession. The stress tests evaluate the financial resilience of banks by estimating losses, revenues, expenses, and resulting capital levels under hypothetical economic conditions.



The stress tests ensure that large banks are sufficiently capitalized and able to lend to households and businesses even in a severe recession. They evaluate the financial resilience of banks by estimating losses, revenues, expenses, and resulting capital levels under hypothetical economic conditions.

[1] U.S. bank holding companies (BHCs), covered savings and loan holding companies (SLHCs), and intermediate holding companies of foreign banking organizations (IHCs) with $100 billion or more in assets are subject to the Federal Reserve Board's supervisory stress test rules (12 C.F.R. pt. 238, subpt. O; 12 C.F.R. pt. 252, subpt. E) and capital planning requirements (12 C.F.R. § 225.8; 12 C.F.R. pt. 238, subpt. S).

As part of this cycle, the Federal Reserve publishes four documents:

- *Stress Test Scenarios* describes the hypothetical economic conditions used in the supervisory stress test. The *Stress Test Scenarios* document is typically published by mid-February.
- *Supervisory Stress Test Methodology* provides details about the models and methodologies used in the supervisory stress test.
- *Federal Reserve Stress Test Results* reports the aggregate and individual bank results of the supervisory stress test, which assesses whether banks are sufficiently capitalized to absorb losses during a severe recession. The *Federal Reserve Stress Test Results* document is typically published at the end of the second quarter.
- *Large Bank Capital Requirements* announces the individual capital requirements for all large banks, which are partially determined by the results of the supervisory stress test. The *Large Bank Capital Requirements* document is typically published during the third quarter.

These publications can be found on the Stress Test Publications page (https://www.federalreserve.gov/publications/dodd-frank-act-stress-test-publications.htm).

For information on the Federal Reserve's supervision of large financial institutions, see https://www.federalreserve.gov/supervisionreg/large-financial-institutions.htm. For information on the Federal Reserve's supervision of capital planning processes of banks, see https://www.federalreserve.gov/supervisionreg/stress-tests-capital-planning.htm.

For more information on how the Federal Reserve Board promotes the safety and soundness of the banking system, see https://www.federalreserve.gov/supervisionreg.htm.

Corrections

The Federal Reserve revised this report on July 27, 2023, due to two banks, Bank of America Corporation and The Bank of New York Mellon Corporation, submitting incorrect data. The revisions from the incorrect submissions do not result in a change to either bank's stress capital buffer but do affect projected capital ratios. In its review of these banks' data, the Federal Reserve conducted reviews of the other banks that underwent the stress test and found no errors in their submissions. The revisions are listed below:

On page 1, paragraph 2, the data in the first two sentences were revised.

On page 2, table 1, the data in the "Stressed minimum capital ratios, severely adverse" column were revised.

On page 7, in the first paragraph under "Capital," the data in the first sentence were revised.

On page 7, table 3, the data in the "Projected 2025:Q1" and "Projected minimum" columns were revised.

On page 8, table 4, in the "Stressed ratios with supervisory stress testing capital action assumptions" column, the data for Bank of America and Bank of NY-Mellon were revised.

On page 9, table 5, the data in the rows for Bank of America, Bank of NY-Mellon, and the 23 banks were revised.

On page 10, figure 4, the data for Bank of America and Bank of NY-Mellon were revised.

On page 11, box 2, in the second paragraph, the data point in the first sentence was revised.

On page 11, box 2, figure A, the data point for the "2023 stress test" was revised.

On page 12, figure C, the data point for "2023 stress test," "Minimum quarter AOCI in capital," was revised.

On page 14, table 6, the data in the "Billions of dollars" column, "Other comprehensive income" row, and in the "Percent of average assets" column, "AOCI included in capital (billions of dollars)" row, were revised.

On page 16, table 7, the data in the “Memo items, Other comprehensive income” and the “Other effects on capital, AOCI included in capital (2025:Q1)” columns were revised for Bank of America, Bank of NY-Mellon, and the 23 banks.

On page 19, in the first full sentence, the data point was revised.

On page 26, table A.1, in the “Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1” table, the data in the “Projected 2025:Q1” and “Projected minimum” columns were revised.

On page 26, table A.1, in the “Projected losses, revenue, and net income before taxes through 2025:Q1” table, the data in “Billions of dollars” column, “Other comprehensive income” row, and in the “Percent of average assets” column, “AOCI included in capital (billions of dollars)” row, were revised.

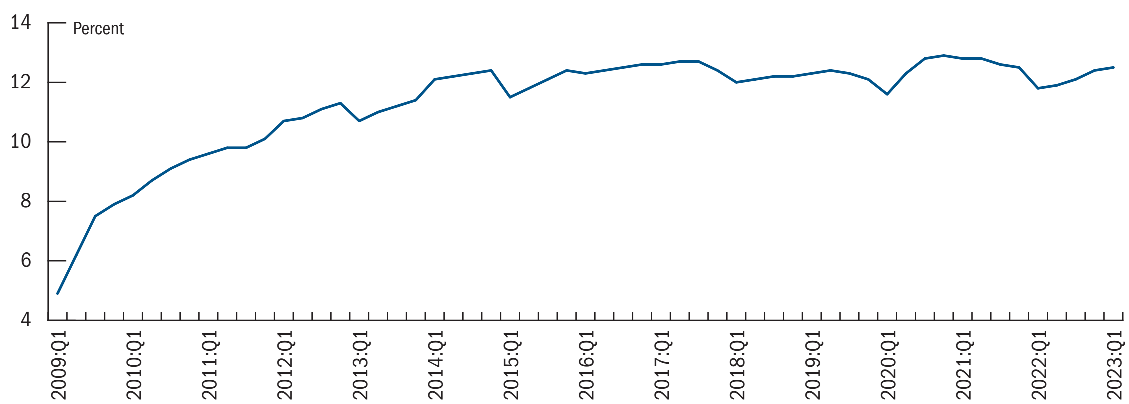
On page 27, table A.2, in the “Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1” table, the data in the “Projected 2025:Q1” and “Projected minimum” columns were revised.

On page 27, table A.2, in the “Projected losses, revenue, and net income before taxes through 2025:Q1” table, the data in “Billions of dollars” column, “Other comprehensive income” row, and in the “Percent of average assets” column, “AOCI included in capital (billions of dollars)” row, were revised.

Executive Summary

The 2023 stress test shows that the 23 large banks subject to the test this year have sufficient capital to absorb more than $540 billion in losses and continue lending to households and businesses under stressful conditions. In the immediate years after the 2007–09 Global Financial Crisis, banks subject to the stress test substantially increased their capital, which has remained largely level for the past few years (see figure 2). The aggregate and individual bank post-stress common equity tier 1 (CET1) capital ratios remain well above the required minimum levels throughout the projection horizon.

Figure 2. Aggregate common equity capital ratio for 23 banks in the 2023 stress test



Note: The Federal Reserve's evaluation of a bank's common equity capital was initially measured using a tier 1 common capital ratio but now is evaluated using a common equity tier 1 capital ratio. Not all of the banks included in the 2023 stress test reported data for all periods since 2009.

Source: FR Y-9C.

Under the severely adverse scenario, the aggregate CET1 capital ratio of the 23 banks falls from an actual 12.4 percent in the fourth quarter of 2022 to its minimum of 9.9 percent, before rising to 10.5 percent at the end of the projection horizon (see table 1). The 2.5 percentage point aggregate decline this year is smaller than the aggregate decline of 2.7 percentage points last year, but comparable to aggregate declines in recent years (see box 2 for more information). While the decline in the aggregate capital ratio was smaller this year than last, the results vary significantly across different types of banks. The largest banks entered the stress test with large unrealized

Table 1. Aggregate capital ratios, actual, projected 2023:Q1–2025:Q1, and regulatory minimums
Percent

Regulatory ratio	Actual 2022:Q4	Stressed minimum capital ratios, severely adverse	Minimum regulatory capital ratios
Common equity tier 1 capital ratio	12.4	9.9	4.5
Tier 1 capital ratio	14.1	11.6	6.0
Total capital ratio	16.1	13.9	8.0
Tier 1 leverage ratio	7.5	6.1	4.0
Supplementary leverage ratio	6.3	5.1	3.0

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. §238.132(d); 12 C.F.R. §252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

losses on securities portfolios.[2] The values of these securities appreciate in the scenario as interest rates are projected to decline. On average, this results in somewhat smaller capital ratio declines for the largest banks. However, banks with concentrations in mortgages, credit cards, and commercial real estate generally had larger declines in post-stress capital ratios this year.

While stress tests are one of many supervisory tools, they are the most risk-sensitive and dynamic component of the regulatory capital framework. They help ensure banks can withstand acute financial stress and still be able to lend to households and businesses. However, recent events have highlighted the need for humility when assessing large bank resilience. Stress tests should continue to evolve over time to reflect an appropriately wide range of risks in today's complex and interconnected financial system. The exploratory analysis conducted this year demonstrates the capacity of supervisory stress testing to test for a wider range of risks and the value of doing so.

Further details of the results are provided in the "Results for Banks under the Severely Adverse Scenario" section of this report, which includes results presented both in the aggregate and for individual banks, as well as results highlights in "Box 2. Results Highlights from 2019 to 2023."

This report includes

- background information regarding the 2023 stress test,
- description of stress test model changes,
- stress test results and highlights, and
- bank-specific stress test results (appendix A).

[2] Only firms subject to Category I or II standards or firms that opt in are required to include unrealized gains and losses on securities in the calculation of capital. Category III and IV firms are not required to include unrealized gains and losses on securities in the calculation of capital.

Background

The results of the 2023 stress test include information for each bank, such as capital ratios, pre-tax net income, losses, revenues, and expenses, projected under severely adverse economic and financial conditions.

Stress Test Process

The Federal Reserve projects these stress test results using a set of supervisory models that take as inputs bank-provided data on their financial conditions and risk characteristics, as well as the Federal Reserve's scenarios. The stress test uses models developed or selected by the Federal Reserve, which may be refined each year in advance of the stress test, and these models use bank-provided data collected primarily through regulatory reporting.[3] This year, the supervisory severely adverse scenario is characterized by a severe global recession accompanied by a period of heightened stress in commercial and residential real estate, as well as corporate debt markets.[4]

Participating Banks

A total of 23 banks are participating in this year's stress test.[5] Figure 3 shows when different types of banks are required to participate in the stress test, and table 2 lists participating banks. In 2022, 33 banks participated in the stress test because Category IV banks are generally required to participate in the test only every other year.[6] Therefore, the aggregate results reported for the 2023 stress test are not fully comparable with the 2022 stress test results.

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3 For more information on the models and bank-provided data, see Board of Governors of the Federal Reserve System, *2023 Supervisory Stress Test Methodology* (Washington: Board of Governors, June 2023), https://www.federalreserve.gov/publications/files/2023-june-supervisory-stress-test-methodology.pdf.

4 For more information on the scenarios, see Board of Governors of the Federal Reserve System, *2023 Stress Test Scenarios* (Washington: Board of Governors, February 2023), https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20230209a1.pdf.

5 The Federal Reserve expects banks to wait until after 4:30 p.m. EDT on Friday, June 30, 2023, to publicly disclose any information about their planned capital actions and stress capital buffer requirements. This will give all banks sufficient time to examine and understand their results.

6 On October 10, 2019, the Board finalized a rule amending its stress test rules to subject certain banks with total consolidated assets between $100 billion and $250 billion to the supervisory stress test requirements on a two-year cycle (Prudential Standards, 84 Fed. Reg. 59,032 (Nov. 1, 2019)). Because of this rule change, the number of banks in this year's stress test is different from the 33 banks that participated in last year's stress test. For more information on which banks participated in the 2022 stress test, see Board of Governors of the Federal Reserve System, *Dodd-Frank Act Stress Test 2022: Supervisory Stress Test Results* (Washington: Board of Governors, June 2022), https://www.federalreserve.gov/publications/files/2022-dfast-results-20220623.pdf.

Figure 3. When bank holding companies are required to participate in the stress test

The Board conducts stress tests of bank holding companies it supervises on an annual or two-year cycle. Based on a bank holding company's financial condition, size, complexity, risk profile, risks to the U.S. economy, or scope of operations or activities, the Board may conduct a stress test of a bank holding company more or less frequently than required.

Every year	• U.S. global systemically important bank holding companies (Category I) • Domestic and foreign bank holding companies with $700 billion or more in total assets or $75 billion or more in cross-jurisdictional activity (Category II) • Domestic and foreign bank holding companies with $250 billion or more in total assets or $75 billion or more in weighted short-term wholesale funding, nonbank assets, or off-balance-sheet exposure (Category III)
Every 2 years (in years ending in an even number)	• Domestic and foreign bank holding companies with $100 billion or more in total assets that do not meet the requirements for every-year stress testing (Category IV) *Note: Bank holding companies of this asset size may also elect to participate in a stress test in a year ending in an odd number.*

Table 2. Banks participating in the 2023 stress test

Name	Risk based category
Bank of America Corporation	Category I
The Bank of New York Mellon Corporation	Category I
Barclays US LLC	Category III
BMO Financial Corp.	Category IV
Capital One Financial Corporation	Category III
The Charles Schwab Corporation	Category III
Citigroup Inc.	Category I
Citizens Financial Group, Inc.	Category IV
Credit Suisse Holdings (USA), Inc.	Category III
DB USA Corporation	Category III
The Goldman Sachs Group, Inc.	Category I
JPMorgan Chase & Co.	Category I
M&T Bank Corporation	Category IV
Morgan Stanley	Category I
Northern Trust Corporation	Category II
The PNC Financial Services Group, Inc.	Category III
RBC US Group Holdings LLC	Category IV
State Street Corporation	Category I
TD Group US Holdings LLC	Category III
Truist Financial Corporation	Category III
UBS Americas Holding LLC	Category III
U.S. Bancorp	Category III
Wells Fargo & Company	Category I

Note: BMO Financial Corp., Citizens Financial Group, Inc., M&T Bank Corporation, and RBC US Group Holdings LLC are on a two-year stress test cycle; therefore, they were included in last year's stress test and would normally be included next in 2024. In connection with their recent acquisitions, the Board required BMO Financial Corp., Citizens Financial Group, Inc., and M&T Bank Corporation to receive a new capital requirement this year based on the 2023 stress test. RBC US Group Holdings LLC elected to opt in to the 2023 stress test.
Source: Federal Reserve Supervision and Regulation Report, table A.1.

Box 1. Model Changes since 2022 Stress Test

Each year, the Federal Reserve refines both the substance and process of the 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. Each year, the Federal Reserve also makes relatively minor refinements, if necessary, 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.

For the 2023 stress test, the Federal Reserve made four notable updates to the supervisory models:[1]

- The international other consumer, international small-business, international first mortgage, and international home-equity portfolios, which are components of the other retail loans model, will be assigned loss rates associated with a percentile of the historical loss distribution. Under the supervisory severely adverse scenario, this percentile is related to the frequency of severe recessions.
- The commercial real estate loss given default (LGD) model was updated to make it more risk sensitive to loan-specific variation in the collateral value of a firm's outstanding commitments. The updated model directly recognizes the impact of granular differences in collateral value on recoveries for defaulted loans.
- The pre-provision net revenue (PPNR) model was updated to capture trading revenues based on FR Y-9C and FR Y-14 data. In prior exercises, trading revenues for these firms were modeled in the aggregate and allocated to each firm based on its market share.
- Intermediate holding companies, which became subject to the stress test in 2018, now have sufficient PPNR data history to be modeled individually and will no longer be modeled based on industry aggregate performance.[2]

In addition, in recent cycles, an adjustment was made to the Trading model for affordable housing public welfare investments. Due to recent revisions to the data collected on the FR Y-14Q report, this adjustment is no longer necessary.

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[1] Other than the revisions to the other retail loans model, the results for the 2023 stress test for the other revisions listed in this section will reflect the average output from the 2022 and 2023 models, in accordance with the stress test policy on averaging material model changes.

[2] See page 76 of the 2018 stress test results for a description of the industry model: *Dodd-Frank Act Stress Test 2018: Supervisory Stress Test Methodology and Results* (Washington, Board of Governors, June 2018), https://www.federalreserve.gov/publications/files/2018-dfast-methodology-results-20180621.pdf.

Results for Banks under the Severely Adverse Scenario

This section contains the Federal Reserve's results for the 2023 stress test under the severely adverse scenario. The results are presented both in the aggregate and for individual banks.

The aggregate results incorporate the combined sensitivities of capital, losses, revenues, and expenses across all banks to the stressed economic and financial market conditions contained in the severely adverse scenario. The range of results across individual banks indicates differences in business focus, asset composition, revenue and expense sources, and portfolio risk characteristics. Boxes 2 through 4 contain additional information regarding key themes in this year's stress test. Box 2 contains additional insights about the results by placing them in context of results from recent years. A discussion of commercial real estate exposures in the 2023 test is highlighted in box 3. Box 4 contains a summary of the results and lessons learned from the additional, exploratory market shock applied to U.S. global systemically important banks (G-SIBs). The comprehensive 2023 stress test results for individual banks are in appendix A.

Capital

Under the severely adverse scenario, the aggregate CET1 capital ratio is projected to decline from 12.4 percent at the start of the projection horizon to a minimum of 9.9 percent before rising to 10.5 percent at the end of nine quarters (see table 3). Tables 4 and 5 present post-stress

Table 3. Aggregate capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	12.4	10.5	9.9
Tier 1 capital ratio	14.1	12.2	11.6
Total capital ratio	16.1	14.3	13.9
Tier 1 leverage ratio	7.5	6.4	6.1
Supplementary leverage ratio	6.3	5.5	5.1
Risk-weighted assets[1] (billions of dollars)	10,090.1	9,973.4	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

minimum capital ratios for each bank, and the change from the start of the projection horizon varies considerably across banks (see figure 4). This variation is due to differences in banks' business lines, portfolio composition, and securities and loan risk characteristics, which drive changes in the magnitude and timing of loss, revenue, and expense projections.

Table 4. Projected minimum common equity tier 1 capital ratio under the severely adverse scenario, 2023:Q1–2025:Q1: 23 banks

Percent

Bank	Stressed ratios with supervisory stress testing capital action assumptions
Bank of America	9.3
Bank of NY-Mellon	11.7
Barclays US	9.3
BMO	9.3
Capital One	8.0
Charles Schwab Corp	22.8
Citigroup	9.1
Citizens	6.4
Credit Suisse USA	20.5
DB USA	17.4
Goldman Sachs	10.1
JPMorgan Chase	11.1
M&T	7.0
Morgan Stanley	11.2
Northern Trust	11.4
PNC	7.9
RBC USA	10.8
State Street	13.8
TD Group	15.9
Truist	6.7
UBS Americas	8.0
US Bancorp	6.6
Wells Fargo	8.2

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. §238.132(d); 12 C.F.R. §252.44(c). 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 2023:Q1 to 2025:Q1.

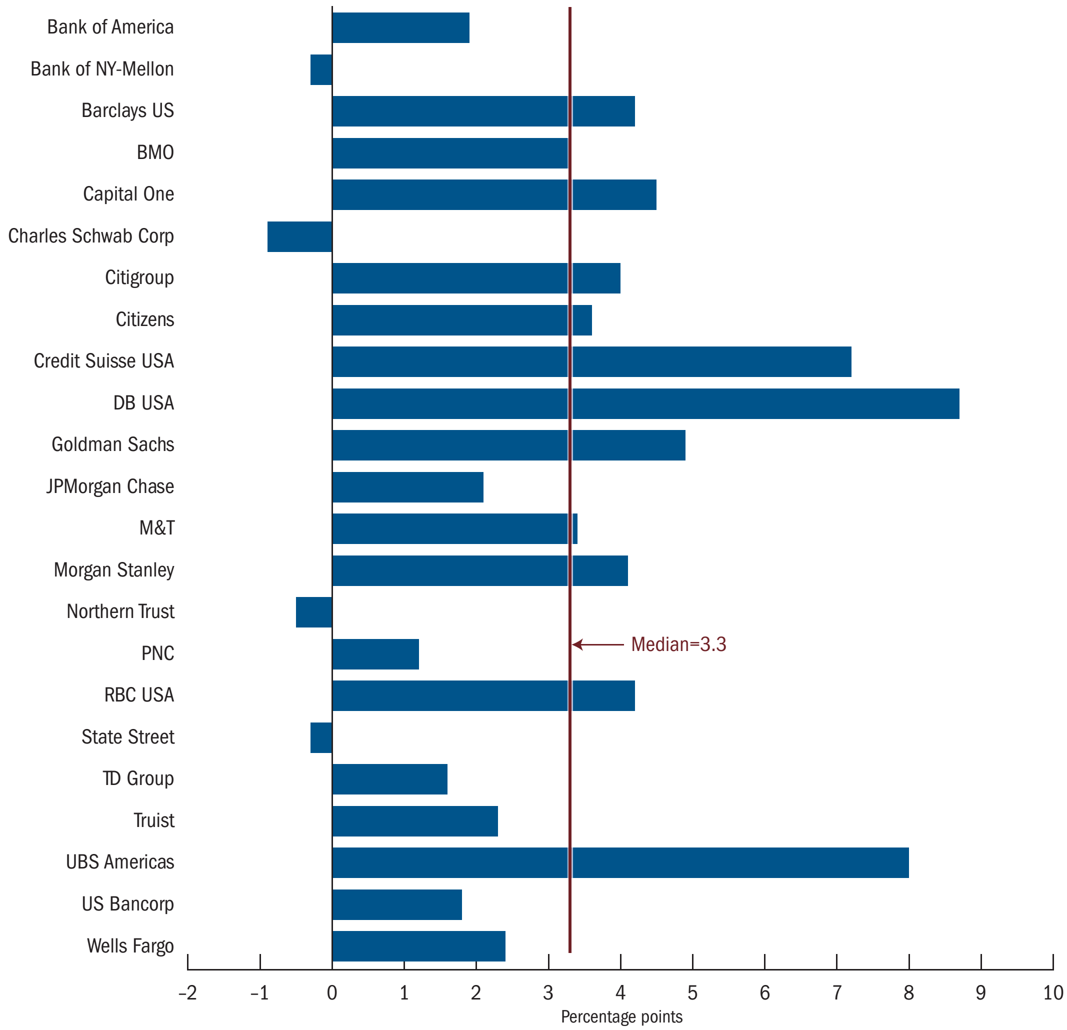
Table 5. Capital ratios, actual 2022:Q4 and projected 2023:Q1–2025:Q1 under the severely adverse scenario: 23 banks
Percent

Bank	Common equity tier 1 capital ratio			Tier 1 capital ratio			Total capital ratio			Tier 1 leverage ratio			Supplementary leverage ratio[1]		
	Actual 2022: Q4	Ending	Mini-mum	Actual 2022: Q4	Ending	Mini-mum	Actual 2022: Q4	Ending	Mini-mum	Actual 2022: Q4	Ending	Mini-mum	Actual 2022: Q4	Ending	Mini-mum
Bank of America	11.2	9.9	9.3	13.0	11.7	11.1	14.9	13.7	13.4	7.0	6.2	5.9	5.9	5.3	5.0
Bank of NY-Mellon	11.3	14.9	11.7	14.4	17.9	14.7	15.3	18.9	15.8	5.8	7.2	5.9	6.8	8.5	7.0
Barclays US	13.5	10.2	9.3	15.1	11.8	11.0	16.9	13.8	13.0	8.2	6.3	5.8	5.8	4.4	4.1
BMO	12.6	9.3	9.3	13.5	10.2	10.2	15.0	12.2	12.2	9.9	7.4	7.4			
Capital One	12.5	8.0	8.0	13.9	9.3	9.3	15.8	11.3	11.3	11.1	7.5	7.5	9.5	6.3	6.3
Charles Schwab Corp	21.9	27.0	22.8	28.9	34.0	29.8	28.9	34.3	29.9	7.2	8.4	7.4	7.1	8.4	7.3
Citigroup	13.0	9.7	9.1	14.8	11.5	10.9	17.3	13.9	13.5	7.1	5.3	5.0	5.8	4.4	4.2
Citizens	10.0	6.4	6.4	11.1	7.5	7.5	12.8	9.6	9.6	9.3	6.3	6.3			
Credit Suisse USA	27.8	20.7	20.5	29.0	21.9	21.7	29.2	21.9	21.7	19.8	14.8	14.6	16.4	12.3	12.2
DB USA	26.1	17.5	17.4	34.4	26.7	26.6	34.4	27.0	26.9	10.4	7.4	7.3	9.5	6.7	6.7
Goldman Sachs	15.0	12.6	10.1	16.6	14.2	11.7	19.1	16.6	14.6	7.3	6.2	5.0	5.8	4.9	4.0
JPMorgan Chase	13.2	11.9	11.1	14.9	13.5	12.7	16.8	15.4	14.8	6.6	6.0	5.6	5.6	5.1	4.8
M&T	10.4	7.0	7.0	11.8	8.4	8.4	13.6	10.3	10.3	9.2	6.5	6.5			
Morgan Stanley	15.3	14.9	11.2	17.2	16.8	13.2	19.3	19.0	15.5	6.7	6.5	5.0	5.5	5.4	4.1
Northern Trust	10.8	12.2	11.4	11.8	13.2	12.3	13.9	16.0	15.0	7.1	7.9	7.4	7.9	8.8	8.3
PNC	9.1	8.0	7.9	10.4	9.4	9.2	12.3	11.1	11.1	8.2	7.4	7.3	6.9	6.2	6.1
RBC USA	15.0	10.8	10.8	15.0	10.8	10.8	15.6	12.0	12.0	9.9	7.0	7.0			
State Street	13.6	17.8	13.8	15.4	19.7	15.7	16.8	21.3	17.2	6.0	7.6	6.0	7.0	8.8	7.0
TD Group	17.4	15.9	15.9	17.4	15.9	15.9	18.6	16.9	16.9	9.2	8.4	8.4	8.1	7.4	7.4
Truist	9.0	6.7	6.7	10.5	8.2	8.2	12.4	10.8	10.8	8.5	6.6	6.6	7.3	5.7	5.7
UBS Americas	16.1	8.0	8.0	23.3	16.1	16.1	23.4	17.4	17.4	8.5	5.3	5.3	7.7	4.8	4.8
US Bancorp	8.4	6.9	6.6	9.8	8.4	8.1	11.9	10.5	10.3	7.9	6.7	6.4	6.4	5.4	5.2
Wells Fargo	10.6	8.4	8.2	12.1	9.9	9.7	14.8	12.7	12.6	8.3	6.7	6.6	6.9	5.6	5.4
23 banks	12.4	10.5	9.9	14.1	12.2	11.6	16.1	14.3	13.9	7.5	6.4	6.1	6.3	5.5	5.1

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. §238.132(d); 12 C.F.R. §252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1.

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

Figure 4. Change from 2022:Q4 to minimum common equity tier 1 capital ratio in the severely adverse scenario



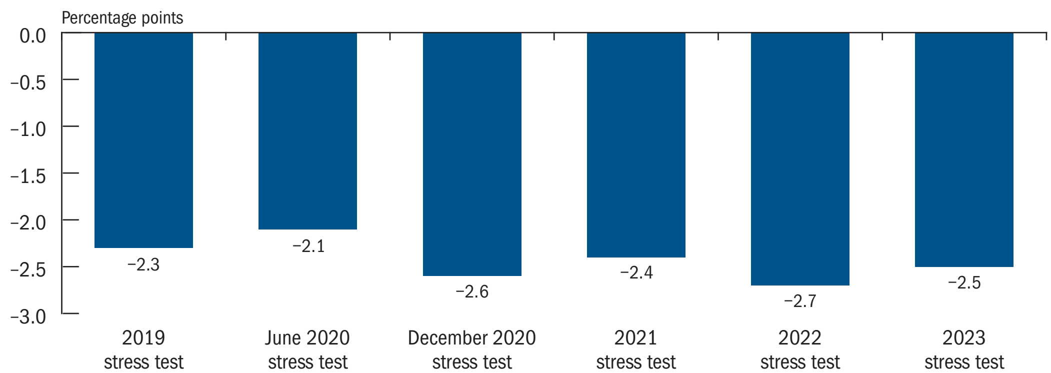
Note: Estimates of minimum common equity tier 1 (CET1) capital as a percent of risk-weighted assets are for the nine-quarter period from 2023:Q1 to 2025:Q1. Negative values indicate CET1 ratio increases.

Box 2. Results Highlights from 2019 to 2023

The results of the 2023 stress test indicate large banks would experience substantial losses under the severely adverse scenario but would maintain capital ratios well above minimum risk-based requirements.

The aggregate CET1 capital ratio declines by 2.5 percentage points from the start of the projection horizon to its minimum in the 2023 stress test. This decline is smaller than the 2.7 percentage point decline in the 2022 stress test, but comparable to projected declines in recent years (see figure A). The smaller decline in this year's aggregate post-stress capital ratio is mostly due to the path of interest rates in the scenario.

Figure A. Aggregate maximum decline in stressed common equity tier 1 capital ratio, severely adverse scenario



Note: The bar represents the aggregate maximum common equity tier 1 (CET1) capital ratio decline of the banks in each exercise. The values for the 2019 stress test are estimates of the CET1 capital ratio decline had the stress capital buffer rule been in place at that time. For purposes of this figure, the 2019 stress test values assume (1) a constant level of assets over the projection horizon, (2) no common dividend payments, (3) no issuances or repurchases of common or preferred stock (except those related to business plan changes), and (4) fully phased-in capital deductions.

Interest rates fall more in the 2023 scenario than in scenarios from recent years because rates were higher at the start of the stress test. The significant decline aligns with the typical behavior of interest rates in a severe recession. For example, the 3-month Treasury rate declines by 390 basis points in this year's scenario. That rate did not decline in the December 2020, 2021, and 2022 scenarios, when interest rates were near zero at the start of the stress test (see figure B).

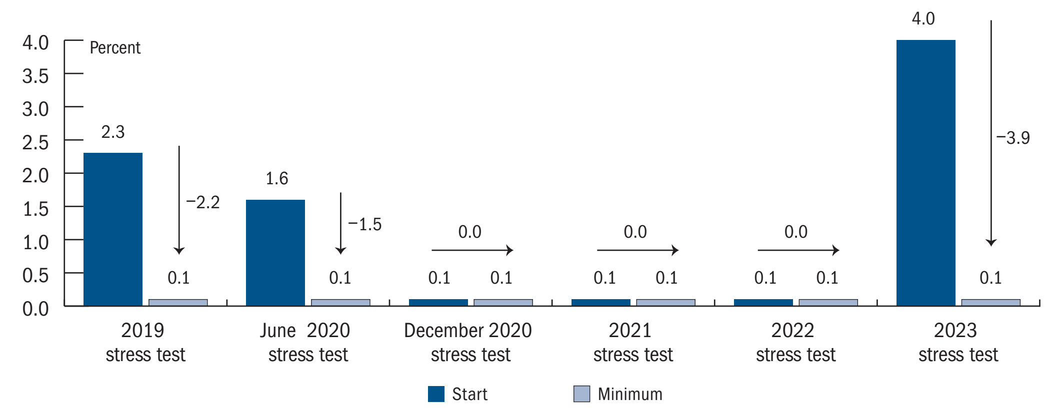
The decline in interest rates in this year's stress test has offsetting effects on bank capital: it increases the projected market value of securities and reduces projected net interest income. Banks entered the 2023 stress test with large unrealized losses on their available-for-sale (AFS) securities portfolios. Unrealized gains and losses on AFS securities are recognized in accumulated other comprehensive income (AOCI) and flow through to the regulatory capital ratios for the largest firms.[1]

(continued)

[1] Only firms subject to Category I or II standards or firms that opt in are required to include unrealized gains and losses on securities in the calculation of capital. Category III and IV firms are not required to include unrealized gains and losses on securities in the calculation of capital.

Box 2—*continued*

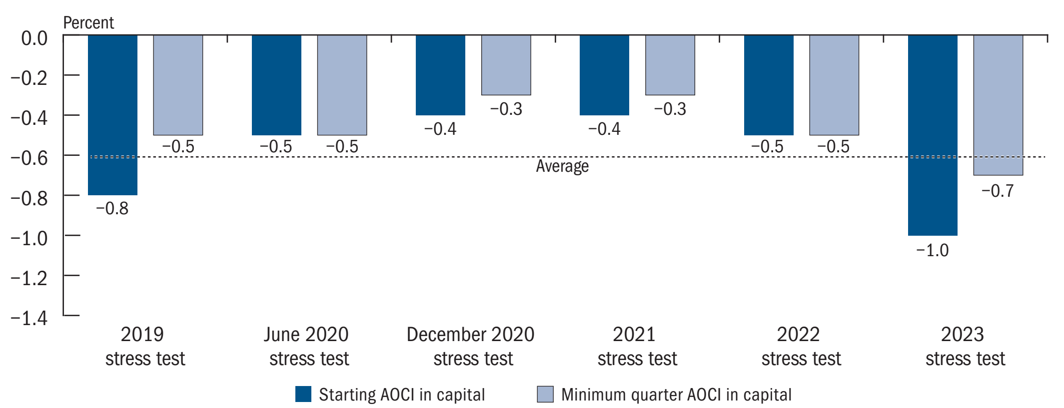
Figure B. 3-month Treasury yield, severely adverse scenario



At the beginning of the 2023 stress test, most banks started with large unrealized losses because the market value of their securities fell as interest rates rose in 2022. However, under the hypothetical recession in the stress test, rates decline, the market values of most securities increase, and these unrealized losses decline. Figure C illustrates this relationship over the past few stress test cycles. In conjunction with the decline in interest rates during the projection horizon, interest earned on assets falls significantly, which somewhat offsets the projected improvement in securities values.

(continued)

Figure C. Accumulated other comprehensive income (AOCI) in capital to risk-weighted assets, starting point and stressed minimum



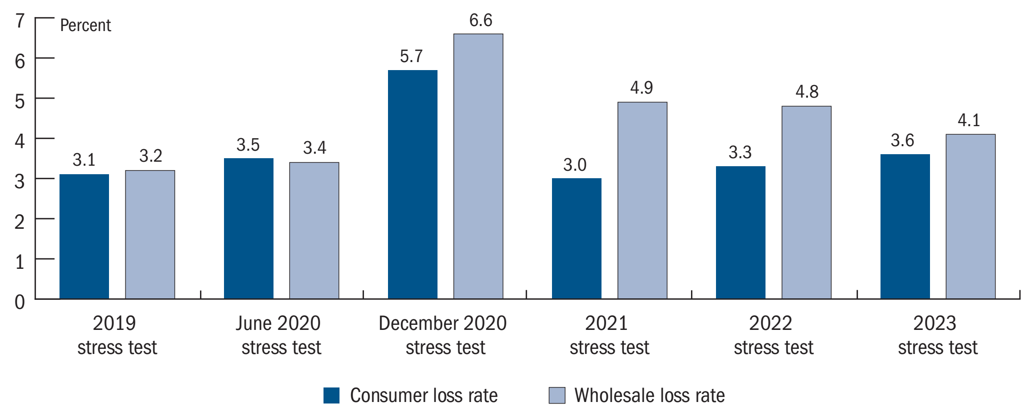
Note: Only firms subject to Category I or II standards or firms that opt in are required to include unrealized gains and losses on securities in the calculation of capital. Category III and IV firms are not required to include unrealized gains and losses on securities in the calculation of capital.

Box 2—*continued*

In contrast to the improvement in forecasted unrealized losses on securities, projected net income in the stress test is roughly similar to prior years. The forecasted loss rates on consumer loans increased this year, driven by the larger shocks to the unemployment rate and house prices in this year's scenario.[1]

Meanwhile, the loss rates on wholesale loans, such as loans to businesses, decreased because the credit quality of these loans has improved since last year (see figure D). In the aggregate, these effects roughly offset.

Figure D. Cumulative consumer and wholesale loss rate through stressed minimum, severely adverse scenario



Note: Consumer loss rate includes losses on domestic and foreign first-lien mortgages, domestic and foreign junior-lien mortgages and home equity lines of credit, credit cards, automobile loans, student loans, and all other consumer loans. Wholesale loss rates includes losses on domestic and foreign commercial real estate and commercial and industrial loans. Losses are cumulative through the projection quarter at which the aggregate capital ratio is the lowest for each stress test.

1 The relatively more severe unemployment and house price paths in this year's scenario are consistent with the approach outlined in the Policy Statement on the Scenario Design Framework for Stress Testing (see 12 C.F.R. pt. 252, appendix A), which calls for the unemployment rate to increase to a level of 10 percent and house prices to fall such that the ratio of house prices to per capita disposable income reaches the trough experienced in the 2007–09 Global Financial Crisis. These features of the scenario design framework are intended to limit procyclicality in the financial system by increasing the severity of the scenario during economic expansions and thereby increasing the resilience of the banking system to building risks.

Pre-tax Net Income

Projections of pre-tax net income are the largest component of post-stress changes in capital.[7] Over the nine quarters of the projection horizon, aggregate cumulative pre-tax net income is projected to be negative $190 billion, which equals negative 1 percent of average total assets (see table 6). As a percent of average assets, projected cumulative pre-tax net income is negative for

7 For risk-based capital ratios, the numerator is capital, which is primarily impacted from pre-tax net income and gains/losses on AFS. The denominator for risk-based capital ratios is risk-weighted assets. Risk-weighted assets change minimally throughout the projection horizon as the result of an assumption that a bank's assets generally remain unchanged.

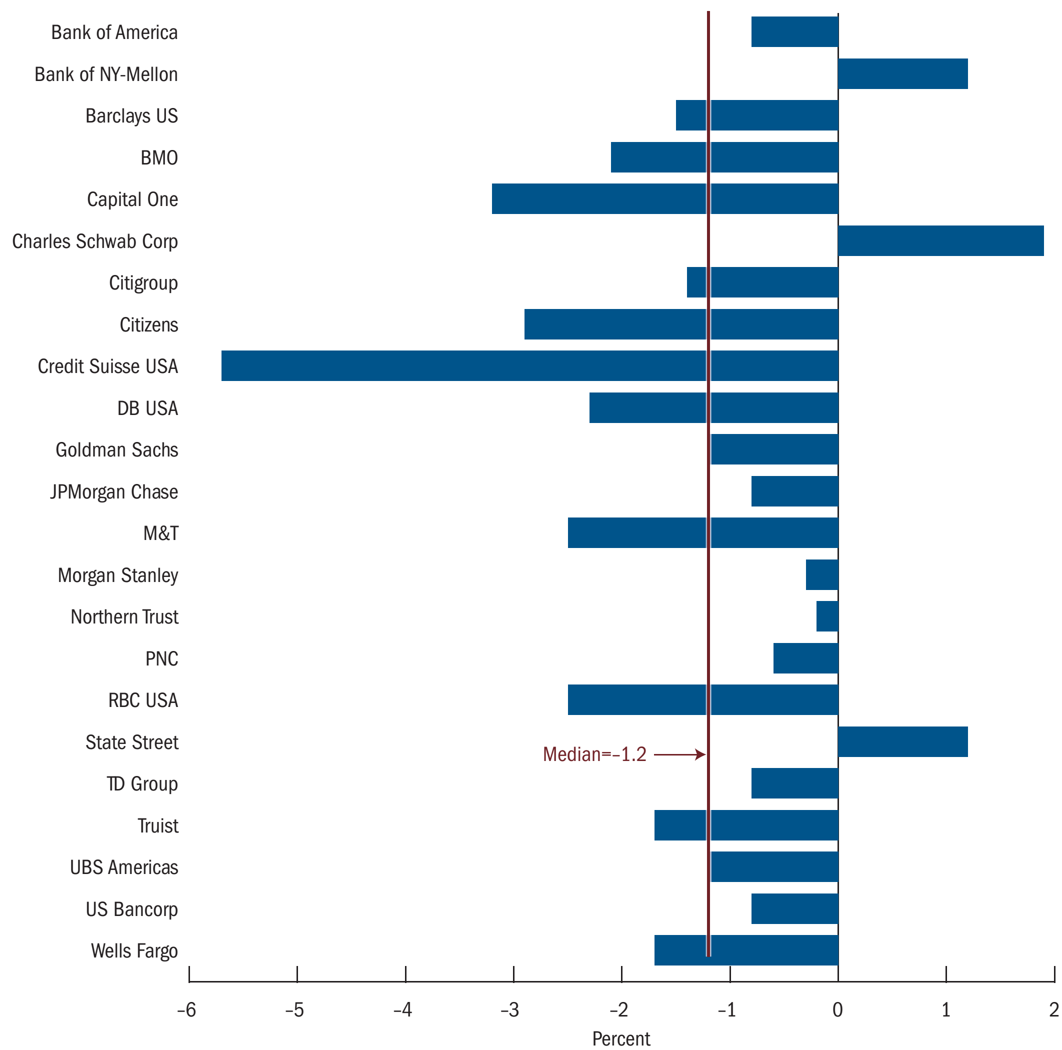
20 out of 23 banks and varies considerably across banks, ranging from negative 5.7 percent to positive 1.9 percent (see figure 5 and table 7). This range illustrates differences in the sensitivity of the various components of pre-tax net income to the economic and financial market conditions in the severely adverse scenario. These components include cumulative projections of losses and pre-provision net revenue (PPNR), which are discussed in further detail below.

Table 6. Projected aggregate losses, revenue, and net income before taxes through 2025:Q1 under the severely adverse scenario

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	349.0	1.8
equals		
Net interest income	791.6	4.1
Noninterest income	710.8	3.7
less		
Noninterest expense[2]	1,153.4	6.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	421.9	
Credit losses on investment securities (AFS/HTM)[4]	5.4	
Trading and counterparty losses[5]	94.0	
Other losses/gains[6]	18.1	
equals		
Net income before taxes	−190.4	−1.0
Memo items		
Other comprehensive income[7]	36.9	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−98.0	−61.1

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Figure 5. Pre-tax net income rates in the severely adverse scenario



Note: Estimates are for the nine-quarter period from 2023:Q1 to 2025:Q1 as a percent of average assets.

Table 7. Projected losses, revenue, and net income before taxes through 2025:Q1 under the severely adverse scenario: 23 banks

Billions of dollars

Bank	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 comprehensive income[6]	AOCI included in capital (2025:Q1)
Bank of America	43.2	0.0	54.7	0.2	8.9	2.3	−23.0	4.5	−4.8
Bank of NY-Mellon	8.5	0.0	1.8	0.3	1.3	0.0	5.1	2.1	-3.8
Barclays US	4.1	0.0	4.6	0.0	2.1	0.0	−2.6	0.0	0.0
BMO	2.8	0.0	7.2	0.0	0.0	0.0	−4.4	0.0	0.0
Capital One	31.2	0.0	45.5	0.2	0.0	0.0	−14.5	0.0	0.0
Charles Schwab Corp	11.8	0.0	1.7	-0.2	0.0	0.0	10.3	0.0	0.0
Citigroup	22.0	0.0	42.0	0.6	13.3	1.0	−34.9	6.5	−38.0
Citizens	5.4	0.0	11.9	0.0	0.0	0.0	−6.6	0.0	0.0
Credit Suisse USA	-0.8	0.0	0.0	0.0	2.4	0.2	−3.3	0.0	0.1
DB USA	-0.4	0.0	0.8	0.0	0.9	0.2	−2.3	0.1	−0.2
Goldman Sachs	26.7	0.0	18.5	0.0	21.2	3.6	−16.6	2.0	−1.0
JPMorgan Chase	65.2	0.0	71.0	1.7	17.8	4.7	−30.1	9.4	−2.3
M&T	4.9	0.0	9.8	0.0	0.0	0.0	−4.9	0.0	0.0
Morgan Stanley	25.0	0.0	11.3	0.0	12.5	4.8	−3.7	3.4	−2.9
Northern Trust	3.6	0.0	3.7	0.2	0.0	0.0	−0.2	1.5	−0.1
PNC	14.0	0.0	17.2	0.3	0.0	0.1	−3.6	0.0	−0.1
RBC USA	2.5	0.0	6.5	0.3	0.0	0.0	−4.2	0.0	0.0
State Street	6.3	0.0	1.4	0.1	1.2	0.0	3.6	1.5	−1.8
TD Group	6.8	0.0	10.5	0.2	0.0	0.0	−3.9	0.0	0.0
Truist	11.8	0.0	20.3	0.9	0.0	0.1	−9.5	0.0	0.0
UBS Americas	1.1	0.0	3.4	0.0	0.0	0.1	−2.4	0.0	0.0
US Bancorp	17.9	0.0	23.3	0.0	0.0	0.1	−5.5	0.0	0.0
Wells Fargo	35.5	0.0	54.9	0.4	12.2	0.8	−32.9	6.0	−6.2
23 banks	349.0	0.0	421.9	5.4	94.0	18.1	−190.4	36.9	−61.1

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

1 Pre-provision net revenue includes losses from operational-risk events and other real estate owned (OREO) costs.

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

3 For banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).

4 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.

5 Other losses/gains include projected change in fair value of loans held for sale or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.

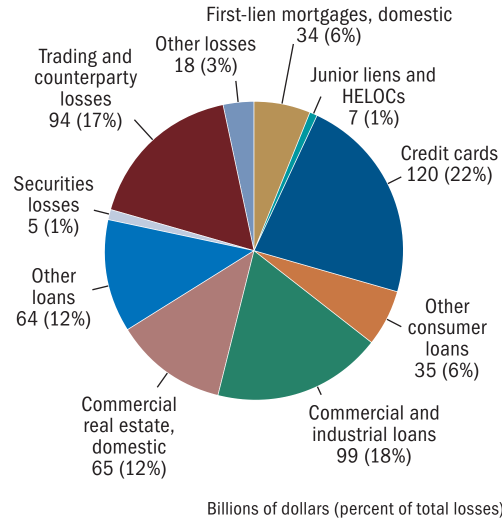
6 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Losses

Over the projection horizon, aggregate losses on loans and other positions are projected to be $541 billion. These losses comprise

- $424 billion in loan losses, accounting for 78 percent of total losses;
- $18 billion in additional losses from items such as loans booked under the fair-value option (see table 6), accounting for 3 percent of total losses;
- $94 billion in trading and counterparty losses at the 11 banks with substantial trading, processing, or custodial operations, accounting for 17 percent of total losses; and
- $5 billion in securities losses, accounting for 1 percent of total losses (see figure 6).[8]

Figure 6. Projected losses in the severely adverse scenario



Note: Percent of total losses may not sum to 100 because of rounding.

For loans measured at amortized cost, projected aggregate losses are $424 billion, with the loan loss rate at 6.4 percent (see table 8).[9] These loan losses flow into pre-tax net income through the projection of provisions for loan and lease losses, which is $422 billion in aggregate and takes into account banks' established allowances for credit losses at the start of the projection horizon.[10]

Projected consumer loan losses represent a smaller share (35 percent) of total losses than commercial loan losses (42 percent). The loan portfolio that constitutes the largest amount of losses is credit cards, representing 22 percent of total losses.

Total loan loss rates vary significantly across banks, ranging between 1.3 percent and 14.7 percent (see table 9). This range results from differences in loan portfolio composition, which materially affects losses because projected loss rates vary significantly for different types of loans. For example, aggregate loan loss rates range from 2.7 percent on domestic first-lien mortgages to

[8] For banks 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 ASU 2016-13 (Norwalk, CT: FASB, June 2016). Prior to the adoption of ASU 2016-13, securities credit losses were realized through other-than-temporary impairment.

[9] 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.

[10] Provisions for loan and lease losses equal projected loan losses plus the amount needed for the allowance to be at an appropriate level at the end of each quarter.

Table 8. Projected aggregate loan losses, by type of loan, under the severely adverse scenario, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	424.0	6.4
First-lien mortgages, domestic	33.8	2.7
Junior liens and HELOCs,[2] domestic	7.0	4.9
Commercial and industrial[3]	99.3	6.7
Commercial real estate, domestic	64.9	8.8
Credit cards	119.7	17.4
Other consumer[4]	35.1	5.4
Other loans[5]	64.2	3.8

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

17.4 percent on credit cards, due to the sensitivity and historical performance of these loans. Some loan portfolios are sensitive to home prices or unemployment rates and may experience high stressed loss rates due to the considerable stress on these factors in the severely adverse scenario.[11]

Loan loss rates also reflect differences in the characteristics of loans within each portfolio. For example, the median projected loss rate on commercial and industrial (C&I) loans across all banks is 6.3 percent. The loss rate on C&I loans among individual firms ranges from 2.5 percent to 16.6 percent. For credit cards, the range of projected loss rates among banks is 15.5 percent to 24.7 percent, and the median is 17.8 percent.

For loans measured at fair value, losses enter pre-tax net income through the other loans loss category (see table 7). Loans measured at amortized cost and those measured at fair value generally have similar risk factors, but the latter are exposed to risk from the effects of market fluctuations, which can lead to more severe market value losses in periods of high market volatility or asset illiquidity.

Aggregate trading and counterparty losses, which also flow into pre-tax net income, are $94 billion for the 11 banks subject to the global market shock component and/or the largest counterparty default component of the severely adverse scenario. Individual bank losses range from $1 billion to $21 billion, resulting from the specific risk characteristics of each bank's trading positions and counterparty exposures, inclusive of hedges (see table 7). Importantly, these projected losses are based on the trading positions and counterparty exposures held by banks on the same as-of date (October 14, 2022) and could have varied if they had been based on a different date.

Aggregate credit losses on investment securities are $5 billion (see table 6). In addition, unrealized gains and losses on available-for-sale (AFS) debt securities are reflected in accumulated other

11 In addition, losses are calculated based on the exposure at default, 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 percentage of average outstanding balances over the projection horizon.

comprehensive income (AOCI).[12] Other comprehensive income (OCI) is projected to be $37 billion in aggregate.

Table 9. Projected loan losses by type of loan for 2023:Q1–2025:Q1 under the severely adverse scenario: 23 banks

Percent of average loan balances[1]

Bank	Loan losses	First-lien mortgages, domestic	Junior liens and HELOCs,[2] domestic	Commercial and industrial[3]	Commercial real estate, domestic	Credit cards	Other consumer[4]	Other loans[5]
Bank of America	5.1	2.3	4.0	5.2	9.4	15.9	2.3	3.1
Bank of NY-Mellon	2.5	2.8	9.8	4.6	9.3	0.0	0.6	1.7
Barclays US	10.0	0.0	0.0	16.6	3.4	16.4	16.7	0.7
BMO	6.2	2.7	4.3	6.2	8.3	16.3	5.7	6.2
Capital One	14.7	3.2	7.8	11.2	9.9	22.2	10.4	4.9
Charles Schwab Corp	1.3	1.9	6.5	10.2	0.0	0.0	0.6	0.8
Citigroup	7.2	3.7	19.1	4.6	9.3	15.6	18.3	2.8
Citizens	7.1	3.1	5.4	5.6	12.4	18.7	7.8	6.3
Credit Suisse USA	6.9	0.0	0.0	0.0	8.4	0.0	16.7	0.6
DB USA	5.0	3.4	9.9	2.5	11.2	0.0	4.5	1.9
Goldman Sachs	9.0	3.7	5.0	14.0	16.0	24.7	9.3	4.9
JPMorgan Chase	6.4	2.8	4.2	10.0	3.9	15.5	3.3	4.1
M&T	7.1	3.1	4.7	6.5	8.8	17.8	9.2	8.2
Morgan Stanley	4.2	2.8	5.0	11.7	13.7	0.0	1.3	3.9
Northern Trust	7.1	2.8	10.1	6.2	11.5	0.0	16.7	7.0
PNC	5.5	2.5	3.4	5.8	10.0	18.8	4.6	2.8
RBC USA	6.9	4.4	6.5	9.6	10.3	17.8	14.8	3.6
State Street	3.6	0.0	0.0	7.7	4.1	0.0	0.6	3.0
TD Group	5.9	2.7	5.5	6.2	7.5	21.4	2.9	3.5
Truist	5.9	2.4	3.8	5.3	9.6	16.3	8.3	3.6
UBS Americas	2.9	3.4	0.0	3.1	4.1	17.8	0.7	8.9
US Bancorp	6.3	3.0	6.0	6.6	9.5	16.5	5.5	4.0
Wells Fargo	5.7	2.1	2.8	6.4	9.7	17.8	5.1	4.5
23 banks	6.4	2.7	4.9	6.7	8.8	17.4	5.4	3.8

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

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

2 HELOCs (home equity lines of credit).

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

4 Other consumer loans include student loans and automobile loans.

5 Other loans include international real estate loans.

12 Only firms subject to Category I or II standards or firms that opt in are required to include unrealized gains and losses on securities in the calculation of capital. Category III and IV firms are not required to include unrealized gains and losses on securities in the calculation of capital.

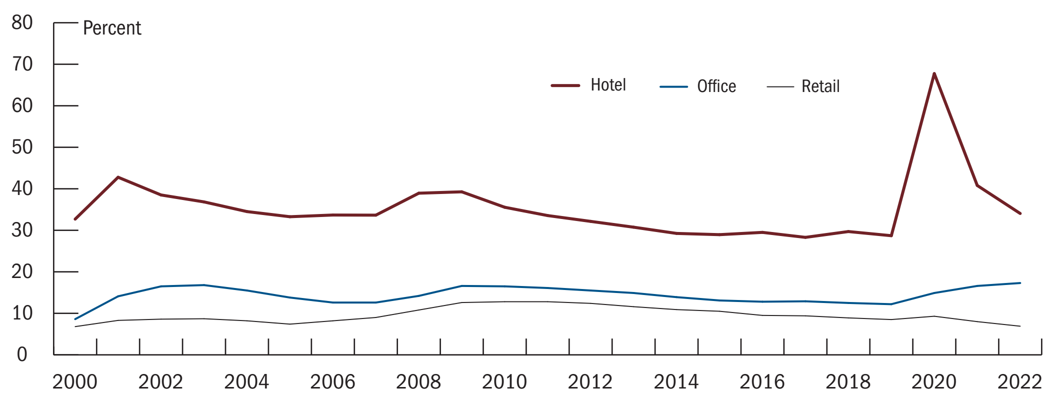
Box 3. Commercial Real Estate in Supervisory Stress Test

The May 2023 *Financial Stability Report* highlights the elevated prices on commercial real estate (CRE) and the possibility of a large correction in property values that could lead to substantial losses for banks.[1] The demand for offices, downtown retail, and hotels has seen dramatic and countervailing changes over the past several years due largely to the pandemic and resulting changes. While many bank CRE loans are held by smaller banks not subject to the supervisory stress test, the banks subject to the stress test hold approximately 20 percent of office and downtown retail CRE loans. The 2023 stress test results demonstrate that large banks continue to have sufficient capital to withstand a severe CRE downturn.

The 2023 severely adverse scenario featured heightened stress in the CRE market, including a 40 percent decline in CRE prices. The scenario noted that declines in CRE prices should be assumed to be concentrated in properties most at risk of a sustained drop in income and asset values: offices that may be affected by remote work or hospitality sectors that continue to be affected by reduced business travel.

Conditions of CRE sectors have moved in different directions over the past several years. Office vacancies are elevated relative to pre-pandemic levels and increasing, while hotel vacancies peaked during the pandemic in 2020 and have been falling since that time (see figure A).

Figure A. Vacancy rate by property type



Note: Vacancy rate for each year uses the fourth quarter data only.

Source: CBRE Econometric Advisors.

In the severely adverse scenario, banks are projected to lose $64.9 billion on CRE exposures, or 8.8 percent of average balances. Overall projected CRE loss rates have fallen since 2020 as the hospitality sector recovered from the acute pandemic-related stress, but they remain elevated. Projected loss rates in the office sector continue to increase because of the high level of current stress in office market fundamentals and projected further deterioration in the scenario (see figure B). For example, the office loss rate under this year's scenario was around 20 percent. The projected office loss rates in the last few stress test cycles are higher than the peak loss rate observed during the 2007-09 Global

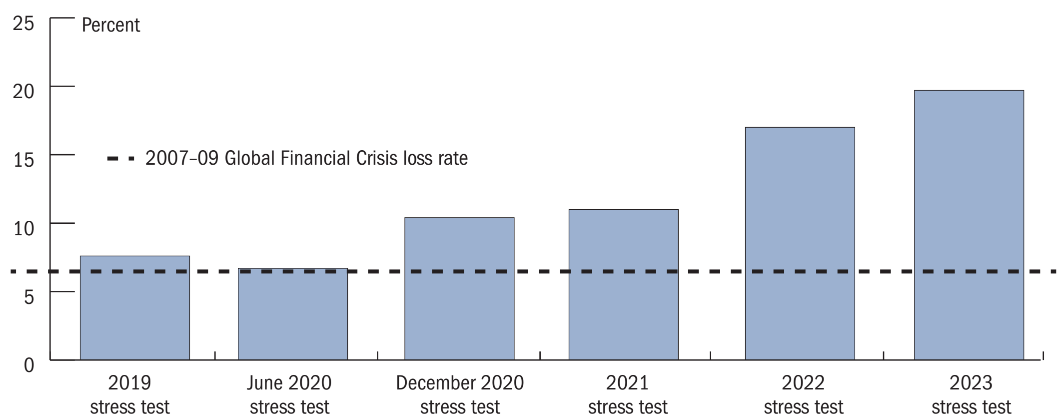
(continued)

[1] See Board of Governors of the Federal Reserve System, *Financial Stability Report*, May 2023. https://www.federalreserve.gov/publications/files/financial-stability-report-20230508.pdf.

Box 3—*continued*

Financial Crisis. Despite the severe losses, each bank has sufficient capital to continue to operate above regulatory capital requirements. To ensure the banking system remains sound and resilient, Federal Reserve supervisors have increased efforts to evaluate banks' credit risk exposure with particular attention on CRE lending.

Figure B. Office loss rate, cumulative 9-quarter



Note: The 2007–09 Global Financial Crisis loss rate is based on office CMBS loans that became delinquent over the 9-quarter window in which eventual realized losses were highest. Stress test loss rates are calculated based on firms subject to the stress test each year and do not include owner occupied properties.

Source: Morningstar.

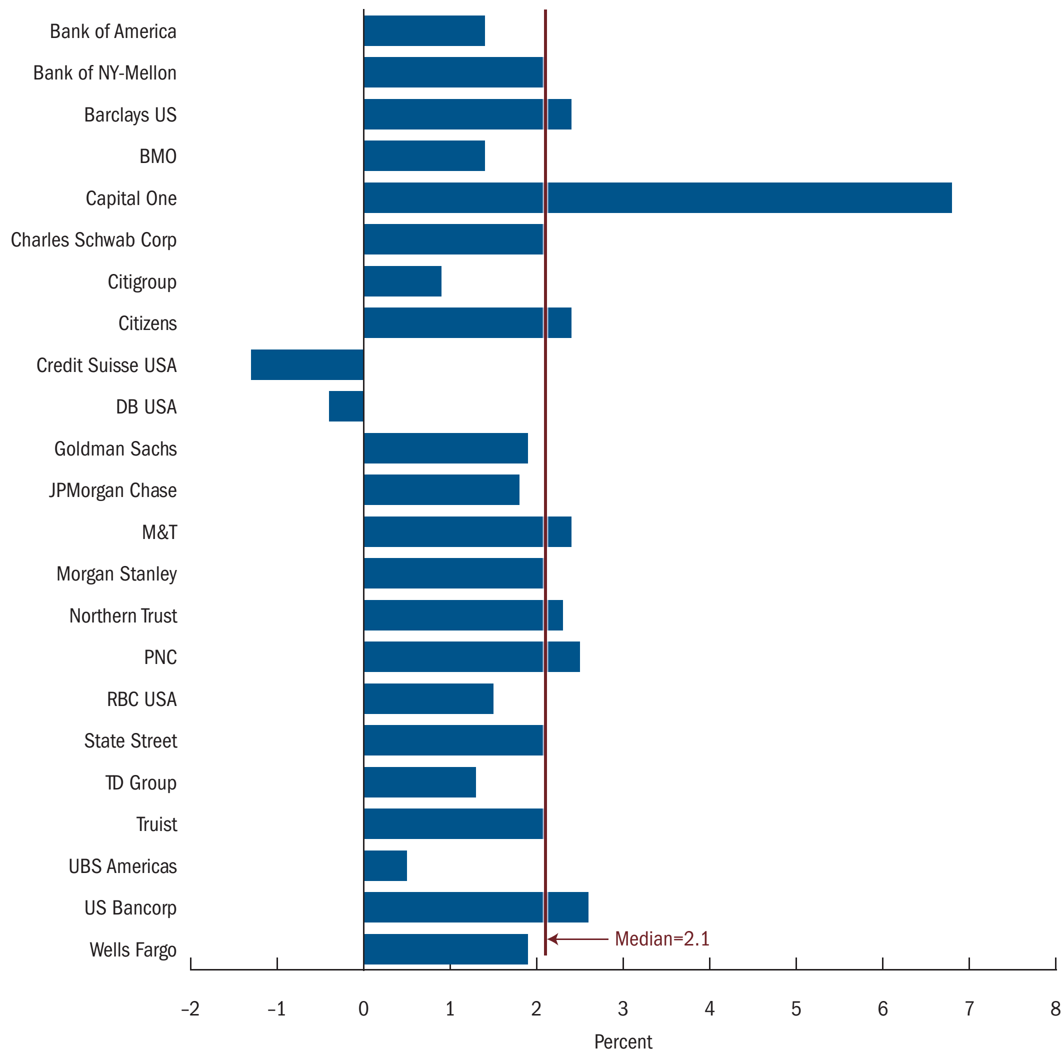
Pre-provision Net Revenue

Pre-tax net income also includes projections of post-stress income and expenses captured in PPNR. Over the projection horizon, banks are projected to generate an aggregate of $349 billion in PPNR, which is equal to 1.8 percent of their combined average assets (see table 6).

PPNR projections are generally 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, PPNR incorporates expenses stemming from operational-risk events, such as fraud, employee lawsuits, litigation-related expenses, or computer system or other operating disruptions.[13] In the aggregate, operational-risk losses are $185 billion.

[13] These operational-risk expenses are not a supervisory estimate of banks' current or expected legal liability, as they are conditional on the severely adverse scenario and conservative assumptions, and they also incorporate the potential for substantial losses that do not involve litigation or legal exposure.

Figure 7. Pre-provision net revenue rates in the severely adverse scenario



Note: Estimates are for the nine-quarter period from 2023:Q1 to 2025:Q1 as a percent of average assets.

The ratio of PPNR to average assets varies across banks (see figure 7), primarily because of differences in business focus. For instance, the ratio of PPNR to assets tends to be higher at banks focusing on credit card lending, since credit cards generally produce higher net interest income relative to other forms of lending.[14] Additionally, lower ratios of PPNR to assets do not necessarily imply lower pre-tax net income, because the same business focus and risk characteristics determining differences in PPNR across banks could also result in offsetting projected losses.

[14] Credit card lending also tends to generate relatively high loss rates, suggesting that the higher PPNR rates at these banks do not necessarily indicate higher profitability.

Box 4. Exploratory Market Shock—Testing Inflationary Pressures

In February 2023, for the first time, the Federal Reserve published an additional, exploratory market shock component that applied only to U.S. G-SIBs.[1] The purpose of the stress test is to understand a firm's resilience to a range of severe but plausible events, and the exploratory component furthers that purpose by posing a different set of risks than is probed by this year's global market shock component.

In contrast to this year's global market shock component, which was characterized by a severe recession with fading inflation expectations, the exploratory market shock is characterized by a less severe recession with greater inflationary pressures induced by higher inflation expectations, increases in interest rates, an appreciation of the U.S. dollar, and increases in commodity prices.[2] Consistent with the nature of an exploratory exercise, the exploratory market shock does not contribute to the capital requirements set by this year's stress test.

Results

Both the global and exploratory market shocks affect banks through losses associated with their trading positions and counterparty exposures. Under the exploratory market shock, we see that the impact differs for firms relative to the severely adverse scenario. Full results are shown in table A. Most banks experience smaller trading and counterparty losses in the exploratory market shock, while one bank experiences larger losses. In aggregate, the trading and counterparty losses for the U.S. G-SIBs decline from about 1.3 percent of risk-weighted assets in the global market shock component to 1.1 percent of risk-weighted assets in the exploratory market shock.

(continued)

Table A. Projected trading and counterparty losses through 2025:Q1 under the exploratory market shock component: U.S. G-SIBs
Billions of dollars

Bank	Global market shock component	Exploratory market shock component
Bank of America	8.9	8.5
Bank of NY-Mellon	1.3	0.8
Citigroup	13.3	11.3
Goldman Sachs	21.2	18.1
JPMorgan Chase	17.8	15.7
Morgan Stanley	12.5	10.7
State Street	1.2	0.7
Wells Fargo	12.2	12.4

[1] The U.S. G-SIBs are Bank of America Corporation, The Bank of New York Mellon Corporation, Citigroup Inc., The Goldman Sachs Group, Inc., JPMorgan Chase & Co., Morgan Stanley, State Street Corporation, and Wells Fargo & Company. As in the supervisory stress test, The Bank of New York Mellon Corporation and State Street Corporation were required only to incorporate an additional counterparty default component into their exploratory market shock. The Bank of New York Mellon Corporation and State Street Corporation were not required to apply the exploratory market shock to calculate mark-to-market losses on their trading or credit valuation adjustments exposures.

[2] The full description of the exploratory market shock is available here: Board of Governors of the Federal Reserve, *2023 Stress Test Scenarios* (Washington: Board of Governors, February 2023), https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20230209a1.pdf.

Box 4—*continued*

What Did We Learn?

The purpose of the exploratory market shock was to assess the potential of multiple scenarios to capture a wider array of risks. While the total loss projections from these two sets of shocks were similar, the underlying composition of losses varied significantly. For example, the exploratory market shock losses resulted in different counterparty concentrations relative to the global market shock. The changes were large enough to result in many banks' largest counterparty switching. Similarly, the profile of trading profit and loss was altered, providing further evidence that the use of more than one scenario can expand the Federal Reserve's view of risk exposures.

Appendix A: Additional Bank-Specific Results

Table A.1. Bank of America Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	11.2	9.9	9.3
Tier 1 capital ratio	13.0	11.7	11.1
Total capital ratio	14.9	13.7	13.4
Tier 1 leverage ratio	7.0	6.2	5.9
Supplementary leverage ratio	5.9	5.3	5.0
Risk-weighted assets[1] (billions of dollars)	1,604.9	1,591.4	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	54.4	5.1
First-lien mortgages, domestic	5.4	2.3
Junior liens and HELOCs,[2] domestic	1.1	4.0
Commercial and industrial[3]	16.6	5.2
Commercial real estate, domestic	7.2	9.4
Credit cards	14.9	15.9
Other consumer[4]	2.1	2.3
Other loans[5]	7.2	3.1

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	43.2	1.4
equals		
Net interest income	118.7	3.9
Noninterest income	81.8	2.7
less		
Noninterest expense[2]	157.2	5.2
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	54.7	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	8.9	
Other losses/gains[6]	2.3	
equals		
Net income before taxes	−23.0	−0.8
Memo items		
Other comprehensive income[7]	4.5	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−9.2	−4.8

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.2. The Bank of New York Mellon Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	11.3	14.9	11.7
Tier 1 capital ratio	14.4	17.9	14.7
Total capital ratio	15.3	18.9	15.8
Tier 1 leverage ratio	5.8	7.2	5.9
Supplementary leverage ratio	6.8	8.5	7.0
Risk-weighted assets[1] (billions of dollars)	159.1	159.1	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.6	2.5
First-lien mortgages, domestic	0.3	2.8
Junior liens and HELOCs,[2] domestic	0.0	9.8
Commercial and industrial[3]	0.1	4.6
Commercial real estate, domestic	0.5	9.3
Credit cards	0.0	0.0
Other consumer[4]	0.0	0.6
Other loans[5]	0.8	1.7

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	8.5	2.1
equals		
Net interest income	8.5	2.1
Noninterest income	27.1	6.7
less		
Noninterest expense[2]	27.1	6.7
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.8	
Credit losses on investment securities (AFS/HTM)[4]	0.3	
Trading and counterparty losses[5]	1.3	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	5.1	1.2
Memo items		
Other comprehensive income[7]	2.1	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−6.0	−3.8

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.3. Barclays US LLC

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	13.5	10.2	9.3
Tier 1 capital ratio	15.1	11.8	11.0
Total capital ratio	16.9	13.8	13.0
Tier 1 leverage ratio	8.2	6.3	5.8
Supplementary leverage ratio	5.8	4.4	4.1
Risk-weighted assets[1] (billions of dollars)	103.7	101.9	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	4.9	10.0
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs,[2] domestic	0.0	0.0
Commercial and industrial[3]	0.0	16.6
Commercial real estate, domestic	0.0	3.4
Credit cards	4.7	16.4
Other consumer[4]	0.0	16.7
Other loans[5]	0.1	0.7

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	4.1	2.4
equals		
Net interest income	9.0	5.2
Noninterest income	12.6	7.3
less		
Noninterest expense[2]	17.5	10.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	4.6	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	2.1	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	−2.6	−1.5
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.4. BMO Financial Corp.

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	12.6	9.3	9.3
Tier 1 capital ratio	13.5	10.2	10.2
Total capital ratio	15.0	12.2	12.2
Tier 1 leverage ratio	9.9	7.4	7.4
Supplementary leverage ratio	n/a	n/a	n/a
Risk-weighted assets[1] (billions of dollars)	150.4	150.6	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

n/a Not applicable.

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	6.3	6.2
First-lien mortgages, domestic	0.2	2.7
Junior liens and HELOCs,[2] domestic	0.1	4.3
Commercial and industrial[3]	2.4	6.2
Commercial real estate, domestic	1.1	8.3
Credit cards	0.1	16.3
Other consumer[4]	0.5	5.7
Other loans[5]	1.9	6.2

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	2.8	1.4
equals		
Net interest income	8.9	4.3
Noninterest income	4.2	2.0
less		
Noninterest expense[2]	10.3	5.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	7.2	
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	−2.1
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.5. Capital One Financial Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	12.5	8.0	8.0
Tier 1 capital ratio	13.9	9.3	9.3
Total capital ratio	15.8	11.3	11.3
Tier 1 leverage ratio	11.1	7.5	7.5
Supplementary leverage ratio	9.5	6.3	6.3
Risk-weighted assets[1] (billions of dollars)	357.9	356.6	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	46.0	14.7
First-lien mortgages, domestic	0.0	3.2
Junior liens and HELOCs,[2] domestic	0.0	7.8
Commercial and industrial[3]	5.3	11.2
Commercial real estate, domestic	3.0	9.9
Credit cards	28.1	22.2
Other consumer[4]	8.2	10.4
Other loans[5]	1.4	4.9

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	31.2	6.8
equals		
Net interest income	61.7	13.6
Noninterest income	15.4	3.4
less		
Noninterest expense[2]	45.9	10.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	45.5	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	−14.5	−3.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.6. The Charles Schwab Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	21.9	27.0	22.8
Tier 1 capital ratio	28.9	34.0	29.8
Total capital ratio	28.9	34.3	29.9
Tier 1 leverage ratio	7.2	8.4	7.4
Supplementary leverage ratio	7.1	8.4	7.3
Risk-weighted assets[1] (billions of dollars)	139.7	139.7	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.4	1.3
First-lien mortgages, domestic	0.5	1.9
Junior liens and HELOCs,[2] domestic	0.0	6.5
Commercial and industrial[3]	0.2	10.2
Commercial real estate, domestic	0.0	0.0
Credit cards	0.0	0.0
Other consumer[4]	0.1	0.6
Other loans[5]	0.6	0.8

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	11.8	2.1
equals		
Net interest income	17.6	3.2
Noninterest income	18.1	3.3
less		
Noninterest expense[2]	23.9	4.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.7	
Credit losses on investment securities (AFS/HTM)[4]	−0.2	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	10.3	1.9
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.7. Citigroup Inc.

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	13.0	9.7	9.1
Tier 1 capital ratio	14.8	11.5	10.9
Total capital ratio	17.3	13.9	13.5
Tier 1 leverage ratio	7.1	5.3	5.0
Supplementary leverage ratio	5.8	4.4	4.2
Risk-weighted assets[1] (billions of dollars)	1,143.0	1,107.9	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	47.3	7.2
First-lien mortgages, domestic	3.5	3.7
Junior liens and HELOCs,[2] domestic	1.1	19.1
Commercial and industrial[3]	7.1	4.6
Commercial real estate, domestic	2.4	9.3
Credit cards	24.6	15.6
Other consumer[4]	2.8	18.3
Other loans[5]	5.8	2.8

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	22.0	0.9
equals		
Net interest income	109.5	4.5
Noninterest income	43.9	1.8
less		
Noninterest expense[2]	131.4	5.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	42.0	
Credit losses on investment securities (AFS/HTM)[4]	0.6	
Trading and counterparty losses[5]	13.3	
Other losses/gains[6]	1.0	
equals		
Net income before taxes	−34.9	−1.4
Memo items		
Other comprehensive income[7]	6.5	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−44.5	−38.0

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.8. Citizens Financial Group, Inc.

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	10.0	6.4	6.4
Tier 1 capital ratio	11.1	7.5	7.5
Total capital ratio	12.8	9.6	9.6
Tier 1 leverage ratio	9.3	6.3	6.3
Supplementary leverage ratio	n/a	n/a	n/a
Risk-weighted assets[1] (billions of dollars)	185.2	184.4	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

n/a Not applicable.

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	11.1	7.1
First-lien mortgages, domestic	0.9	3.1
Junior liens and HELOCs,[2] domestic	0.8	5.4
Commercial and industrial[3]	2.6	5.6
Commercial real estate, domestic	4.0	12.4
Credit cards	0.4	18.7
Other consumer[4]	2.1	7.8
Other loans[5]	0.3	6.3

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	5.4	2.4
equals		
Net interest income	13.3	5.8
Noninterest income	4.5	2.0
less		
Noninterest expense[2]	12.3	5.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	11.9	
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	−6.6	−2.9
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.9. Credit Suisse Holdings (USA), Inc.

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	27.8	20.7	20.5
Tier 1 capital ratio	29.0	21.9	21.7
Total capital ratio	29.2	21.9	21.7
Tier 1 leverage ratio	19.8	14.8	14.6
Supplementary leverage ratio	16.4	12.3	12.2
Risk-weighted assets[1] (billions of dollars)	44.6	44.1	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	0.0	6.9
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs,[2] domestic	0.0	0.0
Commercial and industrial[3]	0.0	0.0
Commercial real estate, domestic	0.0	8.4
Credit cards	0.0	0.0
Other consumer[4]	0.0	16.7
Other loans[5]	0.0	0.6

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	−0.8	−1.3
equals		
Net interest income	−0.6	−1.1
Noninterest income	6.9	12.1
less		
Noninterest expense[2]	7.1	12.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	0.0	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	2.4	
Other losses/gains[6]	0.2	
equals		
Net income before taxes	−3.3	−5.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	0.1	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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.10. DB USA Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	26.1	17.5	17.4
Tier 1 capital ratio	34.4	26.7	26.6
Total capital ratio	34.4	27.0	26.9
Tier 1 leverage ratio	10.4	7.4	7.3
Supplementary leverage ratio	9.5	6.7	6.7
Risk-weighted assets[1] (billions of dollars)	38.8	35.0	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

DWS USA Corporation, the second U.S. intermediate holding company subsidiary of Deutsche Bank AG, was subject to 2023 stress test 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 the fourth quarter of 2022.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	0.7	5.0
First-lien mortgages, domestic	0.1	3.4
Junior liens and HELOCs,[2] domestic	0.0	9.9
Commercial and industrial[3]	0.1	2.5
Commercial real estate, domestic	0.4	11.2
Credit cards	0.0	0.0
Other consumer[4]	0.0	4.5
Other loans[5]	0.1	1.9

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	−0.4	−0.4
equals		
Net interest income	0.9	0.8
Noninterest income	8.1	7.8
less		
Noninterest expense[2]	9.3	9.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	0.8	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.9	
Other losses/gains[6]	0.2	
equals		
Net income before taxes	−2.3	−2.3
Memo items		
Other comprehensive income[7]	0.1	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.11. The Goldman Sachs Group, Inc.

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	15.0	12.6	10.1
Tier 1 capital ratio	16.6	14.2	11.7
Total capital ratio	19.1	16.6	14.6
Tier 1 leverage ratio	7.3	6.2	5.0
Supplementary leverage ratio	5.8	4.9	4.0
Risk-weighted assets[1] (billions of dollars)	653.4	644.2	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	19.4	9.0
First-lien mortgages, domestic	0.2	3.7
Junior liens and HELOCs,[2] domestic	0.0	5.0
Commercial and industrial[3]	5.9	14.0
Commercial real estate, domestic	1.8	16.0
Credit cards	3.9	24.7
Other consumer[4]	1.4	9.3
Other loans[5]	6.2	4.9

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	26.7	1.9
equals		
Net interest income	24.8	1.7
Noninterest income	77.5	5.4
less		
Noninterest expense[2]	75.6	5.2
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	18.5	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	21.2	
Other losses/gains[6]	3.6	
equals		
Net income before taxes	−16.6	−1.2
Memo items		
Other comprehensive income[7]	2.0	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−3.0	−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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.12. JPMorgan Chase & Co.

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	13.2	11.9	11.1
Tier 1 capital ratio	14.9	13.5	12.7
Total capital ratio	16.8	15.4	14.8
Tier 1 leverage ratio	6.6	6.0	5.6
Supplementary leverage ratio	5.6	5.1	4.8
Risk-weighted assets[1] (billions of dollars)	1,653.5	1,640.2	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	72.9	6.4
First-lien mortgages, domestic	6.2	2.8
Junior liens and HELOCs,[2] domestic	0.7	4.2
Commercial and industrial[3]	19.2	10.0
Commercial real estate, domestic	4.8	3.9
Credit cards	25.5	15.5
Other consumer[4]	2.7	3.3
Other loans[5]	13.8	4.1

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	65.2	1.8
equals		
Net interest income	145.0	4.0
Noninterest income	114.5	3.1
less		
Noninterest expense[2]	194.2	5.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	71.0	
Credit losses on investment securities (AFS/HTM)[4]	1.7	
Trading and counterparty losses[5]	17.8	
Other losses/gains[6]	4.7	
equals		
Net income before taxes	−30.1	−0.8
Memo items		
Other comprehensive income[7]	9.4	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−11.7	−2.3

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.13. M&T Bank Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	10.4	7.0	7.0
Tier 1 capital ratio	11.8	8.4	8.4
Total capital ratio	13.6	10.3	10.3
Tier 1 leverage ratio	9.2	6.5	6.5
Supplementary leverage ratio	n/a	n/a	n/a
Risk-weighted assets[1] (billions of dollars)	149.0	148.4	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

n/a Not applicable.

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	9.3	7.1
First-lien mortgages, domestic	0.7	3.1
Junior liens and HELOCs,[2] domestic	0.2	4.7
Commercial and industrial[3]	2.0	6.5
Commercial real estate, domestic	3.9	8.8
Credit cards	0.1	17.8
Other consumer[4]	1.4	9.2
Other loans[5]	0.9	8.2

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

2 HELOCs (home equity lines of credit).

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

4 Other consumer loans include student loans and automobile loans.

5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	4.9	2.4
equals		
Net interest income	12.0	6.0
Noninterest income	4.9	2.4
less		
Noninterest expense[2]	12.0	6.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	9.8	
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	−4.9	−2.5
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).

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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.

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

Table A.14. Morgan Stanley

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	15.3	14.9	11.2
Tier 1 capital ratio	17.2	16.8	13.2
Total capital ratio	19.3	19.0	15.5
Tier 1 leverage ratio	6.7	6.5	5.0
Supplementary leverage ratio	5.5	5.4	4.1
Risk-weighted assets[1] (billions of dollars)	447.8	446.8	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	10.1	4.2
First-lien mortgages, domestic	1.5	2.8
Junior liens and HELOCs,[2] domestic	0.0	5.0
Commercial and industrial[3]	1.4	11.7
Commercial real estate, domestic	2.0	13.7
Credit cards	0.0	0.0
Other consumer[4]	0.5	1.3
Other loans[5]	4.7	3.9

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	25.0	2.1
equals		
Net interest income	27.0	2.3
Noninterest income	91.5	7.8
less		
Noninterest expense[2]	93.5	7.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	11.3	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	12.5	
Other losses/gains[6]	4.8	
equals		
Net income before taxes	−3.7	−0.3
Memo items		
Other comprehensive income[7]	3.4	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−6.2	−2.9

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.15. Northern Trust Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	10.8	12.2	11.4
Tier 1 capital ratio	11.8	13.2	12.3
Total capital ratio	13.9	16.0	15.0
Tier 1 leverage ratio	7.1	7.9	7.4
Supplementary leverage ratio	7.9	8.8	8.3
Risk-weighted assets[1] (billions of dollars)	88.1	88.1	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	3.0	7.1
First-lien mortgages, domestic	0.2	2.8
Junior liens and HELOCs,[2] domestic	0.0	10.1
Commercial and industrial[3]	0.3	6.2
Commercial real estate, domestic	0.7	11.5
Credit cards	0.0	0.0
Other consumer[4]	0.1	16.7
Other loans[5]	1.8	7.0

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	3.6	2.3
equals		
Net interest income	3.9	2.5
Noninterest income	10.5	6.8
less		
Noninterest expense[2]	10.8	6.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	3.7	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
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]	1.5	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−1.6	−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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.16. The PNC Financial Services Group, Inc.

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	9.1	8.0	7.9
Tier 1 capital ratio	10.4	9.4	9.2
Total capital ratio	12.3	11.1	11.1
Tier 1 leverage ratio	8.2	7.4	7.3
Supplementary leverage ratio	6.9	6.2	6.1
Risk-weighted assets[1] (billions of dollars)	435.5	434.5	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	17.8	5.5
First-lien mortgages, domestic	1.2	2.5
Junior liens and HELOCs,[2] domestic	0.7	3.4
Commercial and industrial[3]	7.8	5.8
Commercial real estate, domestic	4.7	10.0
Credit cards	1.2	18.8
Other consumer[4]	1.0	4.6
Other loans[5]	1.3	2.8

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	14.0	2.5
equals		
Net interest income	28.3	5.1
Noninterest income	18.6	3.3
less		
Noninterest expense[2]	32.8	5.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	17.2	
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	−3.6	−0.6
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−0.1	−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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.17. RBC US Group Holdings LLC

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	15.0	10.8	10.8
Tier 1 capital ratio	15.0	10.8	10.8
Total capital ratio	15.6	12.0	12.0
Tier 1 leverage ratio	9.9	7.0	7.0
Supplementary leverage ratio	n/a	n/a	n/a
Risk-weighted assets[1] (billions of dollars)	111.1	108.4	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

n/a Not applicable.

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.5	6.9
First-lien mortgages, domestic	1.1	4.4
Junior liens and HELOCs,[2] domestic	0.1	6.5
Commercial and industrial[3]	1.2	9.6
Commercial real estate, domestic	2.2	10.3
Credit cards	0.1	17.8
Other consumer[4]	0.3	14.8
Other loans[5]	0.7	3.6

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

2 HELOCs (home equity lines of credit).

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

4 Other consumer loans include student loans and automobile loans.

5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	2.5	1.5
equals		
Net interest income	5.1	3.0
Noninterest income	13.1	7.8
less		
Noninterest expense[2]	15.8	9.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	6.5	
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	−4.2	−2.5
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).

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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.

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

Table A.18. State Street Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	13.6	17.8	13.8
Tier 1 capital ratio	15.4	19.7	15.7
Total capital ratio	16.8	21.3	17.2
Tier 1 leverage ratio	6.0	7.6	6.0
Supplementary leverage ratio	7.0	8.8	7.0
Risk-weighted assets[1] (billions of dollars)	107.2	106.0	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.2	3.6
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs,[2] domestic	0.0	0.0
Commercial and industrial[3]	0.3	7.7
Commercial real estate, domestic	0.1	4.1
Credit cards	0.0	0.0
Other consumer[4]	0.0	0.6
Other loans[5]	0.8	3.0

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	6.3	2.1
equals		
Net interest income	6.1	2.0
Noninterest income	21.4	7.1
less		
Noninterest expense[2]	21.3	7.1
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]	1.2	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	3.6	1.2
Memo items		
Other comprehensive income[7]	1.5	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−3.3	−1.8

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.19. TD Group US Holdings LLC

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	17.4	15.9	15.9
Tier 1 capital ratio	17.4	15.9	15.9
Total capital ratio	18.6	16.9	16.9
Tier 1 leverage ratio	9.2	8.4	8.4
Supplementary leverage ratio	8.1	7.4	7.4
Risk-weighted assets[1] (billions of dollars)	255.4	254.7	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	10.8	5.9
First-lien mortgages, domestic	1.0	2.7
Junior liens and HELOCs,[2] domestic	0.4	5.5
Commercial and industrial[3]	2.1	6.2
Commercial real estate, domestic	2.2	7.5
Credit cards	3.2	21.4
Other consumer[4]	0.8	2.9
Other loans[5]	1.3	3.5

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	6.8	1.3
equals		
Net interest income	19.8	3.9
Noninterest income	6.8	1.3
less		
Noninterest expense[2]	19.7	3.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	10.5	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	−3.9	−0.8
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.20. Truist Financial Corporation

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	9.0	6.7	6.7
Tier 1 capital ratio	10.5	8.2	8.2
Total capital ratio	12.4	10.8	10.8
Tier 1 leverage ratio	8.5	6.6	6.6
Supplementary leverage ratio	7.3	5.7	5.7
Risk-weighted assets[1] (billions of dollars)	434.4	432.5	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	19.1	5.9
First-lien mortgages, domestic	1.4	2.4
Junior liens and HELOCs,[2] domestic	0.4	3.8
Commercial and industrial[3]	4.6	5.3
Commercial real estate, domestic	5.1	9.6
Credit cards	0.6	16.3
Other consumer[4]	5.0	8.3
Other loans[5]	2.0	3.6

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	11.8	2.1
equals		
Net interest income	31.1	5.6
Noninterest income	17.7	3.2
less		
Noninterest expense[2]	37.1	6.7
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	20.3	
Credit losses on investment securities (AFS/HTM)[4]	0.9	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	−9.5	−1.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.21. UBS Americas Holding LLC

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	16.1	8.0	8.0
Tier 1 capital ratio	23.3	16.1	16.1
Total capital ratio	23.4	17.4	17.4
Tier 1 leverage ratio	8.5	5.3	5.3
Supplementary leverage ratio	7.7	4.8	4.8
Risk-weighted assets[1] (billions of dollars)	70.7	63.0	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	2.7	2.9
First-lien mortgages, domestic	1.0	3.4
Junior liens and HELOCs,[2] domestic	0.0	0.0
Commercial and industrial[3]	0.2	3.1
Commercial real estate, domestic	0.1	4.1
Credit cards	0.0	17.8
Other consumer[4]	0.3	0.7
Other loans[5]	1.1	8.9

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.1	0.5
equals		
Net interest income	3.6	1.8
Noninterest income	24.4	12.1
less		
Noninterest expense[2]	26.9	13.3
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	3.4	
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	−2.4	−1.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.22. U.S. Bancorp

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	8.4	6.9	6.6
Tier 1 capital ratio	9.8	8.4	8.1
Total capital ratio	11.9	10.5	10.3
Tier 1 leverage ratio	7.9	6.7	6.4
Supplementary leverage ratio	6.4	5.4	5.2
Risk-weighted assets[1] (billions of dollars)	496.5	493.5	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	24.3	6.3
First-lien mortgages, domestic	3.5	3.0
Junior liens and HELOCs,[2] domestic	0.8	6.0
Commercial and industrial[3]	7.0	6.6
Commercial real estate, domestic	5.1	9.5
Credit cards	4.3	16.5
Other consumer[4]	2.3	5.5
Other loans[5]	1.3	4.0

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	17.9	2.6
equals		
Net interest income	35.0	5.2
Noninterest income	26.2	3.9
less		
Noninterest expense[2]	43.4	6.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	23.3	
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	−5.5	−0.8
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2022:Q4*	*2025: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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.23. Wells Fargo & Company

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

Federal Reserve estimates: Severely adverse scenario

Capital ratios and risk-weighted assets, actual 2022:Q4 and projected 2023:Q1–2025:Q1

Percent except as noted

Item	Actual 2022:Q4	Projected 2025:Q1	Projected minimum
Common equity tier 1 capital ratio	10.6	8.4	8.2
Tier 1 capital ratio	12.1	9.9	9.7
Total capital ratio	14.8	12.7	12.6
Tier 1 leverage ratio	8.3	6.7	6.6
Supplementary leverage ratio	6.9	5.6	5.4
Risk-weighted assets[1] (billions of dollars)	1,259.9	1,242.3	

Note: The capital ratios are calculated using the capital action assumptions provided within the supervisory stress testing rules. See 12 C.F.R. § 238.132(d); 12 C.F.R. § 252.44(c). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2023:Q1 to 2025:Q1. Supplementary leverage ratio projections only include estimates for banks subject to Category I, II, or III standards.

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

Projected loan losses, by type of loan, 2023:Q1–2025:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	54.2	5.7
First-lien mortgages, domestic	5.1	2.1
Junior liens and HELOCs,[2] domestic	0.5	2.8
Commercial and industrial[3]	12.7	6.4
Commercial real estate, domestic	13.6	9.7
Credit cards	8.2	17.8
Other consumer[4]	3.7	5.1
Other loans[5]	10.3	4.5

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale, loans held for investment under the fair-value option, and Paycheck Protection Program loans and are calculated over nine quarters.
2 HELOCs (home equity lines of credit).
3 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
4 Other consumer loans include student loans and automobile loans.
5 Other loans include international real estate loans.

Projected losses, revenue, and net income before taxes through 2025:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	35.5	1.9
equals		
Net interest income	102.4	5.4
Noninterest income	61.2	3.3
less		
Noninterest expense[2]	128.2	6.8
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	54.9	
Credit losses on investment securities (AFS/HTM)[4]	0.4	
Trading and counterparty losses[5]	12.2	
Other losses/gains[6]	0.8	
equals		
Net income before taxes	−32.9	−1.7
Memo items		
Other comprehensive income[7]	6.0	
Other effects on capital	*Actual 2022:Q4*	*2025:Q1*
AOCI included in capital (billions of dollars)	−12.2	−6.2

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 banks that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses. AFS/HTM (available-for-sale/held-to-maturity).
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 or held for investment and measured under the fair-value option, losses/gains on hedges on loans measured at fair value or amortized cost, and goodwill impairment losses.
7 Other comprehensive income is only calculated for banks subject to Category I or II standards or banks that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table A.24. Projected loan losses by type of loan for 2023:Q1–2025:Q1 under the severely adverse scenario: 23 banks
Billions of dollars

Bank	Loan losses	First-lien mortgages, domestic	Junior liens and HELOCs,[1] domestic	Commercial and industrial[2]	Commercial real estate, domestic	Credit cards	Other consumer[3]	Other loans[4]
Bank of America	54.4	5.4	1.1	16.6	7.2	14.9	2.1	7.2
Bank of NY-Mellon	1.6	0.3	0.0	0.1	0.5	0.0	0.0	0.8
Barclays US	4.9	0.0	0.0	0.0	0.0	4.7	0.0	0.1
BMO	6.3	0.2	0.1	2.4	1.1	0.1	0.5	1.9
Capital One	46.0	0.0	0.0	5.3	3.0	28.1	8.2	1.4
Charles Schwab Corp	1.4	0.5	0.0	0.2	0.0	0.0	0.1	0.6
Citigroup	47.3	3.5	1.1	7.1	2.4	24.6	2.8	5.8
Citizens	11.1	0.9	0.8	2.6	4.0	0.4	2.1	0.3
Credit Suisse USA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DB USA	0.7	0.1	0.0	0.1	0.4	0.0	0.0	0.1
Goldman Sachs	19.4	0.2	0.0	5.9	1.8	3.9	1.4	6.2
JPMorgan Chase	72.9	6.2	0.7	19.2	4.8	25.5	2.7	13.8
M&T	9.3	0.7	0.2	2.0	3.9	0.1	1.4	0.9
Morgan Stanley	10.1	1.5	0.0	1.4	2.0	0.0	0.5	4.7
Northern Trust	3.0	0.2	0.0	0.3	0.7	0.0	0.1	1.8
PNC	17.8	1.2	0.7	7.8	4.7	1.2	1.0	1.3
RBC USA	5.5	1.1	0.1	1.2	2.2	0.1	0.3	0.7
State Street	1.2	0.0	0.0	0.3	0.1	0.0	0.0	0.8
TD Group	10.8	1.0	0.4	2.1	2.2	3.2	0.8	1.3
Truist	19.1	1.4	0.4	4.6	5.1	0.6	5.0	2.0
UBS Americas	2.7	1.0	0.0	0.2	0.1	0.0	0.3	1.1
US Bancorp	24.3	3.5	0.8	7.0	5.1	4.3	2.3	1.3
Wells Fargo	54.2	5.1	0.5	12.7	13.6	8.2	3.7	10.3
23 banks	424.0	33.8	7.0	99.3	64.9	119.7	35.1	64.2

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

1 HELOCs (home equity lines of credit).
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.

Appendix B: Disclosure Loan Category Definitions

Table B.1. Mapping of loan categories to disclosure categories

Disclosure category	Loan type
First-lien mortgages, domestic	Domestic first-lien mortgages
Junior liens and home equity lines of credit (HELOCs), domestic	Domestic second-lien mortgages Domestic HELOCs
Credit cards	Domestic cards International cards
Commercial and industrial	Commercial and industrial loans Corporate and business cards Small business loans
Commercial real estate, domestic	Domestic owner-occupied commercial real estate loans Domestic construction loans Domestic multifamily loans Domestic non-owner occupied commercial real estate loans
Other consumer	Student loans Domestic auto loans International auto loans Domestic other consumer loans International other consumer loans
Other loans	Agricultural loans Domestic farm loans International farm loans International owner-occupied commercial real estate loans International construction loans International multifamily loans International non-owner occupied commercial real estate loans International first-lien mortgages International second-lien mortgages Loans to foreign governments Loans to financial institutions Loans for purchasing and carrying securities Other non-consumer loans Other leases

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