Dodd-Frank Act Stress Test 2021: Supervisory Stress Test Results

June 2021

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BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Contents

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 firms.

To do so, the Federal Reserve has established frameworks and programs for the largest and most complex financial institutions to achieve its supervisory objectives, incorporating lessons learned from the 2007–09 financial crisis and in the period since then.

A cornerstone of those efforts is the supervisory stress test, which assesses whether bank holding companies and U.S. intermediate holding companies with $100 billion or more in total consolidated assets are sufficiently capitalized to absorb losses during a hypothetical recession, ensuring that they can continue to be able to lend to households and businesses.[1]

The results of the stress test include information such as revenues, expenses, losses, pre-tax net income, and capital ratios projected under adverse economic and financial conditions for each firm. These results are projected using a set of models developed or selected by the Federal Reserve that take as inputs the Federal Reserve's scenarios and firm-provided data on their financial conditions and risk characteristics.

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[1]   The Federal Reserve Board first adopted rules implementing these frameworks and programs in October 2012 and most recently modified these rules in January 2021. On October 10,

2019, the Board finalized a rule to amend its prudential standards to exempt firms with total consolidated assets of less than $100 billion from the supervisory stress test and to subject certain firms with total consolidated assets between $100 billion and $250 billion to the supervisory stress test requirements on a two-year cycle (84 Fed. Reg. 59032 (Nov. 1, 2019)). Firms with $250 billion or more in total consolidated assets or material levels of other risk factors remain subject to the supervisory stress test requirements on an annual basis.
On March 4, 2020, the Board approved a rule to simplify its capital rules for large firms through the establishment of the stress capital buffer (SCB) requirement, which integrates the Board's stress test results with its nonstress capital requirements (85 Fed. Reg. 15576 (Mar. 18, 2020)).
On January 19, 2021, the Board approved a rule to tailor the requirements of the Board's capital plan rule based on risk (86 Fed. Reg. 7927 (Feb. 3, 2021)).

Executive Summary

Consistent with the two rounds of stress tests last year, the results of Dodd-Frank Act Stress Test (DFAST) 2021 show that large firms have sufficient capital levels to absorb losses during stressful conditions. This is due, in large part, to the substantial buildup of capital since the 2007–09 financial crisis (see figure 1).

The aggregate results suggest the 23 firms that participated in the supervisory stress test would experience substantial losses under the severely adverse scenario but would remain well above their minimum risk-based requirements and could continue lending to businesses and households.[2]

As a result, all additional, temporary capital distribution restrictions imposed following the outbreak of the coronavirus and response (the "COVID event") will expire on June 30 per the Board's previous announcement.[3] Large firms will remain subject to the normal restrictions imposed by the Board's regulatory capital framework, inclusive of the stress capital buffer (SCB). The firms participating in DFAST

Figure 1. Aggregate common equity capital ratio
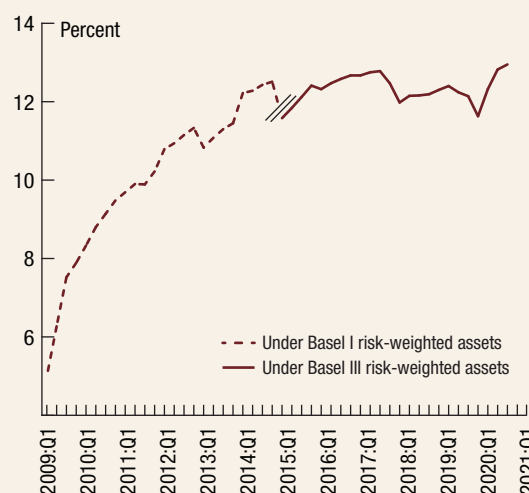
Note: The Federal Reserve's evaluation of a firm's common equity capital was initially measured using a tier 1 common capital ratio but now is evaluated using a common equity tier 1 capital ratio, which was introduced into the regulatory capital framework with the implementation of Basel III to replace Basel I. Not all of the 23 firms included in DFAST 2021 reported data for all periods since 2009.

Source: FR Y-9C.

2021 will be subject to the SCB requirements based on the DFAST 2021 results beginning October 1.[4]

Projected Capital Ratios

In the severely adverse scenario, the aggregate common equity tier 1 (CET1) capital ratio falls from an

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[2] The 19 firms required to participate in DFAST 2021 are Bank of America Corporation; The Bank of New York Mellon Corporation; Barclays US LLC; Capital One Financial Corporation; Citigroup Inc.; Credit Suisse Holdings (USA), Inc.; DB USA Corporation; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; JPMorgan Chase & Co.; Morgan Stanley; Northern Trust Corporation; The PNC Financial Services Group, Inc.; State Street Corporation; TD Group US Holdings LLC; Truist Financial Corporation; U.S. Bancorp; UBS Americas Holding LLC; and Wells Fargo & Company. In addition to DB USA Corporation, DWS USA Corporation, a second U.S. intermediate holding company subsidiary of Deutsche Bank AG, is subject to DFAST 2021. The four firms that elected to participate in DFAST 2021 are BMO Financial Corp.; MUFG Americas Holdings Corporation; RBC US Group Holdings LLC; and Regions Financial Corporation.

[3] Because of the material uncertainty regarding the trajectory of the economy following the COVID event and to continue to preserve the strength of the banking sector, the Board imposed temporary restrictions on dividends and share repurchases for firms with over $100 billion in total assets. In March 2021, the Board announced that these temporary restrictions would end for firms that remained sufficiently capitalized based on the results of DFAST 2021.

[4] The SCB requirement of large firms that did not participate in DFAST 2021 will be adjusted to reflect any changes to those firms' planned common dividends but will not be adjusted to reflect the updated stress test results; this adjusted SCB requirement will be effective on October 1, 2021. See 12 C.F.R. § 225.8(f)(4). These firms include Ally Financial Inc.; American Express Company; BNP Paribas USA, Inc.; Citizens Financial Group, Inc.; Discover Financial Services; Fifth Third Bancorp; Huntington Bancshares Incorporated; Keycorp; M&T Bank Corporation; and Santander Holdings USA, Inc.

The Federal Reserve expects firms to wait until after 4:30 p.m. EDT on Monday, June 28, 2021, to publicly disclose any information about their planned capital actions and SCB requirements. This will give all firms sufficient time to examine and understand their results.

Table 1. Aggregate capital ratios, actual, projected 2021:Q1–2023:Q1, and regulatory minimums
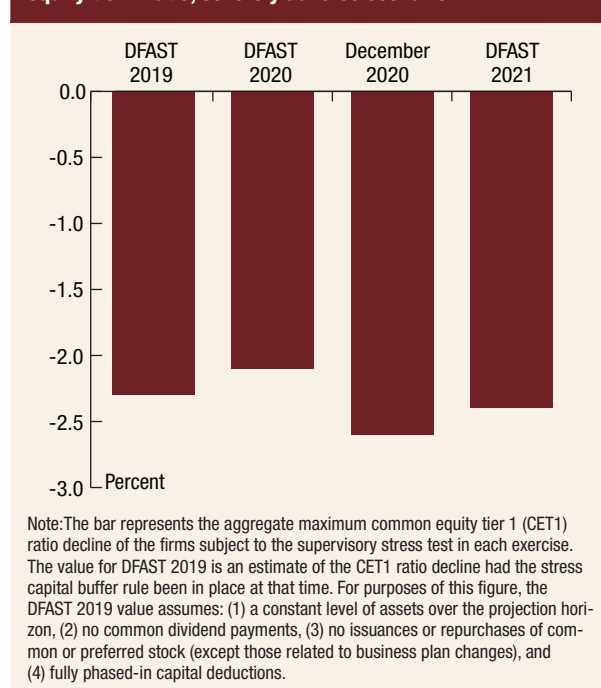Percent

Regulatory ratio	Actual 2020:Q4	Stressed minimum capital ratios, severely adverse	Minimum regulatory capital ratios
Common equity tier 1 capital ratio	13.0	10.6	4.5
Tier 1 capital ratio	14.7	12.3	6.0
Total capital ratio	17.1	14.9	8.0
Tier 1 leverage ratio	8.0	6.6	4.0
Supplementary leverage ratio	7.7	5.5	3.0

actual 13.0 percent in the fourth quarter of 2020 to its minimum of 10.6 percent, before rising to 11.2 percent at the end of the first quarter of 2023 (see table 1). The aggregate CET1 ratio remains well above the required minimum levels throughout the projection horizon.[5]

The 2.4 percent decline in the aggregate CET1 ratio in DFAST 2021 was slightly larger than the 2.1 percent decline in DFAST 2020 (see figure 2) and is comparable to declines in recent DFAST exercises.

The larger decline in aggregate CET1 capital ratios compared with DFAST 2020 is due in part to lower

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[5] The declines in capital ratios depicted in table 1 do not include the effects of capital actions or other changes in the balance sheet associated with any business plan changes.

projected pre-provision net revenue (PPNR) resulting from a flatter yield curve and a larger share of low-yielding assets on bank balance sheets. The decline in projected PPNR is a continuation of the trend observed in the December 2020 Stress Test. Aggregate PPNR in DFAST 2021 under the severely adverse scenario is projected to be $298 billion, below the DFAST 2020 amount of $354 billion for the same firms. PPNR as a percent of average total assets in DFAST 2021 is lower than previous exercises (see figure 3).

Aggregate losses under the DFAST 2021 severely adverse scenario are projected to be $474 billion, of which $353 billion are projected loan losses. Both aggregate and loan losses are little changed from DFAST 2020. Aggregate loan losses as a percent of total loan balances are similar to the DFAST 2020 loan loss rate (see figure 4). An increase in losses on corporate and commercial real estate (CRE) loans offset a decline in consumer loan losses. Loan loss

Figure 2: Aggregate maximum decline in stressed common equity tier 1 ratio, severely adverse scenario

Note: The bar represents the aggregate maximum common equity tier 1 (CET1) ratio decline of the firms subject to the supervisory stress test in each exercise. The value for DFAST 2019 is an estimate of the CET1 ratio decline had the stress capital buffer rule been in place at that time. For purposes of this figure, the DFAST 2019 value assumes: (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.

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

Note: Pre-provision net revenue as a percent of average total assets is calculated for all firms subject to the supervisory stress test in each exercise.
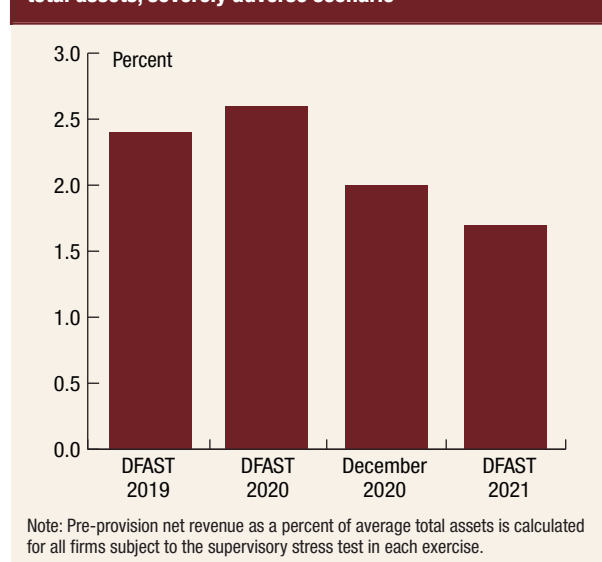
Figure 4. Loan loss rates, severely adverse scenario

Note: Loan loss rates as a percent of average total loan balances are calculated for all firms subject to the supervisory stress test in each exercise.
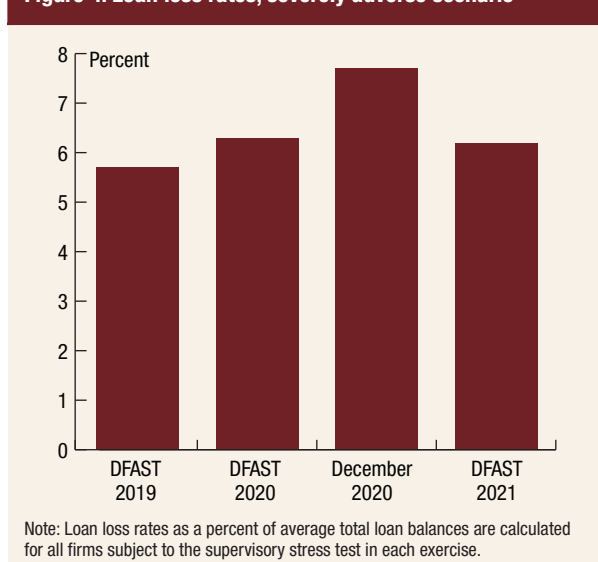
rates in DFAST 2021 are lower than those projected in the December 2020 Stress Test due to lower losses on credit cards and CRE loans. Despite similar loan losses compared to DFAST 2020, projected provisions for loan losses are smaller due in part to the large allowances firms built in 2020 in response to the COVID event and changes to accounting rules.

Further details of the results are provided in the "Supervisory Stress Test Results" section of this report, which are presented both in the aggregate and for individual firms.

Comparison between the DFAST 2021 Results Disclosure and Previous Results Disclosures

Election to Participate in DFAST 2021 for Two-Year Cycle Firms

Starting with this year's stress test, firms that are on a two-year stress test cycle can choose to participate in the stress test in years where they would otherwise

not be subject to it.[6] BMO Financial Corp., MUFG Americas Holding Company, RBC US Group Holdings LLC, and Regions Financial Corporation opted into this year's test. Because 33 firms were subject to DFAST 2020 and the December 2020 Stress Test, the aggregate results reported this year are not fully comparable with either stress test conducted in 2020.[7]

Overview

This report provides

- details of the supervisory severely adverse scenario used in DFAST 2021;

- an overview of the analytical framework and methods used to generate the Federal Reserve's projected results, highlighting several changes for DFAST 2021;[8] and

- the results of the supervisory stress test under the severely adverse scenario for the firms that participated in DFAST 2021, presented both in the aggregate and for individual firms.

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[6] On January 19, 2021, the Board approved a rule to tailor the requirements of the Board's capital plan rule based on risk. See 86 Fed. Reg. 7927 (Feb. 3, 2021).

[7] The 33 firms required to participate in DFAST 2020 were Ally Financial Inc.; American Express Company; Bank of America Corporation; The Bank of New York Mellon Corporation; Barclays US LLC; BMO Financial Corp.; BNP Paribas USA, Inc.; Capital One Financial Corporation; Citigroup Inc.; Citizens Financial Group, Inc.; Credit Suisse Holdings (USA), Inc.; DB USA Corporation; Discover Financial Services; Fifth Third Bancorp; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; Huntington Bancshares Incorporated; JPMorgan Chase & Co.; KeyCorp; M&T Bank Corporation; Morgan Stanley; MUFG Americas Holdings Corporation; Northern Trust Corporation; The PNC Financial Services Group, Inc.; RBC US Group Holdings LLC; Regions Financial Corporation; Santander Holdings USA, Inc.; State Street Corporation; TD Group US Holdings LLC; Truist Financial Corporation; U.S. Bancorp; UBS Americas Holding LLC; and Wells Fargo & Company. In addition to DB USA Corporation, DWS USA Corporation, a second U.S. intermediate holding company subsidiary of Deutsche Bank AG, was subject to DFAST 2020.

[8] See Board of Governors of the Federal Reserve System, *Dodd-Frank Act Stress Test 2021: Supervisory Stress Test Methodology* (Washington: Board of Governors, April 2021), https://www.federalreserve.gov/publications/files/2021-april-supervisory-stress-test-methodology.pdf.

Supervisory Scenarios

On February 12, 2021, the Federal Reserve published the two supervisory scenarios for DFAST 2021: baseline and severely adverse.[9] This section describes the severely adverse scenario that was used for the projections contained in this report. These scenarios were developed using the approach described in the Board's Policy Statement on the Scenario Design Framework for Stress Testing.[10] The severely adverse scenario is not a forecast but rather a hypothetical scenario designed to assess the strength of banking organizations and their resilience to an unfavorable economic environment.

The DFAST 2021 supervisory scenarios include trajectories for 28 variables. These include 16 variables that capture economic activity, asset prices, and interest rates in the U.S. economy and financial markets, and an additional three variables (real GDP growth, inflation, and the U.S./foreign currency exchange rate) for each of four foreign country blocs.

In 2021, the Federal Reserve applied a global market shock to the trading and private equity portfolios of 10 firms with large trading exposures and a largest counterparty default (LCPD) scenario component to 12 firms with substantial trading, processing, or custodial operations (see "Global Market Shock and Counterparty Default Components").

Severely Adverse Scenario

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

Figure 5. Unemployment rate in the severely adverse scenario, 2014:Q1–2024:Q1
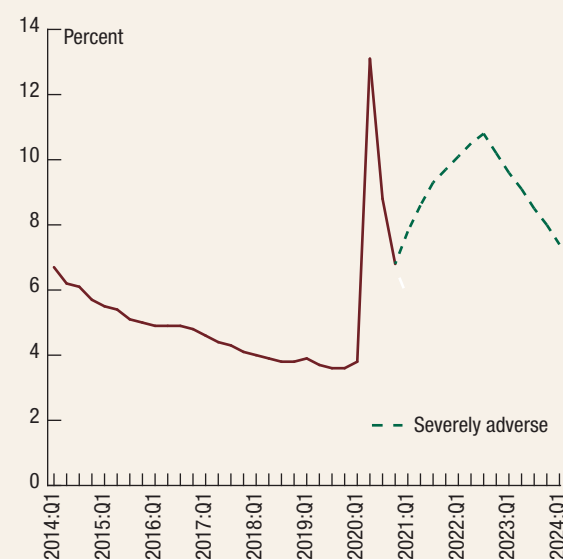
Source: Bureau of Labor Statistics for historical data and Federal Reserve assumptions for the supervisory scenario.

The severely adverse scenario is characterized by a severe global recession accompanied by a period of heightened stress in CRE and corporate debt markets. Consistent with the Scenario Design Framework, under the severely adverse scenario, the U.S. unemployment rate climbs to a peak of 10-3/4 percent in the third quarter of 2022 (see table A.5), a 4 percentage point increase relative to its fourth quarter 2020 level.[11] Real GDP falls 4 percent from the end of the fourth quarter of 2020 to its trough in the third quarter of 2022. The decline in activity is accompanied by a lower headline consumer price index (CPI) inflation rate, which quickly falls to an annual rate of about 1 percent in the second quarter of 2021, and stays at that level for another quarter before

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9   For additional information and for the details of the supervisory scenarios, see Board of Governors of the Federal Reserve System (2021), *2021 Stress Test Scenarios* (Washington: Board of Governors, February), https://www.federalreserve.gov/publications/stress-test-scenarios-february-2021.htm.

10   See 12 C.F.R. pt. 252, appendix A.

11   The Scenario Design Framework suggests an increase in the unemployment rate in the range between 3 and 5 percentage points from its initial level, with the expectation that the Federal Reserve will select an increase from the lower end of the range when the unemployment rate is already elevated.

Figure 6. Real GDP growth rate in the severely adverse scenario, 2014:Q1–2024:Q1
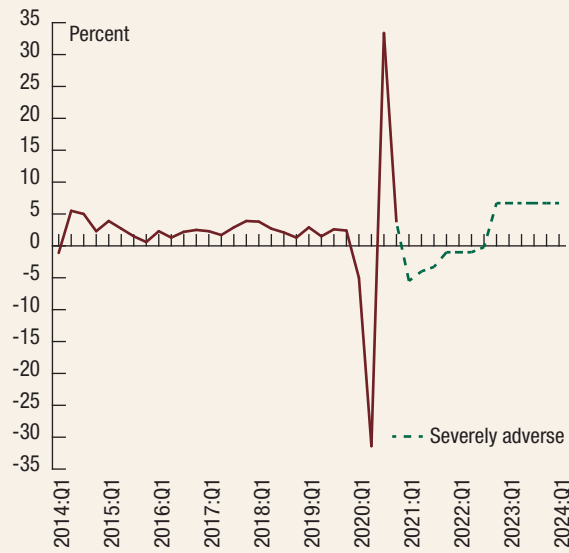
Source: Bureau of Economic Analysis for historical data and Federal Reserve assumptions for the supervisory scenario.

Figure 8. National House Price Index in the severely adverse scenario, 2014:Q1–2024:Q1
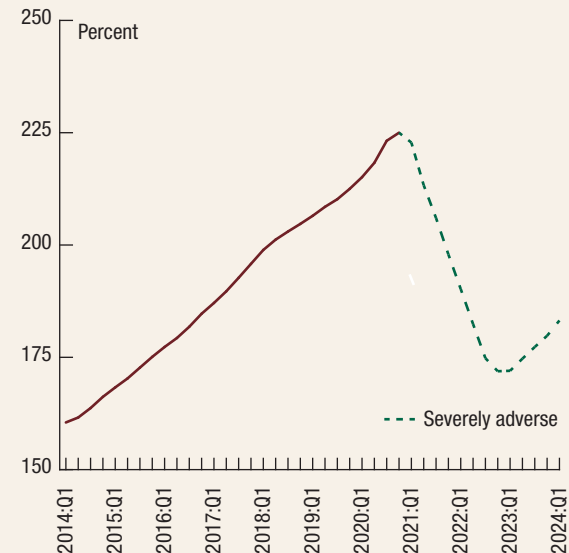
Source: CoreLogic for historical data (seasonally adjusted by Federal Reserve) and Federal Reserve assumptions for the supervisory scenario.

gradually rising to 2-1/4 percent by the end of the scenario period.

In line with the sharp decline in real activity, the 3-month Treasury rate remains near zero throughout the scenario. The 10-year Treasury yield immediately

falls to 1/4 percent during the first quarter of 2021 and stays there through the first quarter of 2022, after which it gradually rises, reaching 1-1/2 percent by the end of the scenario period. The result is a gradual steepening of the yield curve over much of the scenario period.

Figure 7. Dow Jones Total Stock Market Index, 2014:Q1–2024:Q1
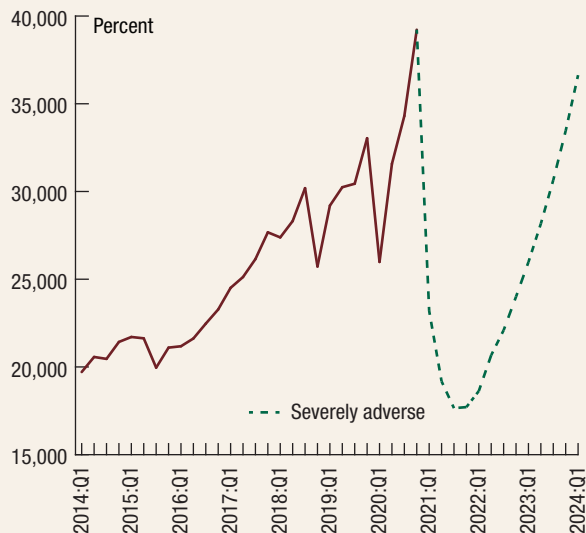
Source: Dow Jones for historical data and Federal Reserve assumptions for the supervisory scenario.

Figure 9. U.S. BBB corporate yield, 2014:Q1–2024:Q1
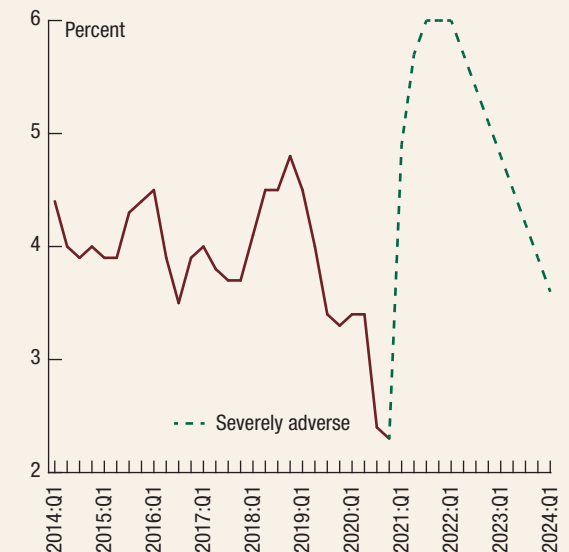
Source: ICE Data Indices, LLC, used with permission for historical data and Federal Reserve assumptions for the supervisory scenario.

Figure 10. U.S. Market Volatility Index (VIX) in the severely adverse scenario, 2014:Q1–2024:Q1
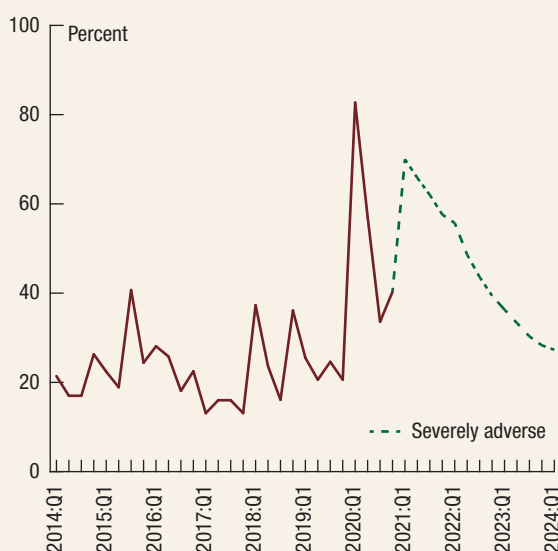
Source: Chicago Board Options Exchange for historical data (converted to quarterly by Federal Reserve using the maximum quarterly close-of-day value) and Federal Reserve assumptions for the supervisory scenario.

Conditions in corporate and real estate lending markets deteriorate markedly. The spread between yields on investment-grade corporate bonds and yields on 10-year Treasury securities widens to almost 5-3/4 percentage points by the third quarter of 2021, an increase of 4-1/4 percentage points relative to the fourth quarter of 2020. The spread between mortgage rates and 10-year Treasury yields widens to 3-1/2 percentage points over the same period.

Asset prices drop sharply in this scenario. Equity prices fall 55 percent through the third quarter of 2021, accompanied by a rise in the VIX, which reaches a peak of 70. House prices and CRE prices also experience large overall declines. House prices decline 23-1/2 percent through the end of 2022, while CRE prices fall 40 percent through the first quarter of 2023.

The international component of this scenario features severe recessions in the euro area, the United Kingdom, and Japan, and a significant deceleration of activity (though still with positive growth for most of the scenario period) in developing Asia. The U.S. dollar appreciates against the euro, the pound sterling, and the currencies of developing Asia, but depreciates modestly against the yen, reflecting flight-to-safety capital flows.

Additional Key Features of the Severely Adverse Scenario

Stresses in the corporate loan market should be assumed to be more intense for lower-rated nonfinancial firms. Declines in aggregate U.S. house prices should be assumed to be concentrated in regions that have experienced rapid price gains over the past two years. Declines in CRE prices should be assumed to be representative of risks to certain industries and property types that are being significantly affected by the COVID event in the United States. Declines in U.S. house prices and U.S. CRE prices should also be assumed to be representative of risks to house prices and CRE prices in foreign regions and economies that experienced rapid price gains before the COVID event and were significantly affected by the event. Moreover, although the weakness in euro area economic conditions reflects a broad-based contraction in euro area demand, this contraction should be assumed to be more protracted in countries with less ability to use fiscal policy to lean against the slowdown in economic activity. Conditions across Latin American economies should be assumed to be comparable to the sharp slowdown in the United States. The growth slowdown in developing Asia should be assumed to be representative of conditions across many emerging market economies.

Global Market Shock and Counterparty Default Components

The Federal Reserve applied a global market shock to the trading and private equity portfolios of 10 firms with large trading exposures.[12] In addition, the Federal Reserve applied an LCPD component, which assumes the default of a firm's largest counterparty under the global market shock, to the same 10 firms and 2 other firms with substantial trading, processing, or custodial operations.[13] These components are each an add-on to the economic conditions

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[12] The 10 firms subject to the global market shock are Bank of America Corporation; Barclays US LLC; Citigroup Inc.; Credit Suisse Holdings (USA), Inc.; DB USA Corporation; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; JPMorgan Chase & Co.; Morgan Stanley; and Wells Fargo & Company. See 12 C.F.R. § 252.54(b)(2)(i).

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

and financial market environment specified in the severely adverse scenarios.

Global Market Shock Component for Supervisory Severely Adverse Scenario

The global market shock is a set of hypothetical shocks to a large set of risk factors reflecting general market distress and heightened uncertainty. Firms with significant trading activity must consider the global market shock and recognize associated losses in the first quarter of the projection period.[14] In addition, certain large and highly interconnected firms must apply the same global market shock when projecting losses under the LCPD scenario component. The global market shock is applied to asset positions held by the firms on a given as-of date. The as-of date for the DFAST 2021 global market shock is October 9, 2020.[15] These shocks do not represent a forecast of the Federal Reserve.

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

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

- equity prices of key developed markets and developing and emerging market nations to which trading companies may have exposure, along with selected points along term structures of implied volatilities;

- foreign exchange rates of most major and some minor currencies, along with selected points along term structures of implied volatilities;

- selected-maturity sovereign debt yields (e.g., U.S. Treasury yields), swap rates, and other major interest rates for key developed markets and developing economies;

- selected maturities and expiries of implied volatilities that are key inputs to the pricing of interest rate derivatives;

- selected expiries of futures prices for energy products, including crude oil (differentiated by country of origin), natural gas, and power;

- selected expiries of futures prices for metals and agricultural commodities; and

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

The Board considers emerging and ongoing areas of financial market vulnerability in the development of the global market shock. This assessment of potential vulnerabilities is informed by financial stability reports; supervisory information; and internal and external assessments of potential sources of distress such as geopolitical, economic, and financial market events.

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

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[14] The global market shock component applies to a firm that is subject to the supervisory stress test and that has aggregate trading assets and liabilities of $50 billion or more, or aggregate trading assets and liabilities equal to 10 percent or more of total consolidated assets, and is not a Category IV firm. See 12 C.F.R. § 252.54(b)(2)(i).

[15] A firm may use data as of the date that corresponds to its weekly internal risk reporting cycle as long as the date falls during the business week of the as-of date for the global market shock (i.e., October 5–9, 2020).

Risk-factor shocks are calibrated based on assumed time horizons. The calibration horizons reflect a number of considerations related to the scenario being modeled. One important consideration is the liquidity characteristics of different risk factors, which vary based on the specified market shock narrative. More specifically, calibration horizons reflect the variation in the speed at which trading companies could reasonably close out, or effectively hedge, risk exposures in the event of market stress. The calibration horizons are generally longer than the typical time needed to liquidate assets under normal conditions because they are designed to capture the unpredictable liquidity conditions that prevail in times of stress, among other factors.[16] For example, more-liquid asset classes, such as interest rates, foreign exchange, or public equities, are calibrated to shorter horizons, such as 3 months, while less-liquid assets, such as non-agency securitized products or private equities, have longer calibration horizons, such as 12 months.

2021 Severely Adverse Scenario

The 2021 global market shock component for the severely adverse scenario is characterized by a sharp curtailment in global economic activity as financial conditions tighten. In particular, with ratings agencies downgrading large swaths of outstanding debt, corporate bond spreads widen sharply as ratings-sensitive investors sell assets. The effect on investment-grade debt is somewhat mitigated by flight-to-safety flows, but non-investment-grade debt experiences high default rates and record low recovery rates. Price declines in the leveraged loan market are exacerbated by selling from open-end mutual funds and exchange-traded funds.

With fiscal conditions that are already stretched, U.S. state and local governments face additional stress. Revenue declines, combined with significant spending increases, lead to a widening in municipal bond spreads and increased risk of defaults. Mutual funds holding municipal debt face redemptions and outflows exceeding historical experience.

CRE prices—particularly for the retail and hospitality sectors—fall sharply in this scenario. Rapid selling of commercial mortgage-backed securities (CMBS) by nonbank CRE lenders to meet margin calls puts considerable downward pressure on CMBS prices. Private-equity asset values experience sizable declines as leveraged firms face lower earnings and a weak economic outlook.

Short-term Treasury rates decrease only slightly given the current low level of short-term interest rates. Longer-term Treasury yields fall modestly, consistent with lower expected short-term rates and flight-to-safety considerations. Short-term U.S. interbank lending rates rise sharply, reflecting a pullback in overnight lending. At the same time, longer-term swap rates fall in line with the decreases in long-term Treasury yields.

Flight-to-safety considerations result in U.S. public equity price declines that are relatively mild compared to other developed markets, and cause the U.S. dollar to appreciate somewhat against the currencies of most developed economies. The yen appreciates against the U.S. dollar as investors unwind positions. Safe-haven considerations cause precious metal prices to increase, while prices for non-precious metals and oil decline, as a result of the broader economic weakness.

Largest Counterparty Default Component of the Supervisory Severely Adverse Scenario

Firms with substantial trading or custodial operations are required to incorporate a largest counterparty default scenario component into their supervisory severely adverse stress scenario for DFAST 2021 and recognize associated losses in the first quarter of the projection horizon.[17] This component involves the unexpected default of the firm's largest counterparty.[18]

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[16] Markets that are well-functioning and that appear to be very liquid can undergo abrupt changes in times of financial stress, and the timing and severity of changes in market liquidity may diverge from historical experience. For example, before the 2007–09 financial crisis, AAA-rated private-label residential mortgage-backed securities would likely have been considered highly liquid, but their liquidity deteriorated drastically during the crisis period.

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

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

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

The largest counterparty of each firm is determined by net stressed losses. Net stressed losses are estimated by applying the global market shock to

revalue securities financing transactions and derivatives, including collateral posted or received. The as-of date for the DFAST 2021 counterparty default scenario component is October 9, 2020—the same date as for the global market shock.[19]

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[19] As with the global market shock, a firm subject to the counterparty default component may use data as of the date that corresponds to its weekly internal risk reporting cycle as long as the date falls during the business week of the as-of date for the counterparty default scenario component (i.e., October 5–9, 2020).

Supervisory Stress Test Framework and Model Methodology

Overview of Modeling Framework

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

Projecting Pre-tax Net Income

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

- PPNR;

- provisions for credit losses;

- losses on loans held for sale (HFS) or for investment and measured under the fair-value option (FVO);

- credit losses on investment securities in the available-for-sale (AFS) and held-to-maturity (HTM) portfolios;[21]

Figure 11. Projecting net income and regulatory capital

Net interest income + noninterest income − noninterest expense
= pre-provision net revenue (PPNR)

Note: PPNR includes income from mortgage servicing rights and losses from operational-risk events and other real-estate owned (OREO) costs.

PPNR + other revenue − provisions for credit losses* − Available-for-sale and Held-to-maturity securities losses* − Held for sale and Fair-value option loan losses − trading and counterparty losses
= pre-tax net income

Note: Change in the allowances for credit losses + net charge-offs = *provisions for credit losses*

Pre-tax net income − taxes − income attributable to minority interest − change in the valuation allowance
= after-tax net income

After-tax net income − payments on non-common capital + other comprehensive income
= change in equity capital

Change in equity capital − change in adjustments and deductions from regulatory capital + other additions to regulatory capital
= change in regulatory capital

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

- losses on market risk exposures, credit valuation adjustment (CVA), and issuer default loss (IDL)[22] for firms subject to the global market shock; and

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

[21] For firms that have adopted Accounting Standards Update (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, Conn.: FASB, June 2016).

[22] This was formerly known as the "Incremental Default Risk" model. The name change does not reflect a change in the model, but rather was made to enhance consistency with industry terminology and to better distinguish between modeling of issuer defaults and counterparty defaults.

- losses from a default of the largest counterparty for firms with substantial trading, processing, or custodial operations.

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

Pre-provision Net Revenue

PPNR is defined as net interest income (interest income minus interest expense) plus noninterest income minus noninterest expense. Consistent with U.S. GAAP, the projection of PPNR includes projected losses due to operational-risk events and expenses related to the disposition of real-estate-owned properties.[23]

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

The Federal Reserve separately models losses from operational risk and other real-estate-owned (OREO) expenses. Operational risk is defined as "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events."[24] OREO expenses are those expenses related to the disposition of real-estate-owned properties and stem from losses on first-lien mortgages.

Loan Losses and Provisions on the Accrual Loan Portfolio

The Federal Reserve projects 13 quarters of losses on loans in the accrual loan portfolio using one of two

modeling approaches: the expected-loss framework or the net charge-off approach.

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

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

- corporate loans, including graded commercial and industrial (C&I) loans, agricultural loans, domestic farm loans, international farm loans, loans to foreign governments, loans for purchasing and carrying securities, other non-consumer loans, and other leases

- CRE loans, including domestic and international non-owner-occupied multifamily or nonfarm, non-residential property loans and construction and land development loans

- domestic first-lien residential mortgages

- domestic home equity loans (HELs) and home equity lines of credit (HELOCs)

- domestic credit cards

- domestic auto loans

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

Losses on the accrual loan portfolio flow into net income through provisions for loan and lease losses. Generally, provisions for loan and lease losses for each quarter equal projected loan losses for the quarter plus the change in the allowance needed to cover the subsequent four quarters of expected loan losses, taking into account the allowance established by the firm as of the effective date of the stress test.[25]

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23 PPNR projections do not include debt valuation adjustments, which are not included in regulatory capital.

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

25 To reduce uncertainty, allow for better capital planning at affected firms, and gather additional information on the effect of Current Expected Credit Losses (CECL), the Federal Reserve maintained the framework used prior to the adoption of CECL for calculating allowances on loans in DFAST 2021.

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

Losses on Loans Measured on a Fair-Value Basis

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

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

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

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

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

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

The Federal Reserve estimates two types of losses on AFS or HTM securities related to investment activi-

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

ties.[26] First, for securities classified as AFS, projected changes in the fair value of the securities due to changes in interest rates and other factors will result in unrealized gains or losses that are recognized in capital for some firms through other comprehensive income (OCI).[27] Second, credit losses on the security may be recorded. With the exception of certain government-backed obligations, both AFS and HTM securities are at risk of incurring credit losses.[28] The models project security-level credit losses, using as an input the projected fair value for each security over the nine-quarter projection horizon under the macroeconomic scenarios.

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

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

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

The fair value of securities in the AFS portfolio may change in response to the macroeconomic scenarios. Under U.S. GAAP, unrealized gains and losses on AFS securities are reflected in accumulated OCI (AOCI) but do not flow through net income.[29] Under the Board's regulatory capital rule, AOCI must be incorporated into CET1 capital for certain

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

[27] OCI is accounted for outside of net income. Under regulatory capital rules, accumulated OCI (AOCI) that arises from unrealized changes in the value of AFS securities must be incorporated into CET1 capital for firms subject to the advanced approaches and other firms that do not opt out of including AOCI in regulatory capital.

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

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

firms.[30] The incorporation of AOCI in regulatory capital is described later in "Calculation of Regulatory Capital Ratios."

Unrealized gains and losses are calculated as the difference between each security's fair value and its amortized cost. The amortized cost of each AFS security is equivalent to the purchase price of a debt security, which is periodically adjusted if the debt security was purchased at a price other than par or face value, has a principal repayment, or has an impairment recognized in earnings.[31]

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

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

Losses on Trading and Private Equity Exposures and Credit Valuation Adjustment

The trading and private equity model covers a wide range of firms' exposures to asset classes such as public equity, foreign exchange, interest rates, commodities, securitized products, traded credit (e.g., municipals, auction rate securities, corporate credit, and sovereign credit), private equity, and other fair-value assets. Loss projections are constructed by applying movements specified in the global market shock to market values of firm-provided positions and risk factor sensitivities.[32] In addition, the global market shock is applied to firm counterparty exposures to generate losses due to changes in CVA.

Issuer Default Loss

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

Largest Counterparty Default Losses

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

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

Balance Projections and the Calculation of Regulatory Capital Ratios

Balance Sheet Items and Risk-Weighted Assets

The Federal Reserve generally projects that a firm takes actions to maintain its current level of assets, including its securities, trading assets, and loans, over the projection horizon. The Federal Reserve assumes that a firm's risk-weighted assets (RWAs) and leverage ratio denominators remain unchanged over the projection horizon except for changes primarily related to items subject to deduction from regulatory capital or due to changes to the Board's regulations.[33]

Calculation of Regulatory Capital Ratios

The five regulatory capital measures that are included in the supervisory stress test are the (1) CET1 capital, (2) tier 1 risk-based capital, (3) total risk-based capital, (4) tier 1 leverage, and (5) supplementary leverage ratios (see table 2). A firm's regulatory capital ratios are calculated in accordance with the Board's regulatory capital rules using Federal Reserve projections of pre-tax net

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[30] The Board's capital rule allows firms that are not subject to Category I or II standards to opt out of including AOCI in regulatory capital. See 12 C.F.R. § 217.22(b)(2).

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

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

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

income and other scenario-dependent components of the regulatory capital ratios.[34]

Pre-tax net income and the other scenario-dependent components of the regulatory capital ratios are combined with additional information, including assumptions about taxes and capital distributions, to calculate post-stress regulatory capital. In that calculation, the Federal Reserve first adjusts pre-tax net income to account for taxes and other components of net income, such as income attributable to minority interests, to arrive at after-tax net income.[35]

The Federal Reserve calculates the change in equity capital over the projection horizon by combining projected after-tax net income with changes in OCI, assumed capital distributions, and other components of equity capital. The path of regulatory capital over the projection horizon is calculated by combining the projected change in equity capital with the firm's starting capital position and accounting for other adjustments to regulatory capital specified in the Board's regulatory capital framework.[36]

The denominator of each firm's regulatory capital ratios, other than the leverage ratios, is calculated using the standardized approach for calculating RWAs for each quarter of the projection horizon.

Capital Action Assumptions

To project post-stress capital ratios for DFAST 2021, the Federal Reserve uses the same set of standardized capital action assumptions that are specified in the Dodd-Frank Act stress test rules. As previously noted, in March 2020, the Board amended the capital action assumptions in its stress testing requirements.[37] According to these amended requirements, common stock dividend payments are assumed to be

zero over the projection horizon. Scheduled dividend, interest, or principal payments that qualify as additional tier 1 capital or tier 2 capital are assumed to be paid, and repurchases of such capital instruments are assumed to be zero. The capital action assumptions do not include issuances of new common stock or preferred stock. The projection of post-stress capital ratios does not include capital actions or other changes in the balance sheet associated with any business plan changes.

Data Inputs

Most of the data used in the Federal Reserve's stress test projections are gathered through the Capital Assessments and Stress Testing (FR Y-14) information collection, which includes a set of annual, quarterly, or monthly schedules.[38] These reports collect detailed data on PPNR, loans, securities, trading and counterparty risk, and losses related to operational-risk events and business plan changes. Each of the firms participating in DFAST 2021 submitted FR Y-14A, FR Y-14Q, and FR Y-14M data as of December 31, 2020. The FR Y-14Q and FR Y-14M data were submitted according to the timeline indicated in the instructions.

Consistent with the Board's Stress Testing Policy Statement, the Federal Reserve makes certain assumptions about missing data or data with deficiencies significant enough to preclude the use of supervisory models.[39] Given a reasonable set of assumptions or approaches, all else equal, the Federal Reserve will opt to use those that result in larger losses or lower revenue.

The conservative assumptions applied depend on the nature of the data deficiency.[40] Where possible and appropriate, conservative values are assigned to specific deficient data items reported in the FR Y-14 information collection. For example, if certain observations in the first-lien mortgage portfolio were missing credit scores, the Federal Reserve would apply to

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[34] In April 2020, the Board temporarily excluded deposits at Federal Reserve Banks and holdings of U.S. Treasuries from the denominator of the supplementary leverage ratio (SLR). This temporary relief expired after the first quarter of 2021, and the Federal Reserve has adjusted its supervisory capital calculation to reflect this change in the firms' projected SLR. See 85 Fed. Reg. 20578 (Apr. 14, 2020).

[35] The Federal Reserve applies a consistent tax rate of 21 percent to pre-tax net income and accounts for deferred tax assets. The tax calculations do not include the effect of the temporary provision in the Coronavirus Aid, Relief, and Economic Security (CARES) Act to allow for tax carrybacks, which expired at the end of the 2020 tax year.

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

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

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

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

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

those observations the 10th percentile credit score across all FR Y-14M submissions for that portfolio.

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

HELOC portfolio, but HEL projected losses would be modeled using the supervisory model.

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

Box 1. Model Changes for the 2021 Supervisory Stress Test

Model Refinements and Changes

Each year, the Federal Reserve refines both the substance and process of the supervisory stress test, including its development and enhancement of independent supervisory models. The supervisory stress test models may be enhanced to reflect advances in modeling techniques, enhancements in response to model validation findings, incorporation of richer and more detailed data, and identification of more stable models or models with improved performance. In addition, the Federal Reserve may make minor refinements to models. Examples include re-estimation with new data, re-specification based on performance testing, and other refinements to the code used to produce supervisory projections.

For DFAST 2021, the Federal Reserve completed the phase-in of the enhanced models that project certain components of PPNR. The Federal Reserve began a two-year transition to an updated PPNR model in DFAST 2020. The two-year phase-in policy was employed because the PPNR refinements materially affected projections for certain firms. Consistent with the Federal Reserve's stated policy for material model changes, the PPNR estimates for DFAST 2020 were the average of the results produced by model used in DFAST 2019 and the results produced under the updated model. PPNR estimates for DFAST 2021 fully reflect the updated model.

Model Adjustments due to the COVID Event

The uncertainty associated with the COVID event, the path of the economy, and the government responses present challenges for risk measurement and projections, including for the types of models used in the stress tests by both firms and the Federal Reserve. To address these challenges, the Federal Reserve made three targeted adjustments for DFAST 2021. These adjustments are intended to maintain appropriate sensitivity to stress conditions and to ensure

data consistency across firms. They affect the probability of default (PD) for auto loans and credit card accounts, loss given default (LGD) for commercial real estate loans backed by hotel properties, and the calculation of the payment status for first-lien mortgages in forbearance. Following the Federal Reserve's policies related to model risk management, these adjustments were reviewed by an independent validation group.[1]

Auto and Credit Cards

The COVID event caused unprecedented changes in macroeconomic and financial variables. At the same time, credit risk measures have not risen appreciably from pre–COVID event levels, due to government responses to support households and businesses, as well as loss mitigation programs initiated by firms. As a result, relationships between macroeconomic variables and credit risk measures are outside their range of historical experience.

Due to these unusual circumstances, loss projections without a model adjustment would not capture the elevated risk associated with the COVID event. The Federal Reserve adjusted the 2020 values of the unemployment rate that enter the auto loan and credit card models by averaging the unemployment rate over previous quarters. This adjustment better aligns the macroeconomic variables with credit risk measures and results in higher loss projections than

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[1] Each year, an independent System Model Validation group validates the supervisory stress test models. This group's model validation process includes reviews of model performance, conceptual soundness, and the processes, procedures, and controls used in model development, implementation, and the production of results. See Board of Governors of the Federal Reserve System (2021), *Dodd-Frank Act Stress Test 2021: Supervisory Stress Test Methodology* (Washington: Board of Governors, April), https://www.federalreserve.gov/publications/files/2021-april-supervisory-stress-test-methodology.pdf.

Box 1. Model Changes for the 2021 Supervisory Stress Test—*continued*

if the models were run without the adjustment. This adjustment is similar to the ones temporarily imposed on corporate and certain consumer loan models in the December 2020 Stress Test. Note that those particular adjustments are no longer necessary in DFAST 2021 due to the nature of the specific model structures.

Commercial Real Estate

In 2020, demand for hotels declined substantially because of travel restrictions, lockdowns, and other COVID event-related factors, leading to an unprecedented increase in hotel vacancy rates and a steep drop in hotel property values. The Federal Reserve's stress test framework projects that loans collateralized by hotel properties in markets with extraordinarily high vacancy rates would experience losses that reflect significantly lower collateral recovery rates than have been historically observed. In the December 2020 Stress Test, the Federal Reserve set a lower bound on the recovery rate for such loans that reflects this value.[2] The Federal Reserve raised the lower bound in DFAST 2021, reflecting a stabilization in hotel property values in the second half of 2020. Raising the lower bound on recovery rates results in lower projected losses.

First-Lien Mortgages

The COVID event has severely affected the ability of some borrowers to repay their loans.[3] Loan loss mitigation and forbearance programs implemented widely by the federal government assisted borrowers struggling to make payments. While these programs affect nearly all consumer loans to varying degrees, the percentage of loan balances in forbearance is material for first-lien mortgages. At the same time, there are important differences in how individual firms reported loss mitigation data on regulatory reports. For DFAST 2021, the Federal Reserve adjusted the calculation of payment status for first-lien mortgages in forbearance to standardize reporting practices across firms. This is the same adjustment that was made in the December 2020 Stress Test. This adjustment results in higher projected losses than if the model were run without the adjustment.

Government Support Programs

Consistent with previous stress tests, the model adjustments in DFAST 2021 do not directly account for an increase in government support programs. These programs—including expanded eligibility for unemployment insurance, larger unemployment insurance payments, and federal loan guarantee programs, such as the Paycheck Protection Program (PPP)—support credit access and improve credit quality for households and businesses.[4] Many COVID event-related support programs for households and businesses have already expired or will expire in the coming months. Note that the Federal Reserve's stress test framework does not directly incorporate potential future policy actions, although some aspects may be indirectly considered during the design of the supervisory scenarios.

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[2] See Board of Governors of the Federal Reserve System, *December 2020 Stress Test Results* (Washington: Board of Governors, December 2020), https://www.federalreserve.gov/publications/files/2020-dec-stress-test-results-20201218.pdf.

[3] A survey by the U.S. Census Bureau in late May and early June 2021 estimated that 9.7 percent of mortgage borrowers had little to no confidence that they could complete their mortgage payment. See Household Pulse Survey, https://www.census.gov/data/tables/2021/demo/hhp/hhp31.html.

[4] The Federal Reserve reflects the federal loan guarantee for PPP loans in its stress test. The Federal Reserve's stress test assumes that PPP loans earn interest income but incur no credit losses. In addition, PPP loans are assigned a risk weight of zero, consistent with the regulatory capital rule.

Supervisory Stress Test Results under the Severely Adverse Scenario

This section describes the Federal Reserve's projections of losses, revenues, expenses, and capital positions for the 23 firms in DFAST 2021 under the severely adverse scenario. Results are presented both in the aggregate and for individual firms. The aggregate results reflect the combined sensitivities of losses, revenues, and capital at these firms to the stressed economic and financial market conditions contained in the severely adverse scenario. The range of results across individual firms reflects differences in business focus, asset composition, revenue and expense sources, and portfolio risk characteristics. The comprehensive results for individual firms are reported in appendix B.

Changes in supervisory stress test results across exercises reflect changes in

- firm starting capital positions;[41]

- the scenario used for the supervisory stress test;

- portfolio composition and risk characteristics; and

- models used in the supervisory stress test.

Under the supervisory severely adverse scenario, the aggregate CET1 ratio is projected to decline to a minimum of 10.6 percent before rising to 11.2 percent at the end of nine quarters (see table 3). In the aggregate, each of the five capital and leverage ratios declined over the course of the projection horizon from their levels in the fourth quarter of 2020, with

levels in the first quarter of 2023 ranging from 1.0 percentage point to 1.8 percentage points lower than at the start of the projection horizon (see table 3).

The changes in post-stress capital ratios vary considerably across firms (see figure 13), and table 4 presents these ratios for each of the firms. Differences in the declines in ratios across firms are caused by variation in firms' business lines, their portfolios, and the characteristics of loans within these portfolios. This variation drives differences in magnitude and timing of loss, revenue, and expense projections in the Federal Reserve's stress test. The magnitude and timing of loss, revenue, and expense projections for a firm across stress tests may vary with the projected path of economic and financial components of the supervisory severely adverse scenario, in combination with a firm's business lines and portfolio characteristics.

Projected Losses

The Federal Reserve projects that the firms as a group would experience $474 billion in losses on loans and other positions in the aggregate over the nine quarters of the projection horizon.

These losses include

- $353 billion in accrual loan portfolio losses;

- $4 billion in securities losses;[42]

- $86 billion in trading and counterparty losses at the 12 firms with substantial trading, processing, or custodial operations; and

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[41] For firms participating in DFAST 2021 that adopted CECL and elected the CECL transition provision in 12 C.F.R. part 217, subpart G, the starting capital position used to project the path of regulatory capital includes eligible transitional amounts intended to mitigate the adverse effect of differences between allowances under CECL and the incurred loss methodology. Projected capital levels do not incorporate changes in the transitional amounts during the transition period, which has a duration of three or five years from the date of adoption, depending on the transition election. The aggregate CECL transition amount added to retained earnings for the purpose of calculating CET1 capital is $28 billion, or 0.3 percent of risk-weighted assets. For individual firms, the transition amount varies with the firm's portfolios, the characteristics of assets within these portfolios, and the transition provision option elected by the firm.

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

Figure 12. Projected losses in the severely adverse scenario

Billions of dollars

- First-lien mortgages, domestic 17
- Junior liens and HELOCs 5
- Commercial and industrial loans 92
- Commercial real estate, domestic 67
- Credit cards 91
- Other consumer loans 24
- Other loans 57
- Securities losses 4
- Trading and counterparty losses 86
- Other losses 31
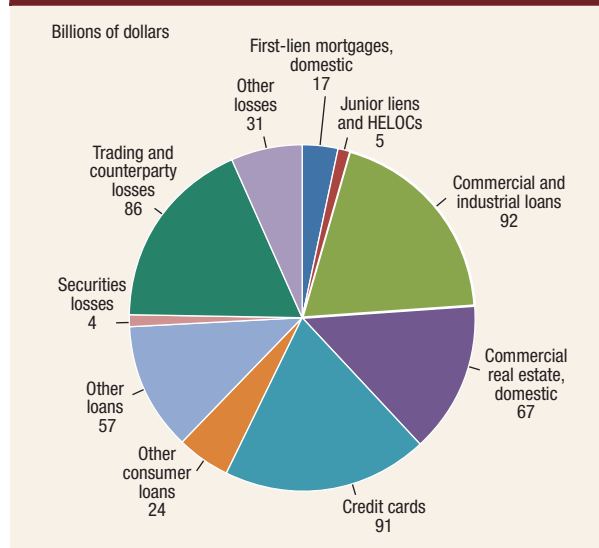
- $31 billion in additional losses from items such as loans booked under the FVO (see table 3).

Losses on accrual loan portfolios account for 75 percent of the projected losses for the firms, while trading and counterparty losses account for 18 percent (see figure 12).

Loan Losses

Total loan losses are $353 billion in DFAST 2021. Although overall loan losses in DFAST 2021 are similar to that of DFAST 2020 for the firms participating this year, the composition of losses differs between the two stress tests.

Differences in projected losses over time primarily reflect changes in loan and borrower characteristics and changes in the scenarios. Over the course of 2020, there was a shift in the composition of firms' loan portfolios away from portfolios with higher loss rates. In particular, consumer credit card balances have declined significantly since the start of 2020 as a result of reduced consumer spending and higher loan repayment rates. This decline in credit card balances resulted in lower credit card losses. However, this effect was offset by higher losses on CRE loans, mainly driven by an increase in vacancy rates in the hospitality sector.

Consequently, loan losses on consumer products represent a smaller share of losses than losses on commercial products than in DFAST 2020 (see table 3). Consumer and commercial products represent 29 and 45 percent of total projected losses, respectively. C&I loan losses and credit card losses are the two largest categories of loan losses at $92 billion and $91 billion, respectively.

The aggregate nine-quarter cumulative loss rate for all accrual loan portfolios is 6.2 percent.[43] However, total loan loss rates vary significantly across the firms, ranging between 1.5 percent and 12.8 percent (see table 8 and figure 14).

Firms' loan loss rates reflect differences in the portfolios held by each firm and characteristics of the loans within each portfolio. Loan portfolio composition matters because projected loss rates vary significantly for different types of loans. In the aggregate, nine-quarter cumulative loss rates range from 1.5 percent on domestic first-lien mortgages to 16.2 percent on credit cards, reflecting both differences in the typical performance of these loans and differences in the sensitivity of different types of loans to the scenarios. Lending categories for which performance is sensitive to credit spreads or unemployment rates may experience high stressed loss rates due to the considerable stress on these factors in the severely adverse scenario.[44]

Projected loss rates on most loan categories show variation across firms, which underscores the differences between each firm's loan portfolio (see table 8 and figures C.1 through C.7). There are significant differences across firms in the projected loan loss rates for similar types of loans. For example, while the median projected loss rate on C&I loans is 7.5 percent, the rates among firms with C&I loans vary from a low of 1.1 percent to a high of 18.9 percent. For credit card loans, the range of projected loss rates is 14.3 percent to 25.0 percent, with a median of 16 percent.

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[43] 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.

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

Losses on Trading, Private Equity, Securities Financing Transactions, and Derivatives Positions

The severely adverse scenario results include $86 billion in trading and counterparty losses generated from the global market shock and LCPD components. For the 12 firms subject to one or both components, losses ranged from $0.5 billion to $21.1 billion (see table 6).

The relative size of losses across firms depends on the specific risk characteristics of each firm's trading positions, inclusive of hedges. Importantly, these projected losses are based on the trading positions and counterparty exposures held by these firms on the same as-of date (October 9, 2020) and could have differed if they had been based on a different date.

Projected PPNR

In the aggregate, the firms are projected to generate $298 billion in PPNR cumulatively over the nine quarters of the projection horizon, equal to 1.7 percent of their combined average assets (see table 3). PPNR projections are driven by the shape of the yield curve, the path of asset prices, equity market volatility, and measures of economic activity in the severely adverse scenario. In addition, PPNR projections incorporate expenses stemming from estimates of elevated levels of losses from operational-risk events such as fraud, employee lawsuits, litigation-related expenses, or computer system or other operating disruptions.[45] In the aggregate for the 23 firms, operational-risk losses are $151 billion for DFAST 2021. This amount is slightly higher than the $136 billion projected for the same set of firms in DFAST 2020.

Aggregate PPNR as a percent of combined average assets is lower under the severely adverse scenario in DFAST 2021 than in DFAST 2020. Lower PPNR is partly due to lower net interest income, reflecting a sharper decrease in the term spread under the severely adverse scenario and an increase in firm holdings of low-yielding assets. There were also other fairly sizable changes in firms' balance sheets in 2020. All else equal, larger balance sheets result in higher revenue that is roughly offset by higher

expenses in the stress test projections. Noninterest income remained higher than in DFAST 2020, supported by stronger trading revenues and investment banking fees. Stronger noninterest income partly dampened the decrease in PPNR.

The ratio of projected cumulative PPNR to average assets varies across firms (see figure 15). A significant portion of this variation reflects differences in business focus across the institutions. For instance, the ratio of PPNR to assets tends to be higher at firms focusing on credit card lending, reflecting the higher net interest income that credit cards generally produce relative to other forms of lending.[46] Importantly, lower PPNR rates do not necessarily imply lower net income, because the same business focus and revenue risk characteristics determining differences in PPNR across firms could also result in offsetting differences in projected losses across firms.

Net Income and Regulatory Capital Treatment

Projected PPNR and provisions for loan losses are the primary determinants of projected pre-tax net income. The projected decline in pre-tax net income is 0.7 percent of average total assets, compared to a decline of 1.0 percent of average total assets in DFAST 2020 for the same firms. Table 6 presents projections of the components of pre-tax net income, including provisions into the allowance and one-time income and expense and extraordinary items, under the severely adverse scenario for each of the firms (see table 3 for aggregate). The projections are cumulative for the nine quarters of the projection horizon.

The Federal Reserve's projections of pre-tax net income under the severely adverse scenario imply negative net income at most firms individually and for the firms as a group over the nine-quarter projection horizon. Projected pre-tax net income shows an aggregate net loss of $117 billion over the projection horizon, compared to a $157 billion loss in DFAST 2020 for the same set of firms, even though CET1 declined less in DFAST 2020 than in DFAST 2021. Further reducing CET1 are higher projected loan charge-offs combined with lower projected revenue over the projection horizon, which results in larger

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

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

deferred tax assets. Deferred tax assets are deducted from CET1 because they are not considered available to absorb losses.

The pre-tax net income projections incorporate loan losses through provisions, which equal projected loan losses plus the amount needed for the allowance to be at an appropriate level at the end of each quarter. The $294 billion in total provisions for loan losses includes $353 billion in net charge-offs. Firms built large allowances in 2020 in response to the COVID event and changes to accounting rules.[47]

The ratio of pre-tax net income to average assets for each of the firms ranges from negative 3.0 percent to 1.4 percent (see figure 16). Projected cumulative pre–tax net income for 17 of 23 firms is negative over the

projection horizon. Differences across the firms reflect differences in the sensitivity of the various components of net income to the economic and financial market conditions in the severely adverse scenario. Additional variation in projected net income results from the effect of the global market shock and LCPD components that affect 12 of the 23 firms.

Firms that are required to include AOCI in regulatory capital and those that opt in to including it are also affected by OCI (see table 6). OCI is driven by unrealized gains and losses on AFS securities in the supervisory stress test. The severely adverse scenario in DFAST 2021 features a smaller decline in the 10-year Treasury yield relative to DFAST 2020 due to a lower initial level. The interest rate path and credit spreads assumed in the scenario result in negative $0.3 billion of OCI over the nine quarters of the projection horizon for firms required to include AOCI in regulatory capital and those that opt in to including it.

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[47] Firms generally adopted the CECL framework on January 1, 2020, and built up their allowances to reflect expected losses over the life of the assets in their portfolios. From December 2019 to December 2020, the firms that participated in DFAST 2021 more than doubled their allowances from $69 billion to $142 billion.

Table 2. Applicable capital ratios and calculations for firms in the 2021 Dodd-Frank Act stress tests		
Capital ratio	Calculation, by aspect of ratio	
	Capital in numerator	Denominator
Common equity tier 1 ratio	Definition of regulatory capital	Standardized approach RWAs
Tier 1 ratio	Definition of regulatory capital	Standardized approach RWAs
Total capital ratio	Definition of regulatory capital	Standardized approach RWAs
Tier 1 leverage ratio	Definition of regulatory capital	Average assets
Supplementary leverage ratio	Definition of regulatory capital	Total leverage exposure

Table 3. 23 participating firms
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	13.0	11.2	10.6
Tier 1 capital ratio	14.7	13.0	12.3
Total capital ratio	17.1	15.3	14.9
Tier 1 leverage ratio	8.0	7.0	6.6
Supplementary leverage ratio	7.7	5.8	5.5

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	353.0	6.2
First-lien mortgages, domestic	16.5	1.5
Junior liens and HELOCs, domestic	5.4	3.4
Commercial and industrial[2]	91.8	7.8
Commercial real estate, domestic	66.8	10.5
Credit cards	91.0	16.2
Other consumer[3]	24.3	4.5
Other loans[4]	57.2	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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	9,260.6	9,175.3

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	298.4	1.7
equals		
Net interest income	644.3	3.7
Noninterest income	745.2	4.2
less		
Noninterest expense[2]	1,091.1	6.2
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	294.2	
Credit losses on investment securities (AFS/HTM)[4]	4.3	
Trading and counterparty losses[5]	86.5	
Other losses/gains[6]	30.5	
equals		
Net income before taxes	-117.1	-0.7
Memo items		
Other comprehensive income[7]	-0.3	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	-34.1	-34.4

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

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

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

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

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

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

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

Table 4. Projected minimum common equity tier 1 ratio under the severely adverse scenario, 2021:Q1–2023:Q1
23 participating firms
Percent

Firm	Stressed ratios with Dodd-Frank Act stress test capital action assumptions
Bank of America Corporation	9.9
The Bank of New York Mellon Corporation	12.4
Barclays US LLC	15.7
BMO Financial Corp.	9.5
Capital One Financial Corporation	11.5
Citigroup Inc.	9.4
Credit Suisse Holdings (USA), Inc.	15.9
DB USA Corporation	23.2
The Goldman Sachs Group, Inc.	8.8
HSBC North America Holdings Inc.	7.3
JPMorgan Chase & Co.	10.7
Morgan Stanley	12.7
MUFG Americas Holdings Corporation	11.9
Northern Trust Corporation	12.2
The PNC Financial Services Group, Inc.	10.8
RBC US Group Holdings LLC	12.4
Regions Financial Corporation	8.9
State Street Corporation	11.4
TD Group US Holdings LLC	15.2
Truist Financial Corporation	8.6
UBS Americas Holding LLC	20.1
U.S. Bancorp	9.1
Wells Fargo & Company	8.8

Note: The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratio presented is for the period 2021:Q1 to 2023:Q1.

Source: Federal Reserve estimates in the severely adverse scenario.

Figure 13. Change from 2020:Q4 to minimum CET1 ratio in the severely adverse scenario

Median=2.4%
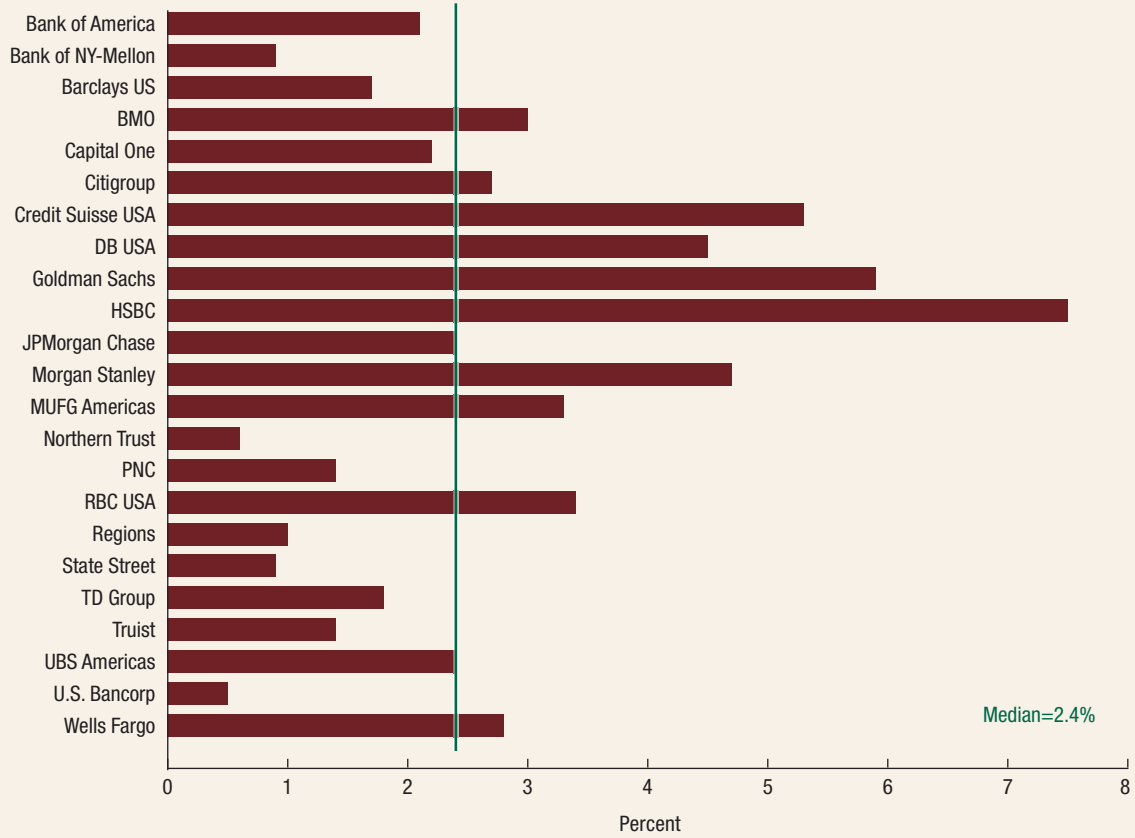
Note: Estimates are for the nine-quarter period from 2021:Q1-2023:Q1 as a percent of risk-weighted assets.

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

Bank	Loss rate
Bank of America	
Bank of NY-Mellon	
Barclays US	
BMO	
Capital One	
Citigroup	
Credit Suisse USA	
DB USA	
Goldman Sachs	
HSBC	
JPMorgan Chase	
Morgan Stanley	
MUFG Americas	
Northern Trust	
PNC	
RBC USA	
Regions	
State Street	
TD Group	
Truist	
UBS Americas	
U.S. Bancorp	
Wells Fargo	

Median=5.9%

Percent

Note: Estimates are for the nine-quarter period from 2021:Q1-2023:Q1 as a percent of average loan balances.

Table 5. Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1 under the severely adverse scenario: 23 participating firms
Percent

Firm	Common equity tier 1 capital ratio			Tier 1 capital ratio			Total capital ratio			Tier 1 leverage ratio			Supplementary leverage ratio[1]		
	Actual 2020:Q4	Ending	Mini-mum	Actual 2020:Q4	Ending	Mini-mum	Actual 2020:Q4	Ending	Mini-mum	Actual 2020:Q4	Ending	Mini-mum	Actual 2020:Q4	Ending	Mini-mum
Bank of America Corporation	11.9	10.1	9.9	13.5	11.7	11.5	16.1	14.0	14.0	7.4	6.3	6.2	7.2	5.3	5.2
The Bank of New York Mellon Corporation	13.4	15.6	12.4	16.1	18.3	15.1	17.1	19.3	16.2	6.3	7.2	5.9	8.6	9.0	7.5
Barclays US LLC	17.3	18.4	15.7	20.4	21.5	18.8	22.2	23.5	21.0	10.2	10.6	9.2	9.5	9.4	8.2
BMO Financial Corp.	12.5	9.5	9.5	13.5	10.6	10.6	15.6	12.5	12.5	9.3	7.2	7.2			
Capital One Financial Corporation	13.7	12.0	11.5	15.3	13.6	13.1	17.7	16.0	15.5	11.2	10.2	9.7	10.7	8.7	8.2
Citigroup Inc.	12.1	10.6	9.4	13.7	12.2	11.0	16.8	15.1	14.3	7.4	6.5	5.8	7.0	5.3	4.8
Credit Suisse Holdings (USA), Inc.	21.2	19.5	15.9	21.8	20.2	16.6	21.9	20.3	16.7	13.7	12.1	9.8	11.8	10.4	8.5
DB USA Corporation	27.7	24.9	23.2	39.3	37.2	35.7	39.3	37.5	35.9	10.8	9.7	9.2	13.6	9.3	8.8
The Goldman Sachs Group, Inc.	14.7	11.8	8.8	16.7	13.8	10.8	19.5	16.6	14.0	8.1	6.6	5.2	7.0	5.0	3.9
HSBC North America Holdings Inc.	14.8	7.3	7.3	16.8	9.4	9.4	21.4	14.0	14.0	7.9	4.2	4.2	7.1	3.3	3.3
JPMorgan Chase & Co.	13.1	11.9	10.7	15.0	13.9	12.7	17.3	15.8	15.0	7.0	6.4	5.8	6.9	5.3	4.8
Morgan Stanley	17.4	15.2	12.7	19.4	17.3	14.8	21.5	19.4	17.1	8.4	7.3	6.2	7.4	5.7	4.9
MUFG Americas Holdings Corporation	15.3	11.9	11.9	15.3	11.9	11.9	16.3	13.2	13.2	9.6	7.4	7.4			
Northern Trust Corporation	12.8	13.1	12.2	13.9	14.2	13.4	15.6	16.1	15.1	7.6	7.8	7.3	8.6	8.6	8.0
The PNC Financial Services Group, Inc.	12.2	10.9	10.8	13.2	12.0	11.9	15.6	14.0	14.0	9.5	8.6	8.5	9.9	7.2	7.2
RBC US Group Holdings LLC	15.8	12.5	12.4	15.8	12.5	12.4	16.4	13.6	13.6	9.9	7.7	7.7			
Regions Financial Corporation	9.8	9.1	8.9	11.4	10.6	10.4	13.6	12.8	12.6	8.7	8.2	8.0			
State Street Corporation	12.3	13.3	11.4	14.4	15.4	13.5	15.3	16.5	14.6	6.4	6.9	6.0	8.1	8.2	7.2
TD Group US Holdings LLC	17.0	15.3	15.2	17.0	15.3	15.2	18.3	16.3	16.3	8.3	7.5	7.5	9.5	6.8	6.7
Truist Financial Corporation	10.0	8.7	8.6	12.1	10.8	10.7	14.5	13.6	13.6	9.6	8.6	8.5	8.7	7.5	7.4
UBS Americas Holding LLC	22.5	21.6	20.1	27.3	26.9	25.5	28.4	28.7	27.0	11.3	10.1	9.5	11.6	8.7	8.2
U.S. Bancorp	9.7	9.7	9.1	11.3	11.3	10.8	13.4	13.1	12.9	8.3	8.3	7.9	7.3	6.6	6.3
Wells Fargo & Company	11.6	8.9	8.8	13.3	10.6	10.5	16.5	13.6	13.6	8.3	6.6	6.5	8.1	5.5	5.5
23 participating firms	13.0	11.2	10.6	14.7	13.0	12.3	17.1	15.3	14.9	8.0	7.0	6.6	7.7	5.8	5.5

Note: The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1.

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

Source: Federal Reserve estimates in the severely adverse scenario.

Table 6. Projected losses, revenue, and net income before taxes through 2023:Q1 under the severely adverse scenario: 23 participating firms
Billions of dollars

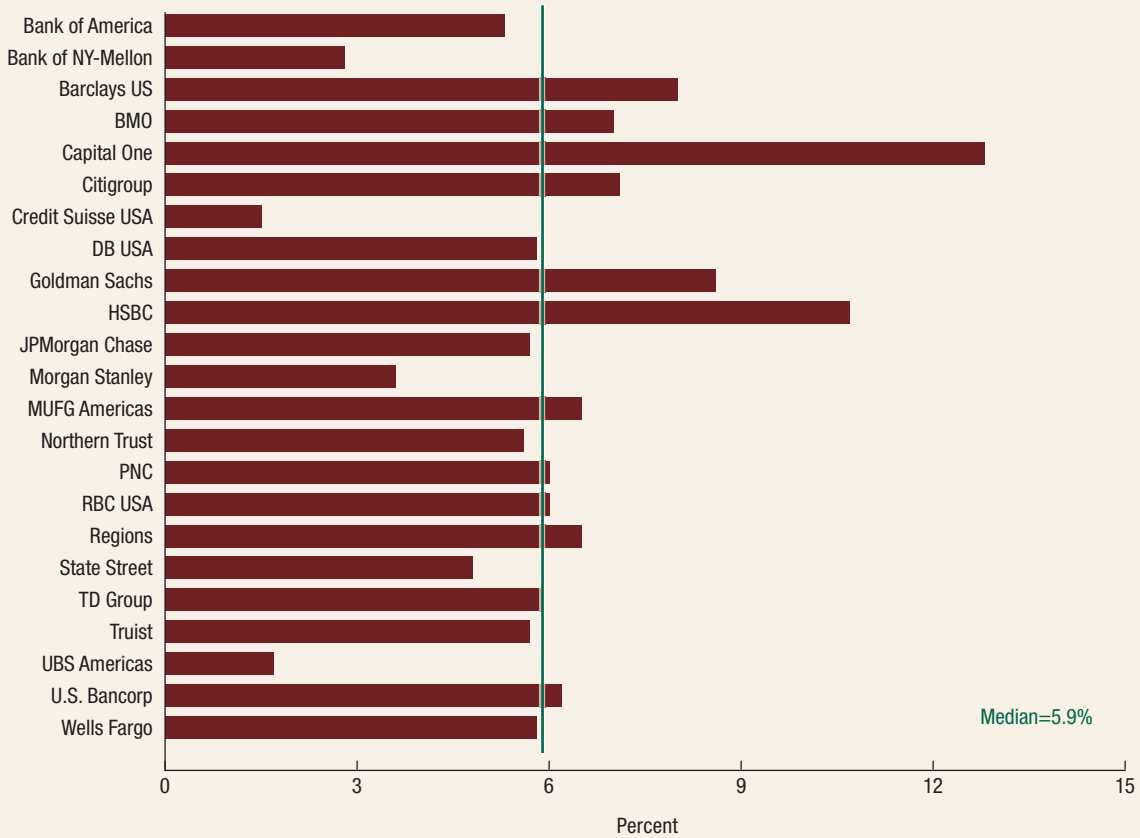| Firm	Sum of revenues		Minus sum of provisions and losses				Equals	Memo items	Other effects on capital
	Pre-provision net revenue[1]	Other revenue[2]	Provisions for loan and lease losses	Credit losses on investment securities (AFS/HTM)[3]	Trading and counterparty losses[4]	Other losses/ gains[5]	Net income before taxes	Other compre-hensive income[6]	AOCI included in capital (2023:Q1)
Bank of America Corporation	31.1	0.0	41.9	0.2	9.9	4.1	-25.0	0.5	-1.6
The Bank of New York Mellon Corporation	9.3	0.0	1.6	0.2	1.0	0.0	6.5	-1.0	-2.0
Barclays US LLC	5.7	0.0	2.6	0.0	1.2	0.0	1.9	0.0	0.0
BMO Financial Corp.	2.7	0.0	5.9	0.0	0.0	0.0	-3.2	0.0	0.0
Capital One Financial Corporation	24.6	0.0	26.6	0.2	0.0	0.2	-2.4	0.0	0.0
Citigroup Inc.	35.4	0.0	33.9	0.6	8.6	1.9	-9.6	1.1	-32.5
Credit Suisse Holdings (USA), Inc.	3.5	0.0	0.2	0.0	3.3	0.2	-0.2	0.0	0.0
DB USA Corporation	1.4	0.0	0.8	0.0	0.9	0.0	-0.2	0.0	-0.2
The Goldman Sachs Group, Inc.	23.8	0.0	12.8	0.0	21.1	5.1	-15.2	0.1	-1.3
HSBC North America Holdings Inc.	0.1	0.0	6.4	0.1	0.5	0.4	-7.3	0.0	-0.1
JPMorgan Chase & Co.	56.9	0.0	41.5	0.8	18.8	8.2	-12.3	-0.8	4.8
Morgan Stanley	16.1	0.0	8.4	0.1	11.2	6.6	-10.2	0.4	-1.6
MUFG Americas Holdings Corporation	1.7	0.0	5.1	0.1	0.0	0.0	-3.6	0.0	0.0
Northern Trust Corporation	2.9	0.0	2.1	0.1	0.0	0.0	0.7	-0.2	0.2
The PNC Financial Services Group, Inc.	8.9	0.0	11.3	0.1	0.0	0.5	-3.1	0.0	0.0
RBC US Group Holdings LLC	1.8	0.0	4.2	0.4	0.0	0.0	-2.8	0.0	0.0
Regions Financial Corporation	4.2	0.0	4.4	0.0	0.0	0.1	-0.4	0.0	0.0
State Street Corporation	4.4	0.0	1.5	0.1	0.8	0.0	2.0	-0.3	-0.2
TD Group US Holdings LLC	5.1	0.0	8.4	0.3	0.0	0.0	-3.5	0.0	0.0
Truist Financial Corporation	11.9	0.0	14.8	0.2	0.0	0.6	-3.7	0.0	0.0
UBS Americas Holding LLC	2.6	0.0	1.3	0.0	0.0	0.1	1.2	0.0	0.0
U.S. Bancorp	16.2	0.0	14.7	0.0	0.0	0.1	1.5	0.0	-0.1
Wells Fargo & Company	28.1	0.0	43.7	0.8	9.3	2.3	-28.1	-0.1	0.2
23 participating firms	298.4	0.0	294.2	4.3	86.5	30.5	-117.1	-0.3	-34.4

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

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

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

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

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

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

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

Source: Federal Reserve estimates in the severely adverse scenario.

Table 7. Projected loan losses by type of loan for 2021:Q1–2023:Q1 under the severely adverse scenario: 23 participating firms

Billions of dollars

Firm	Loan losses	First-lien mortgages, domestic	Junior liens and HELOCs, domestic	Commercial and industrial[1]	Commercial real estate, domestic	Credit cards	Other consumer[2]	Other loans[3]
Bank of America Corporation	49.6	2.5	0.8	16.6	9.9	12.4	1.2	6.1
The Bank of New York Mellon Corporation	1.6	0.1	0.0	0.1	0.5	0.0	0.3	0.6
Barclays US LLC	3.4	0.0	0.0	0.0	0.0	3.2	0.0	0.2
BMO Financial Corp.	5.9	0.1	0.1	2.5	1.5	0.1	0.3	1.4
Capital One Financial Corporation	32.0	0.0	0.0	3.8	2.0	18.6	6.5	1.1
Citigroup Inc.	47.9	1.7	0.9	10.1	2.5	22.5	2.7	7.5
Credit Suisse Holdings (USA), Inc.	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1
DB USA Corporation	0.7	0.0	0.0	0.0	0.5	0.0	0.0	0.1
The Goldman Sachs Group, Inc.	14.0	0.0	0.0	5.1	2.5	0.8	0.7	4.9
HSBC North America Holdings Inc.	6.4	0.5	0.1	1.9	3.0	0.3	0.0	0.6
JPMorgan Chase & Co.	56.2	3.3	0.9	14.9	4.4	19.2	2.2	11.4
Morgan Stanley	7.7	0.5	0.0	1.2	2.4	0.0	0.2	3.4
MUFG Americas Holdings Corporation	5.2	0.8	0.1	2.0	1.3	0.0	0.4	0.5
Northern Trust Corporation	1.9	0.0	0.0	0.3	0.3	0.0	0.0	1.1
The PNC Financial Services Group, Inc.	13.8	0.3	0.2	6.3	4.2	0.9	0.7	1.2
RBC US Group Holdings LLC	3.7	0.3	0.1	0.8	1.6	0.0	0.2	0.7
Regions Financial Corporation	5.3	0.4	0.2	2.1	1.4	0.2	0.5	0.5
State Street Corporation	1.3	0.0	0.0	0.3	0.1	0.0	0.0	0.9
TD Group US Holdings LLC	9.9	0.6	0.4	2.2	2.3	2.7	0.7	1.0
Truist Financial Corporation	16.4	0.8	0.3	4.5	5.1	0.5	3.2	2.0
UBS Americas Holding LLC	1.0	0.3	0.0	0.1	0.0	0.0	0.2	0.4
U.S. Bancorp	18.2	1.4	0.5	5.5	4.8	3.6	1.2	1.2
Wells Fargo & Company	50.7	3.1	0.7	11.4	16.4	6.1	2.9	10.1
23 participating firms	353.0	16.5	5.4	91.8	66.8	91.0	24.3	57.2

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

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

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

[3]   Other loans include international real estate loans.

Source: Federal Reserve estimates in the severely adverse scenario.

Table 8. Projected loan losses by type of loan for 2021:Q1–2023:Q1 under the severely adverse scenario: 23 participating firms

Percent of average loan balances[1]

Firm	Loan losses	First-lien mortgages, domestic	Junior liens and HELOCs, domestic	Commercial and industrial[2]	Commercial real estate, domestic	Credit cards	Other consumer[3]	Other loans[4]
Bank of America Corporation	5.3	1.1	2.4	6.4	13.5	15.7	1.5	3.2
The Bank of New York Mellon Corporation	2.8	0.8	7.9	4.2	10.2	0.0	8.3	1.7
Barclays US LLC	8.0	0.0	0.0	15.7	9.7	15.7	11.5	0.7
BMO Financial Corp.	7.0	0.9	3.1	7.5	13.0	14.3	3.9	6.1
Capital One Financial Corporation	12.8	2.1	5.6	11.2	6.3	18.7	9.9	5.7
Citigroup Inc.	7.1	2.0	10.2	6.3	10.3	15.3	10.4	3.2
Credit Suisse Holdings (USA), Inc.	1.5	0.0	0.0	0.0	41.1	0.0	11.5	0.8
DB USA Corporation	5.8	1.6	6.7	1.1	13.1	0.0	1.9	2.7
The Goldman Sachs Group, Inc.	8.6	2.1	4.2	18.9	28.6	19.0	7.9	4.3
HSBC North America Holdings Inc.	10.7	3.0	12.2	8.7	28.9	25.0	9.1	8.3
JPMorgan Chase & Co.	5.7	1.6	3.6	9.7	3.8	14.9	3.1	4.0
Morgan Stanley	3.6	1.3	4.2	9.8	19.3	0.0	0.8	2.7
MUFG Americas Holdings Corporation	6.5	2.8	5.7	11.6	7.1	16.0	14.8	4.4
Northern Trust Corporation	5.6	0.7	6.4	7.9	7.4	0.0	11.5	6.0
The PNC Financial Services Group, Inc.	6.0	0.9	1.5	7.5	11.6	17.3	3.2	3.3
RBC US Group Holdings LLC	6.0	1.8	4.5	11.0	10.1	16.0	9.4	3.8
Regions Financial Corporation	6.5	1.9	3.7	8.8	10.1	15.0	11.3	3.5
State Street Corporation	4.8	0.0	0.0	7.4	4.9	0.0	0.6	4.3
TD Group US Holdings LLC	5.9	2.0	5.8	7.1	7.8	19.7	2.7	3.5
Truist Financial Corporation	5.7	1.7	2.4	7.0	8.8	14.8	5.7	4.3
UBS Americas Holding LLC	1.7	1.4	0.0	1.9	2.1	16.0	0.7	5.7
U.S. Bancorp	6.2	1.8	4.1	7.4	13.1	16.0	2.8	4.8
Wells Fargo & Company	5.8	1.2	2.1	7.4	13.1	16.6	4.6	5.0
23 participating firms	6.2	1.5	3.4	7.8	10.5	16.2	4.5	3.8

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

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

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

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

[4] Other loans include international real estate loans.

Source: Federal Reserve estimates in the severely adverse scenario.

Table 9. Mapping of loan categories to disclosure categories

Disclosure category	Loan type
First-lien mortgages, domestic	Domestic first-lien mortgages
Junior liens and 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 CRE loans Domestic construction loans Domestic multifamily loans Domestic non-owner occupied CRE 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 CRE loans International construction loans International multifamily loans International non-owner occupied CRE 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

Figure 15. PPNR rates in the severely adverse scenario
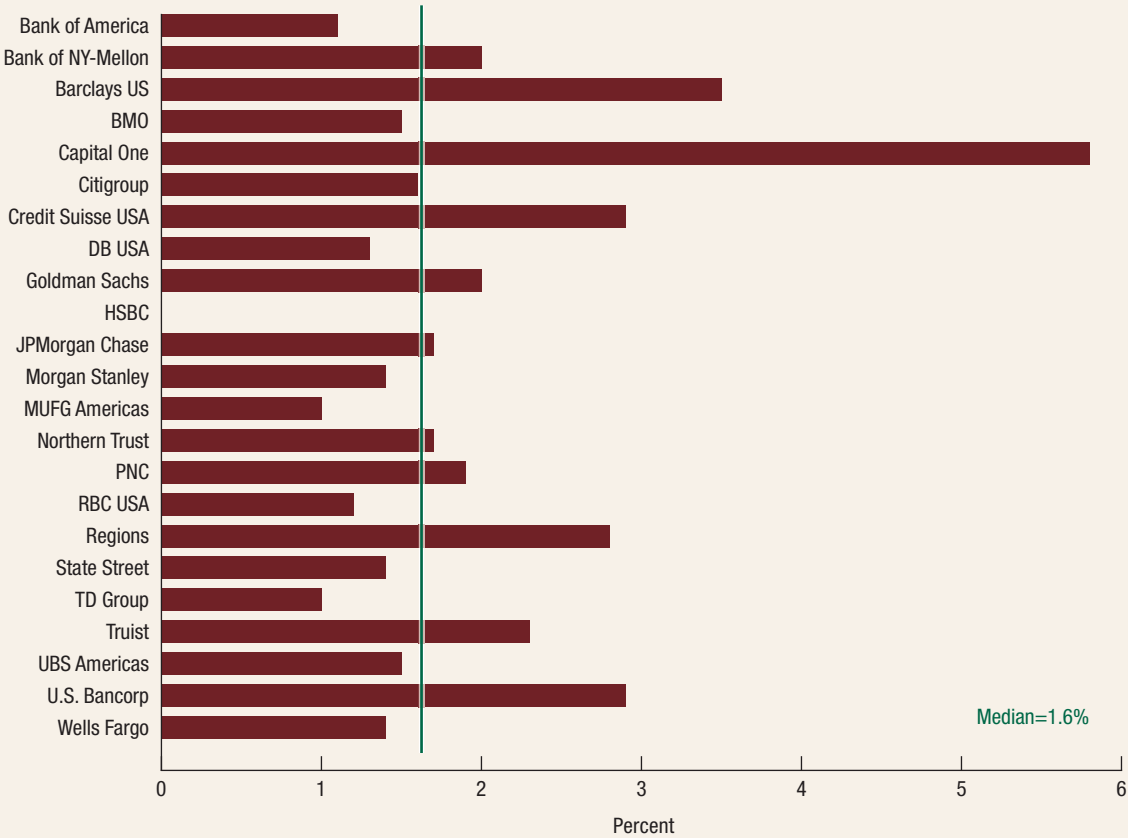
Bank	Percent
Bank of America	1.1
Bank of NY-Mellon	2.0
Barclays US	3.5
BMO	1.5
Capital One	5.8
Citigroup	1.6
Credit Suisse USA	2.9
DB USA	1.3
Goldman Sachs	2.0
HSBC	
JPMorgan Chase	1.7
Morgan Stanley	1.4
MUFG Americas	1.0
Northern Trust	1.7
PNC	1.9
RBC USA	1.2
Regions	2.8
State Street	1.4
TD Group	1.0
Truist	2.3
UBS Americas	1.5
U.S. Bancorp	2.9
Wells Fargo	1.4

Median=1.6%

Note: Estimates are for the nine-quarter period from 2021:Q1–2023:Q1 as a percent of average assets.

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

Note: Estimates are for the nine-quarter period from 2021:Q1–2023:Q1 as a percent of average assets.
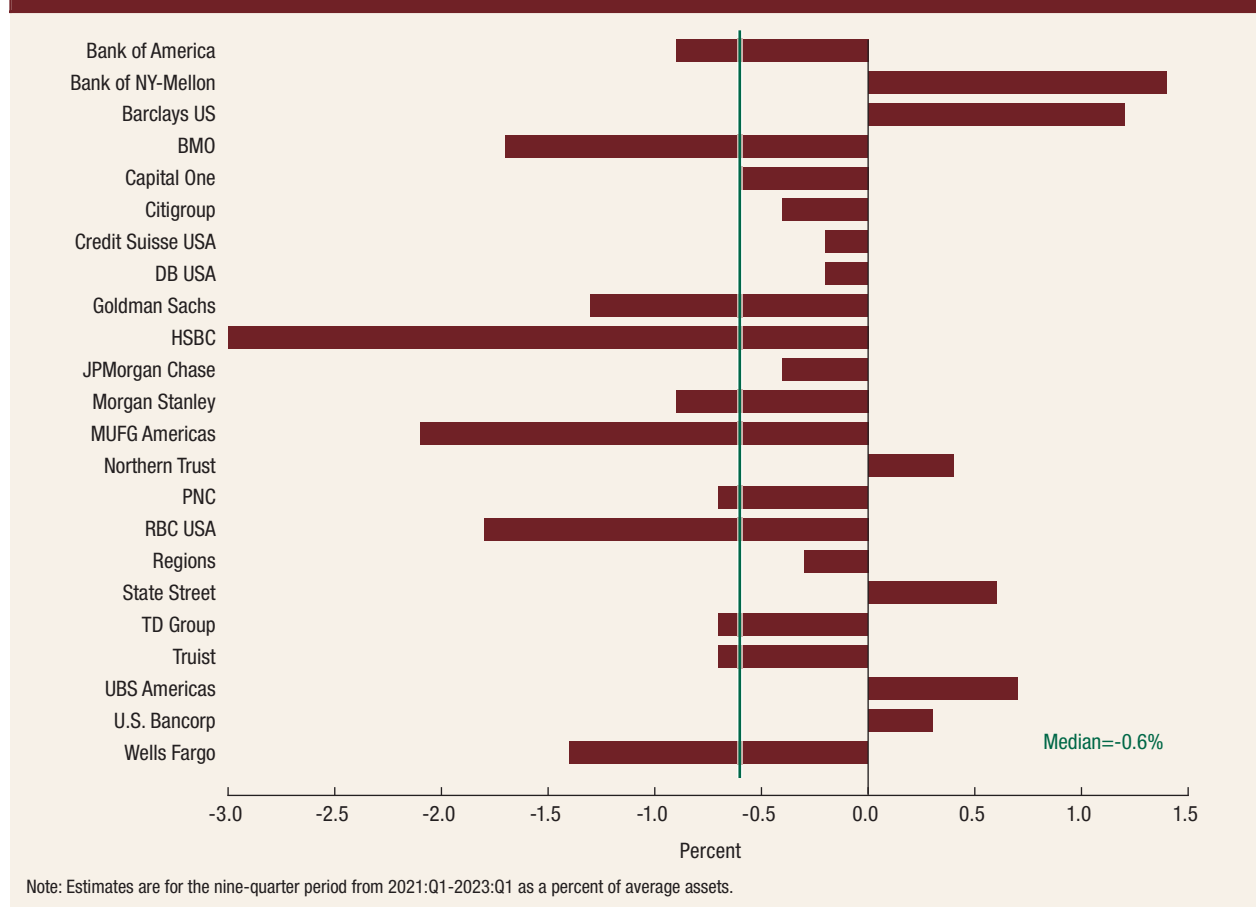
Appendix A: Supervisory Scenarios

This appendix includes the historical data and scenarios provided by the Federal Reserve.

It is important to note that the baseline and severely adverse scenarios are not forecasts. The severely adverse scenario is a hypothetical scenario designed to assess the strength of banking organizations and their resilience to adverse economic environments.

Table A.1. Historical data: Domestic variables, Q1:2000–Q4:2020
Percent, unless otherwise indicated.

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q1 2000	1.5	4.2	7.9	11.5	4.0	4.0	5.5	6.6	6.7	8.3	8.3	8.7	14,296	102	127	27.0
Q2 2000	7.5	10.2	4.5	6.4	3.9	3.2	5.7	6.5	6.4	8.6	8.3	9.2	13,619	105	126	33.5
Q3 2000	0.5	2.8	4.7	7.3	4.0	3.7	6.0	6.1	6.1	8.2	8.0	9.5	13,613	107	139	21.9
Q4 2000	2.5	4.7	1.4	3.7	3.9	2.9	6.0	5.6	5.8	8.0	7.6	9.5	12,176	110	144	31.7
Q1 2001	-1.1	1.3	3.7	6.5	4.2	3.9	4.8	4.9	5.3	7.5	7.0	8.6	10,646	112	143	32.8
Q2 2001	2.4	4.9	-0.7	1.2	4.4	2.8	3.7	4.9	5.5	7.5	7.1	7.3	11,407	114	142	34.7
Q3 2001	-1.6	-0.1	9.6	9.8	4.8	1.1	3.2	4.6	5.3	7.2	7.0	6.6	9,563	116	144	43.7
Q4 2001	1.1	2.4	-5.0	-4.7	5.5	-0.3	1.9	4.2	5.1	7.1	6.8	5.2	10,708	118	139	35.3
Q1 2002	3.5	4.9	9.3	10.1	5.7	1.3	1.7	4.5	5.4	7.4	7.0	4.8	10,776	120	139	26.1
Q2 2002	2.4	3.9	2.7	5.9	5.8	3.2	1.7	4.5	5.4	7.5	6.8	4.8	9,384	124	140	28.4
Q3 2002	1.8	3.7	-0.3	1.6	5.7	2.2	1.6	3.4	4.5	7.2	6.3	4.8	7,774	127	141	45.1
Q4 2002	0.6	2.9	2.4	4.3	5.9	2.4	1.3	3.1	4.3	6.9	6.1	4.5	8,343	129	145	42.6
Q1 2003	2.2	4.1	0.9	3.8	5.9	4.2	1.2	2.9	4.2	6.2	5.8	4.3	8,052	132	153	34.7
Q2 2003	3.5	4.7	5.0	5.1	6.1	-0.7	1.0	2.6	3.8	5.3	5.5	4.2	9,342	135	151	29.1
Q3 2003	7.0	9.3	6.9	9.6	6.1	3.0	0.9	3.1	4.4	5.6	6.0	4.0	9,650	139	150	22.7
Q4 2003	4.7	7.2	1.1	2.9	5.8	1.5	0.9	3.2	4.4	5.4	5.9	4.0	10,800	143	148	21.1
Q1 2004	2.2	5.2	1.9	5.3	5.7	3.4	0.9	3.0	4.1	5.0	5.6	4.0	11,039	148	154	21.6
Q2 2004	3.1	6.5	4.7	7.6	5.6	3.2	1.1	3.7	4.7	5.7	6.1	4.0	11,145	154	164	20.0
Q3 2004	3.8	6.6	2.6	4.7	5.4	2.6	1.5	3.5	4.4	5.4	5.9	4.4	10,894	159	175	19.3
Q4 2004	4.1	7.3	5.1	8.8	5.4	4.4	2.0	3.5	4.3	5.1	5.7	4.9	11,952	165	179	16.6
Q1 2005	4.5	7.9	-4.6	-2.4	5.3	2.0	2.5	3.9	4.4	5.2	5.8	5.4	11,637	172	180	14.7
Q2 2005	1.9	4.7	3.9	6.4	5.1	2.7	2.9	3.9	4.2	5.4	5.7	5.9	11,857	179	185	17.7
Q3 2005	3.6	7.4	1.2	5.6	5.0	6.2	3.4	4.0	4.3	5.4	5.8	6.4	12,283	185	191	14.2
Q4 2005	2.5	5.9	5.2	8.6	5.0	3.8	3.8	4.4	4.6	5.8	6.2	7.0	12,497	190	199	16.5
Q1 2006	5.4	8.4	8.0	10.2	4.7	2.1	4.4	4.6	4.7	5.8	6.2	7.4	13,122	193	204	14.6
Q2 2006	0.9	4.4	1.0	4.3	4.6	3.7	4.7	5.0	5.2	6.3	6.6	7.9	12,809	193	213	23.8
Q3 2006	0.6	3.5	1.0	4.0	4.6	3.8	4.9	4.8	5.0	6.3	6.6	8.3	13,323	191	221	18.6
Q4 2006	3.5	5.0	5.4	4.7	4.4	-1.6	4.9	4.6	4.7	6.0	6.2	8.3	14,216	191	223	12.7
Q1 2007	0.9	5.0	3.4	7.4	4.5	4.0	5.0	4.6	4.8	6.0	6.2	8.3	14,354	189	231	19.6
Q2 2007	2.3	5.0	1.0	4.3	4.5	4.6	4.7	4.7	4.9	6.2	6.4	8.3	15,163	183	240	18.9
Q3 2007	2.2	4.3	0.4	2.6	4.7	2.6	4.3	4.5	4.8	6.5	6.6	8.2	15,318	178	248	30.8
Q4 2007	2.5	4.1	0.3	4.3	4.8	5.0	3.4	3.8	4.4	6.3	6.2	7.5	14,754	172	247	31.1
Q1 2008	-2.3	-0.8	1.1	4.6	5.0	4.4	2.1	2.8	3.9	6.4	5.9	6.2	13,284	165	235	32.2
Q2 2008	2.1	4.3	7.5	12.0	5.3	5.3	1.6	3.2	4.1	6.7	6.1	5.1	13,016	158	224	24.1
Q3 2008	-2.1	0.8	-8.1	-4.3	6.0	6.3	1.5	3.1	4.1	7.1	6.3	5.0	11,826	150	230	46.7
Q4 2008	-8.4	-7.2	3.5	-2.5	6.9	-8.9	0.3	2.2	3.7	9.7	5.8	4.1	9,057	143	220	80.9
Q1 2009	-4.4	-4.5	-1.7	-4.0	8.3	-2.7	0.2	1.9	3.2	9.1	5.1	3.3	8,044	139	212	56.7
Q2 2009	-0.6	-1.2	4.4	6.3	9.3	2.1	0.2	2.3	3.7	8.1	5.0	3.3	9,343	139	181	42.3
Q3 2009	1.5	1.9	-4.4	-1.8	9.6	3.5	0.2	2.5	3.8	6.5	5.2	3.3	10,813	139	162	31.3
Q4 2009	4.5	5.9	-0.1	3.0	9.9	3.2	0.1	2.3	3.7	5.8	4.9	3.3	11,385	140	158	30.7
Q1 2010	1.5	2.6	2.3	3.7	9.8	0.6	0.1	2.4	3.9	5.6	5.0	3.3	12,033	140	154	27.3
Q2 2010	3.7	5.7	6.8	7.2	9.6	-0.1	0.1	2.3	3.6	5.4	4.9	3.3	10,646	139	167	45.8
Q3 2010	3.0	4.2	2.9	3.6	9.5	1.2	0.2	1.6	2.9	4.8	4.4	3.3	11,814	136	168	32.9
Q4 2010	2.0	4.3	2.3	4.8	9.5	3.3	0.1	1.5	3.0	4.7	4.4	3.3	13,132	135	168	23.5
Q1 2011	-1.0	1.2	4.1	7.8	9.0	4.3	0.1	2.1	3.5	5.0	4.8	3.3	13,909	134	172	29.4
Q2 2011	2.9	5.6	-0.9	3.1	9.1	4.6	0.0	1.8	3.3	4.8	4.7	3.3	13,844	133	173	22.7
Q3 2011	-0.1	2.5	1.8	3.7	9.0	2.6	0.0	1.1	2.5	4.5	4.3	3.3	11,677	134	169	48.0
Q4 2011	4.7	5.4	1.2	2.6	8.6	1.8	0.0	1.0	2.1	4.8	4.0	3.3	13,019	134	177	45.5
Q1 2012	3.2	5.8	7.7	10.7	8.3	2.3	0.1	0.9	2.1	4.4	3.9	3.3	14,628	135	181	23.0
Q2 2012	1.7	3.3	3.7	4.7	8.2	0.8	0.1	0.8	1.8	4.3	3.8	3.3	14,100	138	178	26.7

Table A.1.—*continued*

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q3 2012	0.5	2.6	-2.8	-1.7	8.0	1.8	0.1	0.7	1.6	3.9	3.6	3.3	14,895	141	183	20.5
Q4 2012	0.5	2.5	11.5	14.1	7.8	2.7	0.1	0.7	1.7	3.6	3.4	3.3	14,835	144	184	22.7
Q1 2013	3.6	5.3	-15.1	-13.9	7.7	1.6	0.1	0.8	1.9	3.7	3.5	3.3	16,396	148	188	19.0
Q2 2013	0.5	1.7	3.0	3.3	7.5	-0.4	0.1	0.9	2.0	3.8	3.7	3.3	16,771	152	197	20.5
Q3 2013	3.2	5.2	1.7	3.4	7.2	2.2	0.0	1.5	2.7	4.7	4.4	3.3	17,718	155	208	17.0
Q4 2013	3.2	5.7	1.6	3.3	6.9	1.5	0.1	1.4	2.8	4.5	4.3	3.3	19,413	159	212	20.3
Q1 2014	-1.1	0.5	5.7	7.7	6.7	2.5	0.0	1.6	2.8	4.4	4.4	3.3	19,711	161	209	21.4
Q2 2014	5.5	7.9	5.6	7.6	6.2	2.1	0.0	1.7	2.7	4.0	4.2	3.3	20,569	162	215	17.0
Q3 2014	5.0	6.8	4.8	5.9	6.1	1.0	0.0	1.7	2.5	3.9	4.1	3.3	20,459	164	218	17.0
Q4 2014	2.3	2.9	5.4	4.9	5.7	-1.0	0.0	1.6	2.3	4.0	4.0	3.3	21,425	166	226	26.3
Q1 2015	3.9	3.5	6.1	4.3	5.5	-2.6	0.0	1.5	2.0	3.9	3.7	3.3	21,708	168	239	22.4
Q2 2015	2.7	5.0	1.1	3.2	5.4	2.8	0.0	1.5	2.2	3.9	3.8	3.3	21,631	170	243	18.9
Q3 2015	1.5	2.7	2.8	3.9	5.1	1.5	0.0	1.6	2.3	4.3	4.0	3.3	19,959	173	245	40.7
Q4 2015	0.6	0.7	2.3	2.0	5.0	0.0	0.1	1.6	2.2	4.4	3.9	3.3	21,101	175	246	24.4
Q1 2016	2.3	2.0	3.1	3.4	4.9	-0.1	0.3	1.4	2.0	4.5	3.7	3.5	21,179	177	238	28.1
Q2 2016	1.3	4.1	-0.3	2.1	4.9	2.9	0.3	1.3	1.8	3.9	3.6	3.5	21,622	179	242	25.8
Q3 2016	2.2	3.6	1.9	3.6	4.9	1.9	0.3	1.2	1.6	3.5	3.4	3.5	22,469	182	253	18.1
Q4 2016	2.5	4.6	2.5	4.4	4.8	2.6	0.4	1.7	2.2	3.9	3.8	3.5	23,277	185	257	22.5
Q1 2017	2.3	4.4	4.3	6.6	4.6	2.8	0.6	2.0	2.5	4.0	4.2	3.8	24,508	187	255	13.1
Q2 2017	1.7	3.0	4.4	5.3	4.4	0.4	0.9	1.8	2.3	3.8	4.0	4.0	25,125	190	263	16.0
Q3 2017	2.9	5.0	2.7	4.4	4.3	2.2	1.0	1.8	2.3	3.7	3.9	4.3	26,149	193	267	16.0
Q4 2017	3.9	6.7	2.3	5.0	4.1	3.1	1.2	2.1	2.4	3.7	3.9	4.3	27,673	196	276	13.1
Q1 2018	3.8	6.2	5.2	8.0	4.0	3.2	1.6	2.5	2.8	4.1	4.3	4.5	27,383	199	272	37.3
Q2 2018	2.7	6.3	3.6	5.9	3.9	2.2	1.8	2.8	2.9	4.5	4.5	4.8	28,314	201	286	23.6
Q3 2018	2.1	3.8	3.3	4.9	3.8	2.1	2.0	2.8	2.9	4.5	4.6	5.0	30,190	203	278	16.1
Q4 2018	1.3	3.3	2.8	4.2	3.8	1.3	2.3	2.9	3.0	4.8	4.8	5.3	25,725	205	279	36.1
Q1 2019	2.9	4.0	3.3	3.9	3.9	0.9	2.4	2.5	2.7	4.5	4.4	5.5	29,194	207	287	25.5
Q2 2019	1.5	4.1	-1.0	1.5	3.7	3.0	2.3	2.1	2.4	4.0	4.0	5.5	30,244	209	301	20.6
Q3 2019	2.6	4.0	2.1	3.5	3.6	1.8	2.0	1.7	1.8	3.4	3.7	5.3	30,442	210	309	24.6
Q4 2019	2.4	3.9	1.9	3.4	3.6	2.4	1.6	1.6	1.8	3.3	3.7	4.8	33,035	213	301	20.6
Q1 2020	-5.0	-3.4	2.6	3.9	3.8	1.2	1.1	1.2	1.4	3.4	3.5	4.4	25,985	215	302	82.7
Q2 2020	-31.4	-32.8	48.5	46.2	13.1	-3.5	0.1	0.4	0.7	3.4	3.2	3.3	31,577	218	304	57.1
Q3 2020	33.4	38.3	-16.3	-13.2	8.8	5.2	0.1	0.3	0.6	2.4	3.0	3.3	34,306	223	300	33.6
Q4 2020	3.7	5.5	-8.1	-7.5	6.8	2.2	0.1	0.4	0.9	2.3	2.8	3.3	39,220	225	297	40.3

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

Table A.2. Historical data: International variables, Q1:2000–Q4:2020
Percent, unless otherwise indicated.

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)[1]	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2000	4.9	2.6	0.957	7.3	1.5	100.0	7.0	-0.5	102.7	3.3	0.5	1.592
Q2 2000	3.6	0.9	0.955	6.9	-0.3	100.7	1.9	-1.1	106.1	2.4	0.4	1.513
Q3 2000	2.2	3.4	0.884	7.8	2.2	101.4	0.1	-0.3	107.9	1.2	1.0	1.479
Q4 2000	2.8	2.8	0.939	3.6	2.5	105.2	3.9	-1.1	114.4	0.9	1.9	1.496
Q1 2001	4.1	1.2	0.879	4.8	1.7	106.1	3.0	0.7	125.5	4.7	0.1	1.419
Q2 2001	0.3	4.0	0.847	5.3	2.1	106.2	-3.0	-2.3	124.7	3.1	3.1	1.408
Q3 2001	0.5	1.5	0.910	4.9	1.3	106.5	-4.3	-0.5	119.2	3.1	1.0	1.469
Q4 2001	0.5	1.7	0.890	8.4	0.0	106.9	-1.4	-1.9	131.0	1.6	0.0	1.454
Q1 2002	0.2	3.1	0.872	7.8	0.5	107.4	0.7	-1.1	132.7	1.6	1.9	1.425
Q2 2002	2.2	2.0	0.986	8.1	1.1	104.8	3.3	0.1	119.9	2.0	0.9	1.525
Q3 2002	1.7	1.6	0.988	7.3	1.5	105.5	1.3	-0.4	121.7	2.7	1.4	1.570
Q4 2002	0.6	2.3	1.049	6.7	0.8	104.5	1.1	-0.8	118.8	3.2	1.9	1.610
Q1 2003	-1.3	3.3	1.090	6.6	3.6	105.5	0.2	0.0	118.1	3.0	1.6	1.579
Q2 2003	0.4	0.5	1.150	1.9	1.1	104.0	2.8	0.3	119.9	3.7	0.3	1.653
Q3 2003	2.3	2.1	1.165	14.6	0.1	102.6	1.2	-0.5	111.4	4.6	1.7	1.662
Q4 2003	2.9	2.3	1.260	12.8	5.5	103.4	4.4	-1.0	107.1	3.8	1.6	1.784
Q1 2004	2.0	2.2	1.229	5.8	4.0	101.4	3.0	0.8	104.2	1.4	1.3	1.840
Q2 2004	2.5	2.6	1.218	7.1	4.1	102.8	0.0	-0.4	109.4	1.5	1.0	1.813
Q3 2004	1.0	2.0	1.242	8.2	4.1	102.7	2.5	-0.1	110.2	0.7	1.1	1.809
Q4 2004	1.4	2.4	1.354	6.3	0.8	98.9	-0.8	1.9	102.7	1.0	2.4	1.916
Q1 2005	1.0	1.4	1.297	10.6	2.9	98.5	2.1	-1.2	107.2	3.2	2.5	1.889
Q2 2005	2.3	2.2	1.210	8.7	1.5	98.9	3.2	-1.0	110.9	4.8	1.9	1.793
Q3 2005	3.1	3.1	1.206	9.4	2.4	98.5	4.2	-1.0	113.3	4.3	2.7	1.770
Q4 2005	2.5	2.5	1.184	11.6	1.6	98.1	0.7	0.1	117.9	5.6	1.4	1.719
Q1 2006	3.7	1.7	1.214	10.9	2.4	96.7	0.6	1.2	117.5	1.9	1.9	1.739
Q2 2006	4.4	2.5	1.278	7.2	3.2	96.6	0.7	0.4	114.5	1.1	3.0	1.849
Q3 2006	2.3	2.0	1.269	10.1	2.2	96.2	-0.8	0.4	118.0	0.4	3.3	1.872
Q4 2006	4.8	0.9	1.320	11.4	3.6	94.5	5.4	-0.5	119.0	1.9	2.6	1.959
Q1 2007	2.6	2.3	1.337	13.9	3.6	93.9	2.6	-0.7	117.6	3.8	2.6	1.969
Q2 2007	2.8	2.3	1.352	10.6	4.9	91.8	0.2	0.4	123.4	2.3	1.7	2.006
Q3 2007	1.7	2.1	1.422	8.6	7.6	90.5	-2.1	0.3	115.0	3.1	0.2	2.039
Q4 2007	2.3	4.9	1.460	13.1	5.9	89.4	1.6	2.2	111.7	2.1	4.0	1.984
Q1 2008	1.7	4.2	1.581	7.1	8.1	88.0	1.4	1.2	99.9	2.2	3.7	1.986
Q2 2008	-1.2	3.2	1.575	6.0	6.3	88.7	-2.2	1.8	106.2	-2.2	5.7	1.991
Q3 2008	-2.1	3.2	1.408	2.9	3.0	91.6	-4.8	3.4	105.9	-6.1	5.8	1.780
Q4 2008	-6.9	-1.4	1.392	0.6	-1.1	92.3	-9.6	-2.1	90.8	-8.0	0.5	1.462
Q1 2009	-12.0	-1.0	1.326	4.2	-1.4	94.3	-17.9	-3.6	99.2	-6.6	-0.1	1.430
Q2 2009	-0.1	0.0	1.402	15.0	2.3	92.3	8.2	-1.6	96.4	-0.8	2.2	1.645
Q3 2009	1.6	1.1	1.463	12.6	4.1	91.3	-0.1	-1.4	89.5	0.5	3.5	1.600
Q4 2009	1.8	1.6	1.433	9.7	5.0	90.7	4.9	-1.5	93.1	1.4	3.0	1.617
Q1 2010	1.7	1.8	1.353	9.6	4.4	89.8	4.3	1.0	93.4	2.6	4.0	1.519
Q2 2010	3.9	1.9	1.229	9.5	3.4	91.1	5.0	-1.4	88.5	4.2	3.2	1.495
Q3 2010	1.8	1.6	1.360	8.7	4.2	88.4	7.5	-1.9	83.5	3.0	2.3	1.573
Q4 2010	2.5	2.6	1.327	9.6	7.5	87.4	-3.3	1.3	81.7	0.1	4.0	1.539
Q1 2011	3.4	3.7	1.418	9.7	6.2	86.5	-4.2	-0.1	82.8	1.5	6.7	1.605
Q2 2011	0.0	3.1	1.452	6.8	5.4	85.3	-3.3	-0.7	80.6	0.3	4.7	1.607
Q3 2011	0.5	1.3	1.345	5.6	5.3	87.4	10.1	0.3	77.0	1.4	3.7	1.562
Q4 2011	-1.5	3.5	1.297	6.5	3.0	87.3	-0.6	-0.6	77.0	0.5	3.4	1.554
Q1 2012	-0.9	2.9	1.333	7.7	3.2	86.3	5.7	2.2	82.4	2.8	2.1	1.599
Q2 2012	-1.1	2.2	1.267	5.8	3.9	88.1	-3.6	-1.4	79.8	-0.6	2.0	1.569

(continued)

Table A.2.—*continued*

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)[1]	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q3 2012	-0.5	1.5	1.286	6.6	2.2	86.3	-1.5	-1.9	77.9	5.0	2.2	1.613
Q4 2012	-1.6	2.5	1.319	7.2	3.5	86.0	-0.3	0.1	86.6	-0.9	4.0	1.626
Q1 2013	-1.5	1.3	1.282	6.8	4.6	86.3	5.6	0.6	94.2	2.1	2.9	1.519
Q2 2013	2.2	0.2	1.301	6.3	2.8	87.2	3.6	0.0	99.2	3.3	1.7	1.521
Q3 2013	1.3	1.1	1.354	7.7	3.5	86.6	3.9	2.7	98.3	3.8	2.1	1.618
Q4 2013	1.0	0.5	1.378	6.8	4.0	85.8	-0.5	2.6	105.3	2.6	1.6	1.657
Q1 2014	1.7	1.0	1.378	6.2	1.4	86.9	3.3	1.0	103.0	3.1	1.9	1.668
Q2 2014	0.9	-0.3	1.369	7.4	2.6	86.7	-7.1	8.3	101.3	2.6	1.4	1.711
Q3 2014	1.8	0.1	1.263	6.5	2.4	87.0	0.4	1.8	109.7	2.3	0.7	1.622
Q4 2014	1.6	-0.1	1.210	5.7	1.1	88.1	2.0	-0.8	119.9	2.4	-0.4	1.558
Q1 2015	2.8	-0.7	1.074	6.4	0.9	88.1	6.3	0.4	120.0	2.2	-1.1	1.485
Q2 2015	1.7	2.5	1.115	6.9	2.8	88.5	0.4	0.8	122.1	3.0	0.7	1.573
Q3 2015	1.8	-0.2	1.116	6.3	2.7	91.1	0.4	0.5	119.8	1.6	0.6	1.512
Q4 2015	1.8	-0.4	1.086	5.6	1.2	92.3	-0.4	-1.1	120.3	2.7	0.1	1.475
Q1 2016	2.2	-1.4	1.139	7.2	3.0	91.8	2.9	-0.4	112.4	0.8	0.0	1.438
Q2 2016	1.0	1.5	1.103	7.0	2.9	94.3	-0.8	-0.1	102.8	1.8	0.7	1.324
Q3 2016	1.8	1.2	1.124	6.4	1.2	93.7	0.8	-0.4	101.2	1.2	2.0	1.302
Q4 2016	3.1	1.7	1.055	5.9	1.7	97.6	1.2	2.0	116.8	2.4	2.1	1.234
Q1 2017	3.0	2.7	1.070	6.4	1.2	95.2	3.0	-0.5	111.4	2.0	3.8	1.254
Q2 2017	2.8	0.5	1.141	6.4	2.3	94.8	1.0	0.7	112.4	1.2	3.1	1.300
Q3 2017	3.1	0.9	1.181	6.3	2.3	93.7	3.2	0.4	112.6	1.7	2.2	1.340
Q4 2017	3.4	1.5	1.202	6.5	2.6	91.1	1.6	1.9	112.7	1.4	3.0	1.353
Q1 2018	0.8	2.2	1.232	7.7	2.4	89.1	-0.1	2.3	106.2	0.3	2.5	1.403
Q2 2018	1.8	2.2	1.168	5.6	2.0	93.5	0.2	-1.8	110.7	1.5	2.0	1.320
Q3 2018	0.4	2.5	1.162	3.5	3.0	97.2	-2.6	2.3	113.5	2.4	2.5	1.305
Q4 2018	2.0	0.8	1.146	6.6	1.1	96.2	1.8	0.4	109.7	0.7	2.1	1.276
Q1 2019	1.9	0.3	1.123	7.6	1.0	94.7	2.3	0.1	110.7	2.2	0.9	1.303
Q2 2019	0.8	2.1	1.137	4.8	5.1	96.4	0.3	0.7	107.8	0.6	2.7	1.270
Q3 2019	0.8	0.6	1.091	1.0	3.5	99.8	0.7	0.3	108.1	2.0	1.6	1.231
Q4 2019	0.5	1.0	1.123	7.3	6.4	98.0	-7.2	0.9	108.7	0.1	0.5	1.327
Q1 2020	-14.1	0.7	1.102	-24.4	3.8	101.9	-2.1	0.3	107.5	-11.5	1.9	1.245
Q2 2020	-39.2	-1.4	1.124	34.8	-1.9	97.3	-29.2	-1.2	107.8	-56.4	-1.4	1.237
Q3 2020	59.9	-0.4	1.172	21.8	2.2	95.5	22.9	0.8	105.6	81.1	1.4	1.292
Q4 2020	-9.9	0.6	1.223	12.2	1.6	92.3	4.5	-3.1	103.2	-15.2	1.0	1.366

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

[1] F/USD denotes foreign currency index, relative to the U.S. dollar, obtained as a weighted average of the exchange rates of the countries in the developing Asia bloc.

Table A.3. Supervisory baseline scenario: Domestic variables, Q1:2021–Q1:2024
Percent, unless otherwise indicated.

Date	Real GDP growth	Nominal GDP growth	Real dispo-sable income growth	Nominal dispo-sable income growth	Unem-ployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Dow Jones Total Stock Market Index	House Price Index	Com-mercial Real Estate Price Index	Market Volatility Index
													Level			
Q1 2021	2.3	4.1	11.8	13.7	6.6	2.1	0.1	0.4	1.0	2.4	2.7	3.2	39,528	227	294	32.8
Q2 2021	4.4	6.4	-5.7	-4.3	6.2	1.8	0.1	0.5	1.1	2.6	2.7	3.2	39,847	229	290	29.2
Q3 2021	4.8	6.8	-0.5	1.3	5.8	2.2	0.1	0.6	1.2	2.7	2.8	3.2	40,177	231	285	27.3
Q4 2021	4.2	6.0	1.5	3.3	5.5	2.1	0.1	0.6	1.3	2.8	2.8	3.2	40,515	233	288	26.5
Q1 2022	3.3	5.3	2.2	4.0	5.3	2.1	0.1	0.7	1.4	2.9	2.9	3.2	40,861	235	291	26.3
Q2 2022	3.0	5.0	2.0	3.8	5.1	2.1	0.2	0.8	1.5	3.0	3.0	3.2	41,214	237	294	26.3
Q3 2022	2.7	4.7	2.2	4.0	4.9	2.2	0.2	0.9	1.5	3.1	3.1	3.2	41,573	240	296	26.2
Q4 2022	2.5	4.5	2.3	4.2	4.8	2.1	0.2	1.0	1.6	3.2	3.1	3.2	41,938	242	299	26.2
Q1 2023	2.3	4.4	2.3	4.2	4.8	2.2	0.5	1.1	1.6	3.3	3.1	3.5	42,308	244	302	26.4
Q2 2023	2.3	4.5	2.2	4.1	4.8	2.2	0.6	1.1	1.7	3.3	3.2	3.6	42,684	247	305	26.4
Q3 2023	2.3	4.5	2.1	4.1	4.8	2.2	0.6	1.2	1.7	3.4	3.2	3.7	43,064	249	308	26.4
Q4 2023	2.3	4.5	2.1	4.0	4.7	2.2	0.7	1.2	1.8	3.4	3.3	3.8	43,449	251	311	26.5
Q1 2024	2.2	4.4	2.0	3.9	4.6	2.2	0.8	1.3	1.9	3.6	3.4	3.8	43,837	254	314	26.5

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

Table A.4. Supervisory baseline scenario: International variables, Q1:2021–Q1:2024
Percent, unless otherwise indicated.

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)[1]	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2021	13.2	1.7	1.224	0.6	2.6	92.1	4.8	0.8	103.0	21.5	2.0	1.371
Q2 2021	1.3	1.5	1.225	1.6	2.0	91.9	0.7	1.2	102.7	1.7	1.7	1.376
Q3 2021	2.5	1.3	1.226	3.2	2.3	91.7	1.5	0.8	102.5	3.5	1.7	1.382
Q4 2021	3.8	1.1	1.227	4.8	2.6	91.5	2.2	0.4	102.2	5.2	1.7	1.387
Q1 2022	5.0	1.0	1.234	6.4	2.9	91.6	2.9	0.0	102.6	6.9	1.7	1.405
Q2 2022	4.3	1.1	1.241	6.1	2.7	91.6	2.5	0.2	103.0	5.2	1.8	1.423
Q3 2022	3.5	1.2	1.248	5.8	2.5	91.7	2.1	0.4	103.3	3.5	1.9	1.442
Q4 2022	2.8	1.3	1.256	5.5	2.4	91.7	1.7	0.6	103.7	1.9	2.0	1.460
Q1 2023	2.1	1.4	1.256	5.2	2.2	91.7	1.3	0.8	103.7	0.4	2.1	1.460
Q2 2023	2.2	1.4	1.256	5.7	2.3	91.7	1.4	0.7	103.7	0.8	2.1	1.460
Q3 2023	2.3	1.4	1.256	6.2	2.4	91.7	1.5	0.6	103.7	1.3	2.2	1.460
Q4 2023	2.5	1.5	1.256	6.6	2.5	91.7	1.5	0.5	103.7	1.7	2.2	1.460
Q1 2024	2.6	1.5	1.256	7.0	2.6	91.7	1.6	0.4	103.7	2.1	2.3	1.460

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

[1] F/USD denotes foreign currency index, relative to the U.S. dollar, obtained as a weighted average of the exchange rates of the countries in the developing Asia bloc.

Table A.5. Supervisory severely adverse scenario: Domestic variables, Q1:2021–Q1:2024
Percent, unless otherwise indicated.

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q1 2021	-5.5	-4.8	2.8	3.8	7.8	1.3	0.1	0.3	0.3	4.9	3.5	3.2	23,195	223	288	70.0
Q2 2021	-4.0	-3.4	-9.9	-9.3	8.6	1.0	0.1	0.3	0.3	5.7	3.7	3.2	19,178	213	279	65.8
Q3 2021	-3.3	-2.9	-4.1	-3.4	9.3	1.0	0.1	0.3	0.3	6.0	3.8	3.2	17,650	206	267	62.0
Q4 2021	-1.0	-0.4	-0.6	0.2	9.7	1.2	0.1	0.3	0.3	6.0	3.8	3.2	17,711	198	250	57.6
Q1 2022	-1.0	-0.1	0.3	1.1	10.1	1.2	0.1	0.3	0.3	6.0	3.8	3.2	18,626	190	232	55.7
Q2 2022	-1.0	0.2	0.1	1.1	10.5	1.3	0.1	0.3	0.5	5.7	3.7	3.2	20,672	182	214	48.6
Q3 2022	-0.2	1.0	0.6	1.7	10.8	1.5	0.1	0.3	0.6	5.4	3.7	3.2	22,091	175	196	43.6
Q4 2022	6.7	8.3	5.2	6.5	10.2	1.6	0.1	0.3	0.8	5.1	3.6	3.2	24,004	172	184	39.4
Q1 2023	6.7	8.4	5.5	7.0	9.6	1.7	0.1	0.3	0.9	4.8	3.6	3.2	25,977	172	178	36.3
Q2 2023	6.7	8.5	4.9	6.4	9.1	1.8	0.1	0.4	1.1	4.5	3.5	3.2	28,166	175	178	33.3
Q3 2023	6.7	8.8	4.4	6.1	8.5	2.0	0.1	0.5	1.2	4.2	3.4	3.2	30,649	177	178	30.3
Q4 2023	6.7	8.9	3.9	5.7	8.0	2.1	0.1	0.6	1.3	3.9	3.4	3.2	33,456	180	178	28.3
Q1 2024	6.7	9.0	3.1	5.0	7.4	2.2	0.1	0.6	1.5	3.6	3.3	3.2	36,631	183	181	27.3

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

Table A.6. Supervisory severely adverse scenario: International variables, Q1:2021–Q1:2024
Percent, unless otherwise indicated.

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index)[1]	Japan real GDP growth	Japan inflation	Japan bilateral dollar exchange rate (yen/USD)	U.K. real GDP growth	U.K. inflation	U.K. bilateral dollar exchange rate (USD/pound)
Q1 2021	-3.3	-0.3	1.216	-0.5	0.6	92.8	-6.6	-1.1	102.7	-2.4	0.3	1.359
Q2 2021	-2.7	0.0	1.210	-0.8	1.1	93.3	-4.3	-0.8	102.7	-2.8	0.6	1.352
Q3 2021	-1.8	0.0	1.194	1.4	0.6	94.6	-2.5	-1.3	102.2	-2.0	0.2	1.334
Q4 2021	-1.6	-0.3	1.181	3.3	0.2	95.6	-2.0	-1.0	101.7	-1.8	-0.2	1.320
Q1 2022	-1.4	-0.6	1.178	5.6	0.0	95.8	-1.6	-1.4	101.4	-1.6	-0.4	1.316
Q2 2022	-1.2	-1.0	1.175	5.9	-0.2	96.1	-1.1	-2.0	101.1	-1.4	-0.6	1.313
Q3 2022	1.0	-1.2	1.177	5.8	-0.4	96.0	1.0	-2.2	101.2	1.0	-0.7	1.314
Q4 2022	4.0	-1.1	1.178	5.7	-0.5	95.8	3.0	-2.1	101.4	4.0	-0.5	1.316
Q1 2023	5.0	-0.9	1.184	5.6	-0.5	95.3	4.0	-1.7	101.7	5.0	-0.2	1.323
Q2 2023	6.0	-0.6	1.197	6.3	-0.4	94.3	5.0	-1.2	101.9	6.0	0.2	1.337
Q3 2023	7.0	-0.3	1.204	6.7	0.0	93.8	5.5	-0.7	102.2	7.0	0.7	1.345
Q4 2023	8.0	0.1	1.210	7.3	0.5	93.3	6.0	-0.3	102.4	8.0	1.1	1.352
Q1 2024	9.0	0.5	1.216	8.1	1.1	92.8	7.0	0.1	102.7	9.0	1.5	1.359

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

[1] F/USD denotes foreign currency index, relative to the U.S. dollar, obtained as a weighted average of the exchange rates of the countries in the developing Asia bloc.

Notes Regarding Scenario Variables

Sources for data through 2020:Q4 (as released through February 12, 2021). The 2020:Q4 values of variables marked with an asterisk (*) are projected.

U.S. real GDP growth: Percent change in real gross domestic product, chained 2012 dollars, expressed at an annualized rate, Bureau of Economic Analysis (NIPA table 1.1.6, line 1).

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

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

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

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

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

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

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

U.S. 10-year Treasury yield: Quarterly average of the yield on 10-year U.S. Treasury notes, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model; see Svensson, "Estimating Forward Interest Rates," in the previous item.

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

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

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

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

*U.S. House Price Index: Price Index for Owner-Occupied Real Estate, Z.1 Release (Financial Accounts of the United States), Federal Reserve Board (series FL075035243.Q divided by 1000).

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

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

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

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

Developing Asia real GDP growth: Percent change in real gross domestic product at an annualized rate, staff calculations based on data from Bank of Korea via Haver; National Bureau of Statistics of China via Haver; Indian Central Statistics Office via Haver; Census and Statistics Department of Hong Kong via Haver; and Taiwan Directorate-General of Budget, Accounting and Statistics via Haver.

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

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

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

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

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

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

Appendix B: Firm-Specific Results

Table B.1. Bank of America Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.9	10.1	9.9
Tier 1 capital ratio	13.5	11.7	11.5
Total capital ratio	16.1	14.0	14.0
Tier 1 leverage ratio	7.4	6.3	6.2
Supplementary leverage ratio	7.2	5.3	5.2

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	49.6	5.3
First-lien mortgages, domestic	2.5	1.1
Junior liens and HELOCs, domestic	0.8	2.4
Commercial and industrial[2]	16.6	6.4
Commercial real estate, domestic	9.9	13.5
Credit cards	12.4	15.7
Other consumer[3]	1.2	1.5
Other loans[4]	6.1	3.2

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	1,479.7	1,467.2

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	31.1	1.1
equals		
Net interest income	94.5	3.4
Noninterest income	90.0	3.2
less		
Noninterest expense[2]	153.4	5.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	41.9	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	9.9	
Other losses/gains[6]	4.1	
equals		
Net income before taxes	-25.0	-0.9
Memo items		
Other comprehensive income[7]	0.5	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	-2.1	-1.6

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

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

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

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

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

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

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

Table B.2. The Bank of New York Mellon Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	13.4	15.6	12.4
Tier 1 capital ratio	16.1	18.3	15.1
Total capital ratio	17.1	19.3	16.2
Tier 1 leverage ratio	6.3	7.2	5.9
Supplementary leverage ratio	8.6	9.0	7.5

1   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.6	2.8
First-lien mortgages, domestic	0.1	0.8
Junior liens and HELOCs, domestic	0.0	7.9
Commercial and industrial[2]	0.1	4.2
Commercial real estate, domestic	0.5	10.2
Credit cards	0.0	0.0
Other consumer[3]	0.3	8.3
Other loans[4]	0.6	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 (PPP) loans and are calculated over nine quarters.

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

3   Other consumer loans include student loans and automobile loans.

4   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	163.8	163.9

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	9.3	2.0
equals		
Net interest income	6.4	1.4
Noninterest income	31.4	6.7
less		
Noninterest expense[2]	28.6	6.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.6	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	1.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	6.5	1.4
Memo items		
Other comprehensive income[7]	-1.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	-1.0	-2.0

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

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

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

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

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

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

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

Table B.3. Barclays US LLC
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	17.3	18.4	15.7
Tier 1 capital ratio	20.4	21.5	18.8
Total capital ratio	22.2	23.5	21.0
Tier 1 leverage ratio	10.2	10.6	9.2
Supplementary leverage ratio	9.5	9.4	8.2

1   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	3.4	8.0
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.0	15.7
Commercial real estate, domestic	0.0	9.7
Credit cards	3.2	15.7
Other consumer[3]	0.0	11.5
Other loans[4]	0.2	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 (PPP) loans and are calculated over nine quarters.

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

3   Other consumer loans include student loans and automobile loans.

4   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	86.1	85.2

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	5.7	3.5
equals		
Net interest income	6.6	4.1
Noninterest income	14.9	9.2
less		
Noninterest expense[2]	15.9	9.8
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	2.6	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	1.2	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	1.9	1.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.4. BMO Financial Corp.
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.5	9.5	9.5
Tier 1 capital ratio	13.5	10.6	10.6
Total capital ratio	15.6	12.5	12.5
Tier 1 leverage ratio	9.3	7.2	7.2
Supplementary leverage ratio	n/a	n/a	n/a

1 The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.9	7.0
First-lien mortgages, domestic	0.1	0.9
Junior liens and HELOCs, domestic	0.1	3.1
Commercial and industrial[2]	2.5	7.5
Commercial real estate, domestic	1.5	13.0
Credit cards	0.1	14.3
Other consumer[3]	0.3	3.9
Other loans[4]	1.4	6.1

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 (PPP) loans and are calculated over nine quarters.

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

3 Other consumer loans include student loans and automobile loans.

4 Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	127.4	127.6

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	2.7	1.5
equals		
Net interest income	8.0	4.3
Noninterest income	4.0	2.2
less		
Noninterest expense[2]	9.2	5.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	5.9	
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	-3.2	-1.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.5. Capital One Financial Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	13.7	12.0	11.5
Tier 1 capital ratio	15.3	13.6	13.1
Total capital ratio	17.7	16.0	15.5
Tier 1 leverage ratio	11.2	10.2	9.7
Supplementary leverage ratio	10.7	8.7	8.2

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	32.0	12.8
First-lien mortgages, domestic	0.0	2.1
Junior liens and HELOCs, domestic	0.0	5.6
Commercial and industrial[2]	3.8	11.2
Commercial real estate, domestic	2.0	6.3
Credit cards	18.6	18.7
Other consumer[3]	6.5	9.9
Other loans[4]	1.1	5.7

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	297.9	304.0

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	24.6	5.8
equals		
Net interest income	50.4	11.9
Noninterest income	12.1	2.9
less		
Noninterest expense[2]	37.9	9.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	26.6	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.2	
equals		
Net income before taxes	-2.4	-0.6
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.6. Citigroup Inc.
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.1	10.6	9.4
Tier 1 capital ratio	13.7	12.2	11.0
Total capital ratio	16.8	15.1	14.3
Tier 1 leverage ratio	7.4	6.5	5.8
Supplementary leverage ratio	7.0	5.3	4.8

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	47.9	7.1
First-lien mortgages, domestic	1.7	2.0
Junior liens and HELOCs, domestic	0.9	10.2
Commercial and industrial[2]	10.1	6.3
Commercial real estate, domestic	2.5	10.3
Credit cards	22.5	15.3
Other consumer[3]	2.7	10.4
Other loans[4]	7.5	3.2

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	1,221.6	1,206.0

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	35.4	1.6
equals		
Net interest income	100.9	4.5
Noninterest income	49.9	2.2
less		
Noninterest expense[2]	115.5	5.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	33.9	
Credit losses on investment securities (AFS/HTM)[4]	0.6	
Trading and counterparty losses[5]	8.6	
Other losses/gains[6]	1.9	
equals		
Net income before taxes	-9.6	-0.4
Memo items		
Other comprehensive income[7]	1.1	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	-33.7	-32.5

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

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

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

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

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

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

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

Table B.7. Credit Suisse Holdings (USA), Inc.
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	21.2	19.5	15.9
Tier 1 capital ratio	21.8	20.2	16.6
Total capital ratio	21.9	20.3	16.7
Tier 1 leverage ratio	13.7	12.1	9.8
Supplementary leverage ratio	11.8	10.4	8.5

[1]   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	0.2	1.5
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.0	0.0
Commercial real estate, domestic	0.1	41.1
Credit cards	0.0	0.0
Other consumer[3]	0.0	11.5
Other loans[4]	0.1	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 (PPP) loans and are calculated over nine quarters.

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

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

[4]   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	78.3	73.7

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	3.5	2.9
equals		
Net interest income	-0.1	-0.1
Noninterest income	14.7	12.4
less		
Noninterest expense[2]	11.2	9.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	0.2	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	3.3	
Other losses/gains[6]	0.2	
equals		
Net income before taxes	-0.2	-0.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.8. DB USA Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1][2]	
		Ending	Minimum
Common equity tier 1 capital ratio	27.7	24.9	23.2
Tier 1 capital ratio	39.3	37.2	35.7
Total capital ratio	39.3	37.5	35.9
Tier 1 leverage ratio	10.8	9.7	9.2
Supplementary leverage ratio	13.6	9.3	8.8

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

[2] DWS USA Corporation, the second U.S. intermediate holding company subsidiary of Deutsche Bank AG, was subject to DFAST 2021 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 2020.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	0.7	5.8
First-lien mortgages, domestic	0.0	1.6
Junior liens and HELOCs, domestic	0.0	6.7
Commercial and industrial[2]	0.0	1.1
Commercial real estate, domestic	0.5	13.1
Credit cards	0.0	0.0
Other consumer[3]	0.0	1.9
Other loans[4]	0.1	2.7

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	36.3	34.0

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.4	1.3
equals		
Net interest income	0.4	0.4
Noninterest income	11.4	10.4
less		
Noninterest expense[2]	10.4	9.5
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]	0.0	
equals		
Net income before taxes	-0.2	-0.2
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	-0.2	-0.2

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

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

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

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

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

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

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

Table B.9. The Goldman Sachs Group, Inc.
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	14.7	11.8	8.8
Tier 1 capital ratio	16.7	13.8	10.8
Total capital ratio	19.5	16.6	14.0
Tier 1 leverage ratio	8.1	6.6	5.2
Supplementary leverage ratio	7.0	5.0	3.9

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	14.0	8.6
First-lien mortgages, domestic	0.0	2.1
Junior liens and HELOCs, domestic	0.0	4.2
Commercial and industrial[2]	5.1	18.9
Commercial real estate, domestic	2.5	28.6
Credit cards	0.8	19.0
Other consumer[3]	0.7	7.9
Other loans[4]	4.9	4.3

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	554.2	550.0

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	23.8	2.0
equals		
Net interest income	11.6	1.0
Noninterest income	78.6	6.8
less		
Noninterest expense[2]	66.3	5.7
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	12.8	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	21.1	
Other losses/gains[6]	5.1	
equals		
Net income before taxes	-15.2	-1.3
Memo items		
Other comprehensive income[7]	0.1	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	-1.4	-1.3

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

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

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

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

Table B.10. HSBC North America Holdings Inc.
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	14.8	7.3	7.3
Tier 1 capital ratio	16.8	9.4	9.4
Total capital ratio	21.4	14.0	14.0
Tier 1 leverage ratio	7.9	4.2	4.2
Supplementary leverage ratio	7.1	3.3	3.3

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	6.4	10.7
First-lien mortgages, domestic	0.5	3.0
Junior liens and HELOCs, domestic	0.1	12.2
Commercial and industrial[2]	1.9	8.7
Commercial real estate, domestic	3.0	28.9
Credit cards	0.3	25.0
Other consumer[3]	0.0	9.1
Other loans[4]	0.6	8.3

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	115.4	110.0

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	0.1	0.0
equals		
Net interest income	4.8	2.0
Noninterest income	4.5	1.8
less		
Noninterest expense[2]	9.1	3.8
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	6.4	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.5	
Other losses/gains[6]	0.4	
equals		
Net income before taxes	-7.3	-3.0
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023: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 firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

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

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

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

Table B.11. JPMorgan Chase & Co.
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	13.1	11.9	10.7
Tier 1 capital ratio	15.0	13.9	12.7
Total capital ratio	17.3	15.8	15.0
Tier 1 leverage ratio	7.0	6.4	5.8
Supplementary leverage ratio	6.9	5.3	4.8

1   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	56.2	5.7
First-lien mortgages, domestic	3.3	1.6
Junior liens and HELOCs, domestic	0.9	3.6
Commercial and industrial[2]	14.9	9.7
Commercial real estate, domestic	4.4	3.8
Credit cards	19.2	14.9
Other consumer[3]	2.2	3.1
Other loans[4]	11.4	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 (PPP) loans and are calculated over nine quarters.

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

3   Other consumer loans include student loans and automobile loans.

4   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	1,560.6	1,539.8

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	56.9	1.7
equals		
Net interest income	123.1	3.6
Noninterest income	124.9	3.7
less		
Noninterest expense[2]	191.1	5.6
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	41.5	
Credit losses on investment securities (AFS/HTM)[4]	0.8	
Trading and counterparty losses[5]	18.8	
Other losses/gains[6]	8.2	
equals		
Net income before taxes	-12.3	-0.4
Memo items		
Other comprehensive income[7]	-0.8	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	5.6	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 firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.

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

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

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

Table B.12. Morgan Stanley
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	17.4	15.2	12.7
Tier 1 capital ratio	19.4	17.3	14.8
Total capital ratio	21.5	19.4	17.1
Tier 1 leverage ratio	8.4	7.3	6.2
Supplementary leverage ratio	7.4	5.7	4.9

1   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	7.7	3.6
First-lien mortgages, domestic	0.5	1.3
Junior liens and HELOCs, domestic	0.0	4.2
Commercial and industrial[2]	1.2	9.8
Commercial real estate, domestic	2.4	19.3
Credit cards	0.0	0.0
Other consumer[3]	0.2	0.8
Other loans[4]	3.4	2.7

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 (PPP) loans and are calculated over nine quarters.

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

3   Other consumer loans include student loans and automobile loans.

4   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	453.1	445.2

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	16.1	1.4
equals		
Net interest income	18.2	1.6
Noninterest income	88.3	7.9
less		
Noninterest expense[2]	90.4	8.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	8.4	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	11.2	
Other losses/gains[6]	6.6	
equals		
Net income before taxes	-10.2	-0.9
Memo items		
Other comprehensive income[7]	0.4	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	-2.0	-1.6

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

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

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

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

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

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

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

Table B.13. MUFG Americas Holdings Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	15.3	11.9	11.9
Tier 1 capital ratio	15.3	11.9	11.9
Total capital ratio	16.3	13.2	13.2
Tier 1 leverage ratio	9.6	7.4	7.4
Supplementary leverage ratio	n/a	n/a	n/a

[1]   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a   Not applicable.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.2	6.5
First-lien mortgages, domestic	0.8	2.8
Junior liens and HELOCs, domestic	0.1	5.7
Commercial and industrial[2]	2.0	11.6
Commercial real estate, domestic	1.3	7.1
Credit cards	0.0	16.0
Other consumer[3]	0.4	14.8
Other loans[4]	0.5	4.4

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4]   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	103.6	102.8

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.7	1.0
equals		
Net interest income	6.9	4.1
Noninterest income	5.9	3.5
less		
Noninterest expense[2]	11.2	6.6
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	5.1	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-3.6	-2.1
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.14. Northern Trust Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.8	13.1	12.2
Tier 1 capital ratio	13.9	14.2	13.4
Total capital ratio	15.6	16.1	15.1
Tier 1 leverage ratio	7.6	7.8	7.3
Supplementary leverage ratio	8.6	8.6	8.0

1 The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.9	5.6
First-lien mortgages, domestic	0.0	0.7
Junior liens and HELOCs, domestic	0.0	6.4
Commercial and industrial[2]	0.3	7.9
Commercial real estate, domestic	0.3	7.4
Credit cards	0.0	0.0
Other consumer[3]	0.0	11.5
Other loans[4]	1.1	6.0

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 (PPP) loans and are calculated over nine quarters.
2 Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
3 Other consumer loans include student loans and automobile loans.
4 Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	77.7	77.8

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	2.9	1.7
equals		
Net interest income	3.0	1.8
Noninterest income	11.4	6.7
less		
Noninterest expense[2]	11.4	6.7
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	2.1	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	0.7	0.4
Memo items		
Other comprehensive income[7]	-0.2	
Other effects on capital	Actual 2020:Q4	2023:Q1
AOCI included in capital (billions of dollars)	0.4	0.2

1 Average assets is the nine-quarter average of total assets.
2 Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.
3 Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.
4 For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.
5 Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.
6 Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.
7 Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.15. The PNC Financial Services Group, Inc.
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.2	10.9	10.8
Tier 1 capital ratio	13.2	12.0	11.9
Total capital ratio	15.6	14.0	14.0
Tier 1 leverage ratio	9.5	8.6	8.5
Supplementary leverage ratio	9.9	7.2	7.2

1   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	13.8	6.0
First-lien mortgages, domestic	0.3	0.9
Junior liens and HELOCs, domestic	0.2	1.5
Commercial and industrial[2]	6.3	7.5
Commercial real estate, domestic	4.2	11.6
Credit cards	0.9	17.3
Other consumer[3]	0.7	3.2
Other loans[4]	1.2	3.3

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 (PPP) loans and are calculated over nine quarters.

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

3   Other consumer loans include student loans and automobile loans.

4   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	326.8	326.1

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	8.9	1.9
equals		
Net interest income	20.2	4.3
Noninterest income	15.6	3.4
less		
Noninterest expense[2]	27.0	5.8
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	11.3	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.5	
equals		
Net income before taxes	-3.1	-0.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.16. RBC US Group Holdings LLC
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	15.8	12.5	12.4
Tier 1 capital ratio	15.8	12.5	12.4
Total capital ratio	16.4	13.6	13.6
Tier 1 leverage ratio	9.9	7.7	7.7
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	3.7	6.0
First-lien mortgages, domestic	0.3	1.8
Junior liens and HELOCs, domestic	0.1	4.5
Commercial and industrial[2]	0.8	11.0
Commercial real estate, domestic	1.6	10.1
Credit cards	0.0	16.0
Other consumer[3]	0.2	9.4
Other loans[4]	0.7	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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	89.4	88.0

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	1.8	1.2
equals		
Net interest income	4.8	3.2
Noninterest income	12.6	8.4
less		
Noninterest expense[2]	15.7	10.4
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	4.2	
Credit losses on investment securities (AFS/HTM)[4]	0.4	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	-2.8	-1.8
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	Actual 2020:Q4	2023:Q1
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.17. Regions Financial Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.8	9.1	8.9
Tier 1 capital ratio	11.4	10.6	10.4
Total capital ratio	13.6	12.8	12.6
Tier 1 leverage ratio	8.7	8.2	8.0
Supplementary leverage ratio	n/a	n/a	n/a

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

n/a Not applicable.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	5.3	6.5
First-lien mortgages, domestic	0.4	1.9
Junior liens and HELOCs, domestic	0.2	3.7
Commercial and industrial[2]	2.1	8.8
Commercial real estate, domestic	1.4	10.1
Credit cards	0.2	15.0
Other consumer[3]	0.5	11.3
Other loans[4]	0.5	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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	106.9	106.9

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	4.2	2.8
equals		
Net interest income	8.1	5.5
Noninterest income	5.2	3.6
less		
Noninterest expense[2]	9.2	6.2
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	4.4	
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	-0.4	-0.3
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.18. State Street Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	12.3	13.3	11.4
Tier 1 capital ratio	14.4	15.4	13.5
Total capital ratio	15.3	16.5	14.6
Tier 1 leverage ratio	6.4	6.9	6.0
Supplementary leverage ratio	8.1	8.2	7.2

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.3	4.8
First-lien mortgages, domestic	0.0	0.0
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.3	7.4
Commercial real estate, domestic	0.1	4.9
Credit cards	0.0	0.0
Other consumer[3]	0.0	0.6
Other loans[4]	0.9	4.3

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

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	117.1	117.4

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	4.4	1.4
equals		
Net interest income	4.6	1.5
Noninterest income	23.2	7.4
less		
Noninterest expense[2]	23.4	7.5
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.5	
Credit losses on investment securities (AFS/HTM)[4]	0.1	
Trading and counterparty losses[5]	0.8	
Other losses/gains[6]	0.0	
equals		
Net income before taxes	2.0	0.6
Memo items		
Other comprehensive income[7]	-0.3	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.1	-0.2

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

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

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

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

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

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

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

Table B.19. TD Group US Holdings LLC
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	17.0	15.3	15.2
Tier 1 capital ratio	17.0	15.3	15.2
Total capital ratio	18.3	16.3	16.3
Tier 1 leverage ratio	8.3	7.5	7.5
Supplementary leverage ratio	9.5	6.8	6.7

1   The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	9.9	5.9
First-lien mortgages, domestic	0.6	2.0
Junior liens and HELOCs, domestic	0.4	5.8
Commercial and industrial[2]	2.2	7.1
Commercial real estate, domestic	2.3	7.8
Credit cards	2.7	19.7
Other consumer[3]	0.7	2.7
Other loans[4]	1.0	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 (PPP) loans and are calculated over nine quarters.
2   Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
3   Other consumer loans include student loans and automobile loans.
4   Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	234.2	235.5

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	5.1	1.0
equals		
Net interest income	19.5	3.8
Noninterest income	5.3	1.0
less		
Noninterest expense[2]	19.6	3.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	8.4	
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	-3.5	-0.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

1   Average assets is the nine-quarter average of total assets.
2   Noninterest expense includes losses from operational-risk events and other real estate owned (OREO) costs.
3   Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.
4   For firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.
5   Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.
6   Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.
7   Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.20. Truist Financial Corporation
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	10.0	8.7	8.6
Tier 1 capital ratio	12.1	10.8	10.7
Total capital ratio	14.5	13.6	13.6
Tier 1 leverage ratio	9.6	8.6	8.5
Supplementary leverage ratio	8.7	7.5	7.4

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	16.4	5.7
First-lien mortgages, domestic	0.8	1.7
Junior liens and HELOCs, domestic	0.3	2.4
Commercial and industrial[2]	4.5	7.0
Commercial real estate, domestic	5.1	8.8
Credit cards	0.5	14.8
Other consumer[3]	3.2	5.7
Other loans[4]	2.0	4.3

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	379.2	379.6

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	11.9	2.3
equals		
Net interest income	27.9	5.5
Noninterest income	19.9	3.9
less		
Noninterest expense[2]	35.9	7.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	14.8	
Credit losses on investment securities (AFS/HTM)[4]	0.2	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.6	
equals		
Net income before taxes	-3.7	-0.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.21. UBS Americas Holding LLC
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	22.5	21.6	20.1
Tier 1 capital ratio	27.3	26.9	25.5
Total capital ratio	28.4	28.7	27.0
Tier 1 leverage ratio	11.3	10.1	9.5
Supplementary leverage ratio	11.6	8.7	8.2

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	1.0	1.7
First-lien mortgages, domestic	0.3	1.4
Junior liens and HELOCs, domestic	0.0	0.0
Commercial and industrial[2]	0.1	1.9
Commercial real estate, domestic	0.0	2.1
Credit cards	0.0	16.0
Other consumer[3]	0.2	0.7
Other loans[4]	0.4	5.7

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	63.9	56.8

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	2.6	1.5
equals		
Net interest income	3.7	2.1
Noninterest income	26.2	15.2
less		
Noninterest expense[2]	27.3	15.9
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	1.3	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	1.2	0.7
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.0	0.0

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

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

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

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

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

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

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

Table B.22. U.S. Bancorp
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	9.7	9.7	9.1
Tier 1 capital ratio	11.3	11.3	10.8
Total capital ratio	13.4	13.1	12.9
Tier 1 leverage ratio	8.3	8.3	7.9
Supplementary leverage ratio	7.3	6.6	6.3

1. The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	18.2	6.2
First-lien mortgages, domestic	1.4	1.8
Junior liens and HELOCs, domestic	0.5	4.1
Commercial and industrial[2]	5.5	7.4
Commercial real estate, domestic	4.8	13.1
Credit cards	3.6	16.0
Other consumer[3]	1.2	2.8
Other loans[4]	1.2	4.8

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 (PPP) loans and are calculated over nine quarters.
2. Commercial and industrial loans include small- and medium-enterprise loans and corporate cards.
3. Other consumer loans include student loans and automobile loans.
4. Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	393.6	393.5

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	16.2	2.9
equals		
Net interest income	26.5	4.8
Noninterest income	23.6	4.3
less		
Noninterest expense[2]	33.9	6.1
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	14.7	
Credit losses on investment securities (AFS/HTM)[4]	0.0	
Trading and counterparty losses[5]	0.0	
Other losses/gains[6]	0.1	
equals		
Net income before taxes	1.5	0.3
Memo items		
Other comprehensive income[7]	0.0	
Other effects on capital	*Actual 2020:Q4*	*2023: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 firms that have adopted ASU 2016-13, the Federal Reserve incorporated its projection of expected credit losses on securities in the allowance for credit losses.
5. Trading and counterparty losses include mark-to-market and credit valuation adjustment (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.
6. Other losses/gains include projected change in fair value of loans held for sale and loans held for investment measured under the fair-value option, and goodwill impairment losses.
7. Other comprehensive income is only calculated for firms subject to Category I or II standards or firms that opt in to including accumulated other comprehensive income (AOCI) in their calculation of capital.

Table B.23. Wells Fargo & Company
Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses
Federal Reserve estimates: Severely adverse scenario

Capital ratios, actual 2020:Q4 and projected 2021:Q1–2023:Q1
Percent

Regulatory ratio	Actual 2020:Q4	Stressed capital ratios[1]	
		Ending	Minimum
Common equity tier 1 capital ratio	11.6	8.9	8.8
Tier 1 capital ratio	13.3	10.6	10.5
Total capital ratio	16.5	13.6	13.6
Tier 1 leverage ratio	8.3	6.6	6.5
Supplementary leverage ratio	8.1	5.5	5.5

[1] The capital ratios are calculated using the same capital action assumptions provided within the Dodd-Frank Act stress test rules. See 12 C.F.R. § 252.56(b). These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. The minimum capital ratios are for the period 2021:Q1 to 2023:Q1. Supplementary leverage ratio projections only include estimates for firms subject to Category I, II, or III standards.

Projected loan losses, by type of loan, 2021:Q1–2023:Q1

Loan type	Billions of dollars	Portfolio loss rates (percent)[1]
Loan losses	50.7	5.8
First-lien mortgages, domestic	3.1	1.2
Junior liens and HELOCs, domestic	0.7	2.1
Commercial and industrial[2]	11.4	7.4
Commercial real estate, domestic	16.4	13.1
Credit cards	6.1	16.6
Other consumer[3]	2.9	4.6
Other loans[4]	10.1	5.0

[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 (PPP) loans and are calculated over nine quarters.

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

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

[4] Other loans include international real estate loans.

Risk-weighted assets, actual 2020:Q4 and projected 2023:Q1
Billions of dollars

Item	Actual 2020:Q4	Projected 2023:Q1
Risk-weighted assets[1]	1,193.7	1,184.4

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

Projected losses, revenue, and net income before taxes through 2023:Q1

Item	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue	28.1	1.4
equals		
Net interest income	94.0	4.8
Noninterest income	71.5	3.7
less		
Noninterest expense[2]	137.4	7.0
Other revenue[3]	0.0	
less		
Provisions for loan and lease losses	43.7	
Credit losses on investment securities (AFS/HTM)[4]	0.8	
Trading and counterparty losses[5]	9.3	
Other losses/gains[6]	2.3	
equals		
Net income before taxes	-28.1	-1.4
Memo items		
Other comprehensive income[7]	-0.1	
Other effects on capital	*Actual 2020:Q4*	*2023:Q1*
AOCI included in capital (billions of dollars)	0.3	0.2

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

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

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

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

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

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

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

Appendix C: Additional Aggregate Results

Figure C.1. First-lien mortgages, domestic loss rates in the severely adverse scenario

Median=1.7%

Percent

Figure C.2. Junior liens and HELOCs, domestic loss rates in the severely adverse scenario

Median=4.2%
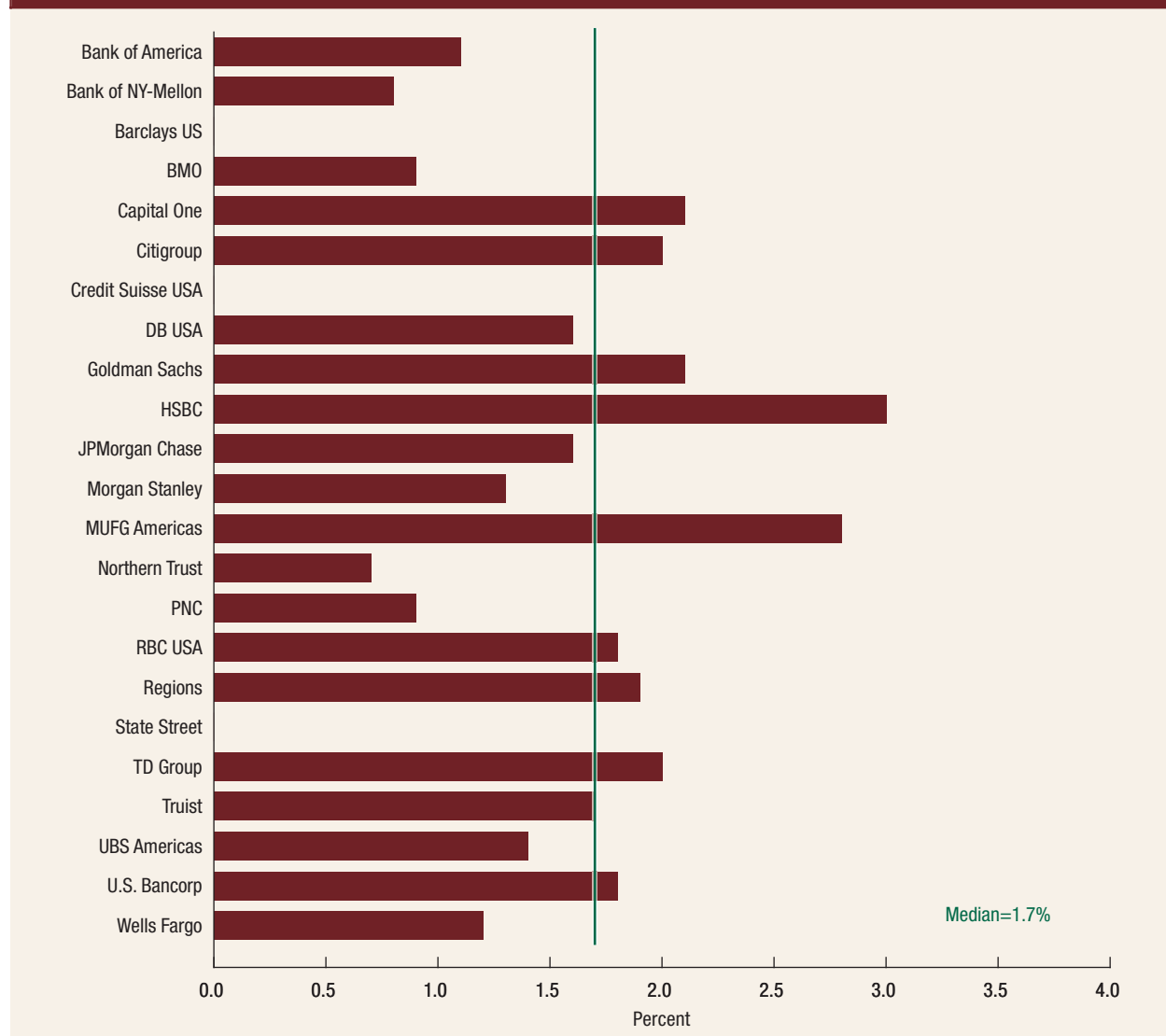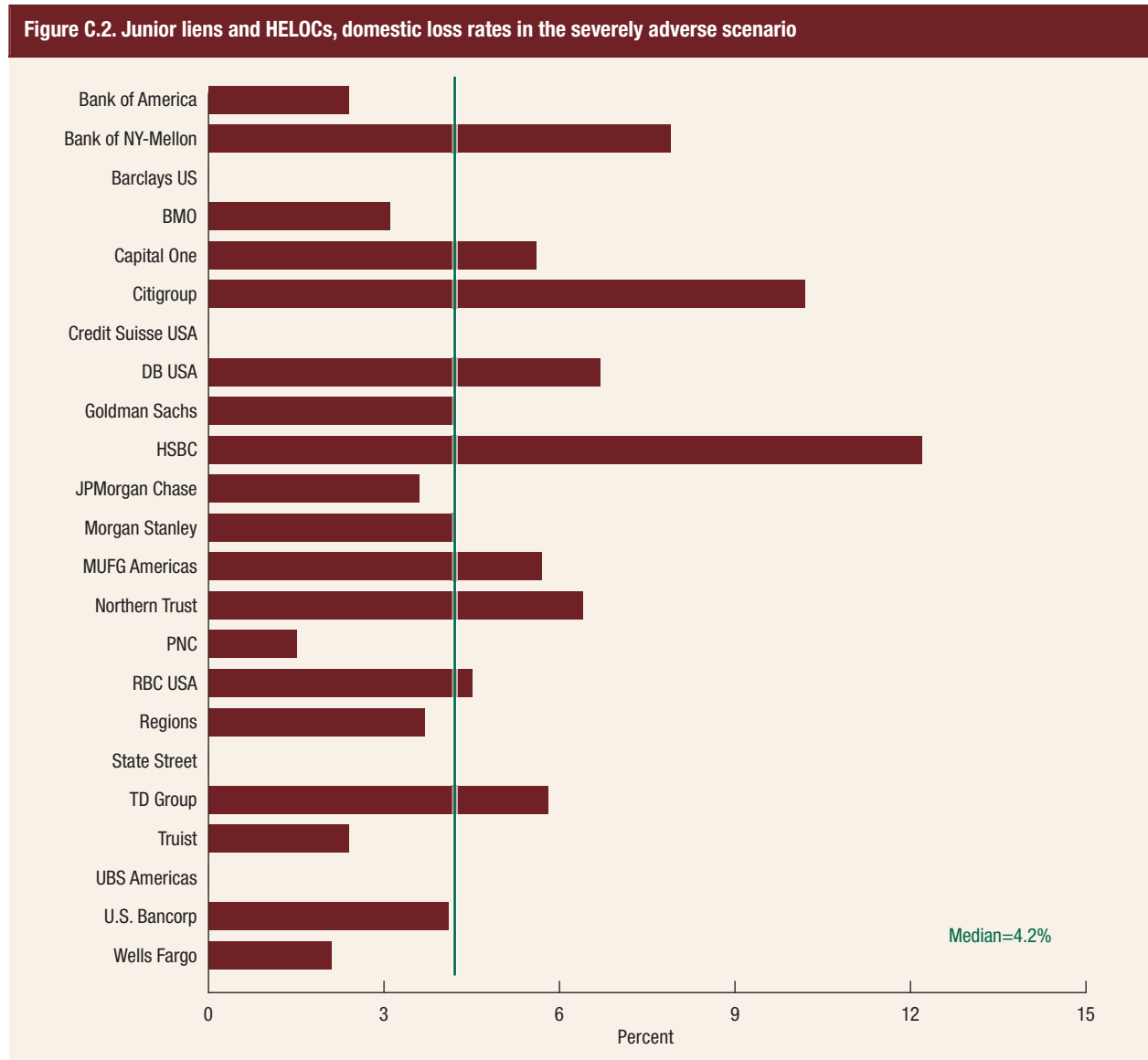
Figure C.3. Commercial and industrial loss rates in the severely adverse scenario

Median=7.5%

Percent
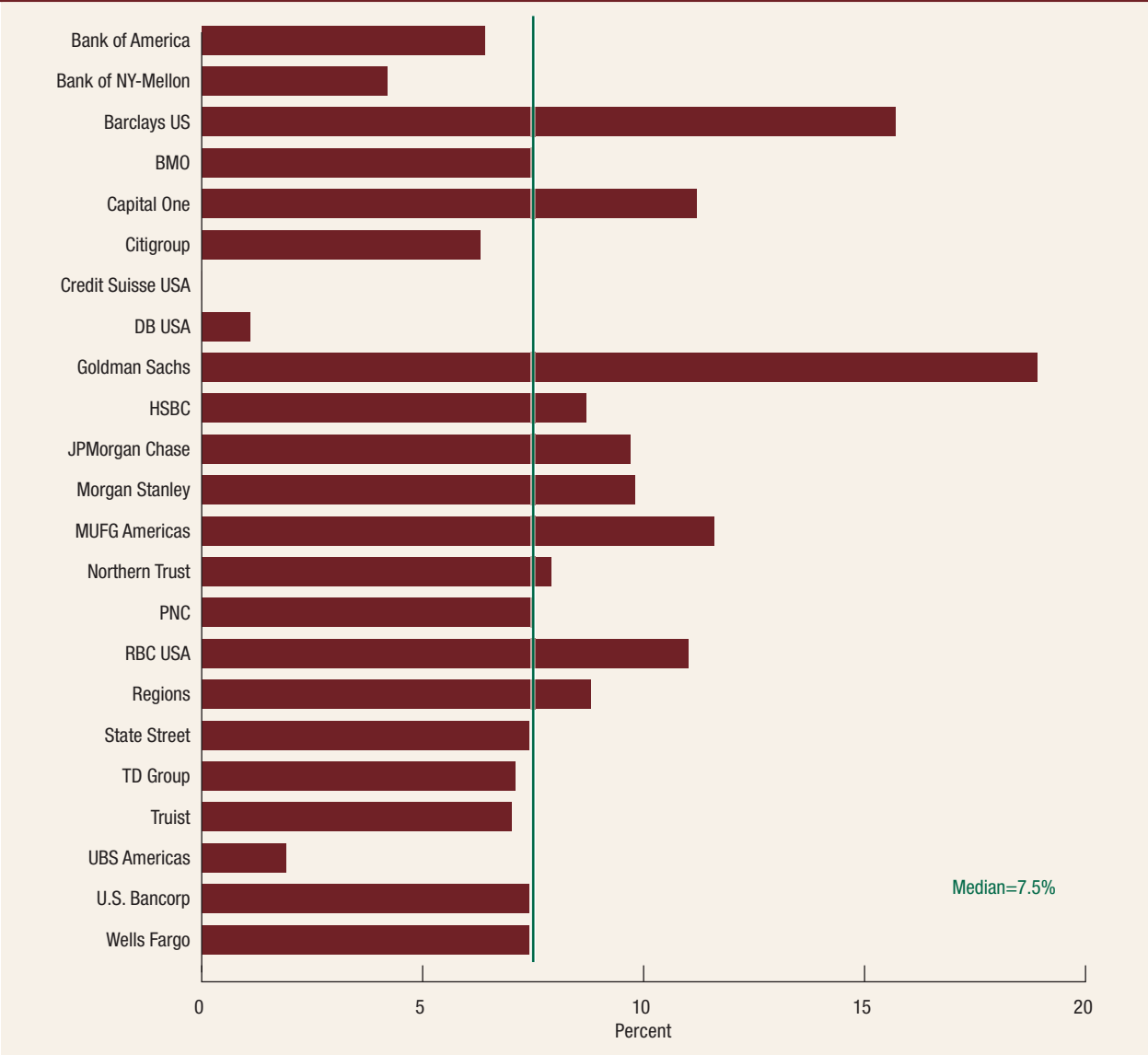
Figure C.4. Commercial real estate, domestic loss rates in the severely adverse scenario

Bank	
Bank of America	
Bank of NY-Mellon	
Barclays US	
BMO	
Capital One	
Citigroup	
Credit Suisse USA	
DB USA	
Goldman Sachs	
HSBC	
JPMorgan Chase	
Morgan Stanley	
MUFG Americas	
Northern Trust	
PNC	
RBC USA	
Regions	
State Street	
TD Group	
Truist	
UBS Americas	
U.S. Bancorp	
Wells Fargo	

Median=10.2%

Percent
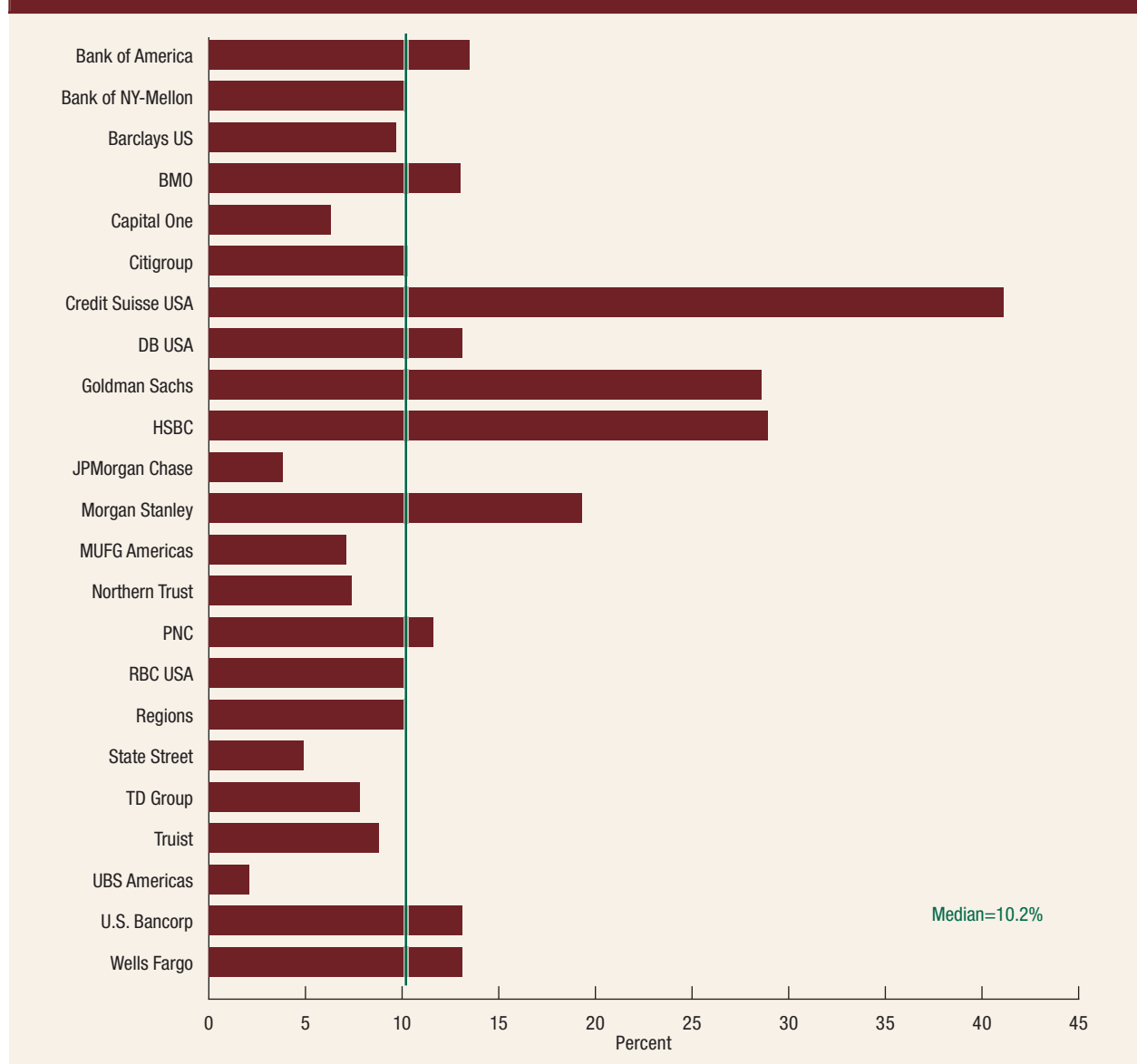
Figure C.5. Credit card loss rates in the severely adverse scenario

Bank	Percent
Bank of America	15.8
Bank of NY-Mellon	
Barclays US	15.8
BMO	14.3
Capital One	18.7
Citigroup	15.3
Credit Suisse USA	
DB USA	
Goldman Sachs	19.0
HSBC	25.0
JPMorgan Chase	14.8
Morgan Stanley	
MUFG Americas	16.0
Northern Trust	
PNC	17.2
RBC USA	16.0
Regions	15.0
State Street	
TD Group	19.6
Truist	14.8
UBS Americas	16.0
U.S. Bancorp	16.0
Wells Fargo	16.5

Median=16%

Figure C.6. Other consumer loss rates in the severely adverse scenario

Bank	
Bank of America	
Bank of NY-Mellon	
Barclays US	
BMO	
Capital One	
Citigroup	
Credit Suisse USA	
DB USA	
Goldman Sachs	
HSBC	
JPMorgan Chase	
Morgan Stanley	
MUFG Americas	
Northern Trust	
PNC	
RBC USA	
Regions	
State Street	
TD Group	
Truist	
UBS Americas	
U.S. Bancorp	
Wells Fargo	

Median=5.7%

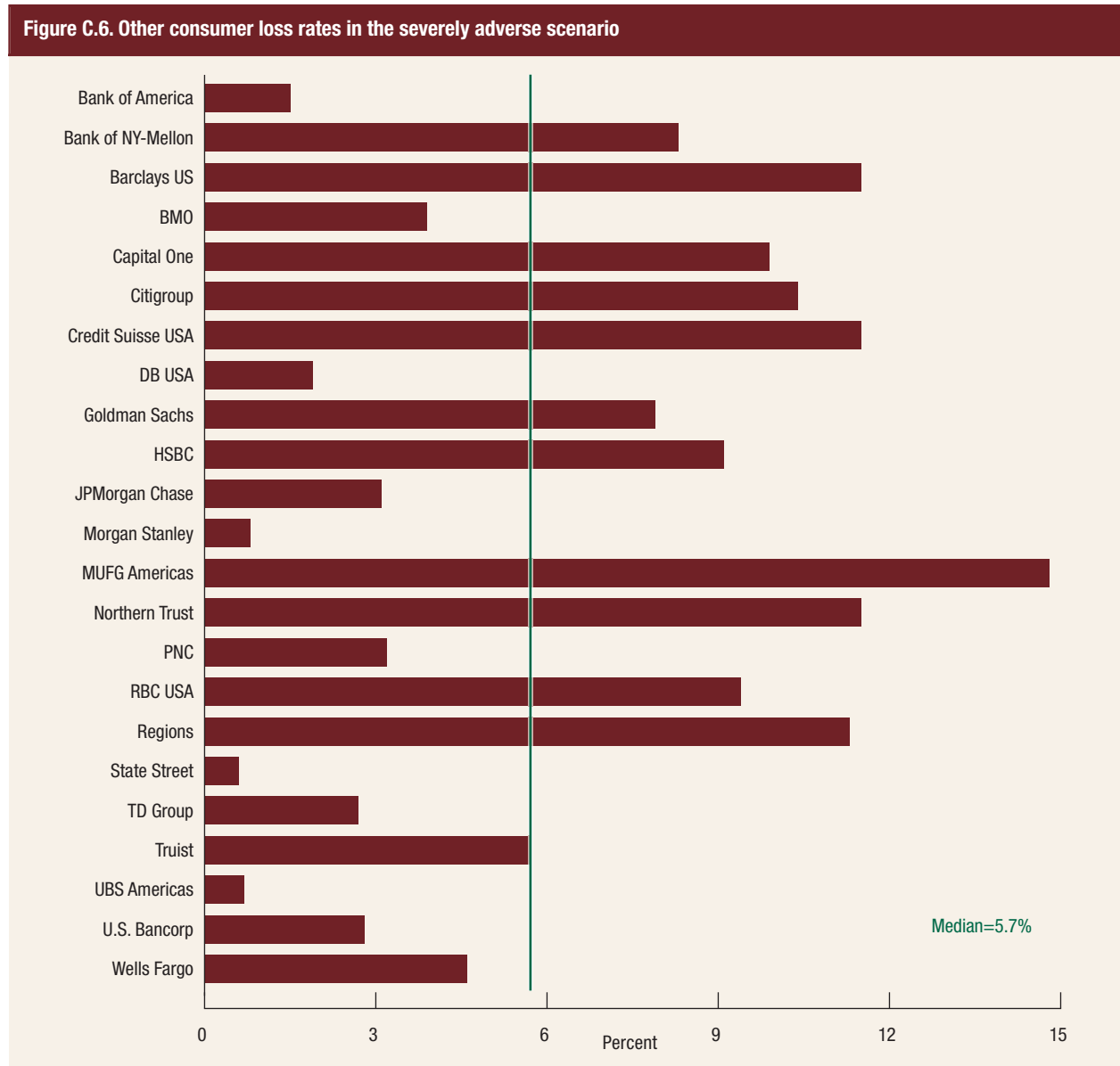Percent

Figure C.7. Other loans loss rates in the severely adverse scenario

Bank	Percent
Bank of America	3.2
Bank of NY-Mellon	1.7
Barclays US	0.7
BMO	6.1
Capital One	5.7
Citigroup	3.2
Credit Suisse USA	0.8
DB USA	2.7
Goldman Sachs	4.3
HSBC	8.3
JPMorgan Chase	4.0
Morgan Stanley	2.7
MUFG Americas	4.4
Northern Trust	6.0
PNC	3.3
RBC USA	3.8
Regions	3.5
State Street	4.3
TD Group	3.5
Truist	4.3
UBS Americas	5.7
U.S. Bancorp	4.8
Wells Fargo	5.0

Median=4.0%