



2022 Stress Test Scenarios

February 2022





The Federal Reserve System is the central bank of the United States. It performs five key functions to promote the effective operation of the U.S. economy and, more generally, the public interest.

The Federal Reserve

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

To learn more about us, visit www.federalreserve.gov/aboutthefed.htm.



2022 Stress Test Scenarios

February 2022



Contents

Preface	vii
Corrections	ix
Executive Summary	1
Supervisory Scenarios	3
Baseline and Severely Adverse Scenarios	4
Global Market Shock Component for Supervisory Severely Adverse Scenario	7
Counterparty Default Component for Supervisory Severely Adverse Scenario	11
Variables for the Supervisory Scenarios	13
Notes Regarding Scenario Variables	21

Preface

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

As part of its supervision efforts, the Federal Reserve conducts annually a supervisory stress test. The stress test assesses how large domestic and foreign bank holding companies, as well as savings and loan holding companies, are likely to perform under hypothetical recessions.¹

Each year, the Federal Reserve publishes four documents, in the following chronological order:

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

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

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

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

¹ See 12 CFR part 238, subpart O; 12 CFR part 252, subpart E.
U.S. intermediate holding companies with \$100 billion or more in total consolidated assets are also subject to the supervisory stress test.

Corrections

The Federal Reserve revised this report on February 11, 2022, to reflect the deletion of an imprecise comparison of the paths of GDP for the current and 2021 severely adverse scenarios. The correction is below:

On page 7, in [Comparison of the Current Severely Adverse Scenario and 2021 Severely Adverse Scenario](#), the following sentence was deleted: “In line with the greater increase in the unemployment rate, the current scenario also incorporates larger declines in real GDP.”

Executive Summary

The Federal Reserve's stress tests help ensure that large banks are able to lend to households and businesses even in a severe recession. The stress tests evaluate the financial resilience of large banks by estimating bank losses, revenues, expenses, and resulting capital levels—which provide a cushion against losses—under hypothetical recession scenarios into the future.² The Federal Reserve uses the results of the supervisory stress test under the supervisory severely adverse scenario to set capital requirements for large banks.

The [supervisory severely adverse scenario](#) is characterized by a severe global recession accompanied by a period of heightened stress in commercial real estate and corporate debt markets. The U.S. unemployment rate rises 5¾ percentage points from the starting point of the scenario in the fourth quarter of 2021 to its peak of 10 percent in the third quarter of 2023. The sharp decline in economic activity is also accompanied by increases in market volatility, widening of corporate bond spreads, and collapse in asset prices, including a nearly 40 percent decline in commercial real estate prices. The international component of the scenario features deep recessions in four countries or country blocs followed by declines in inflation and large swings in the value of the U.S. dollar against those countries' currencies.

Banking organizations with large trading operations are tested against a [global market shock](#) component that stresses their trading, private equity, and certain other fair-valued positions. Furthermore, banks with substantial trading or custodial operations are tested against the [default of their largest counterparty](#).

The hypothetical scenarios are described in additional detail in this publication.³

² U.S. bank holding companies (BHCs), savings and loan holding companies (SLHCs), and intermediate holding companies of foreign banking organizations (IHCs) with \$100 billion or more in assets are subject to the Board's supervisory stress test rule (12 CFR 238 part 238, subpart O; 12 CFR part 252, subpart E) and capital planning requirements (12 CFR 225.8; 12 CFR part 238, subpart S). In addition, certain BHCs, SLHCs, U.S. IHCs, and state member banks must comply with the Board's company-run stress test rules (12 CFR 238, subpart P; and 12 CFR 252, subparts B and F).

³ The following 34 large banks are required to participate in the 2022 supervisory stress test: 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; The Charles Schwab 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 Inc.; 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; UBS Americas Holding LLC; U.S. Bancorp; and Wells Fargo & Company. In addition to DB USA Corporation, DWS USA Corporation, a second U.S. intermediate holding company subsidiary of Deutsche Bank AG, is subject to the 2022 stress test.

Supervisory Scenarios

The severely adverse scenario describes a hypothetical set of conditions designed to assess the strength and resilience of banking organizations in an adverse economic environment. The base-line scenario follows a profile similar to average projections from a survey of economic forecasters. These scenarios are not Federal Reserve forecasts.⁴

Scenario timing and variables: The scenarios start in the first quarter of 2022 and extend through the first quarter of 2025. Each scenario includes 28 variables; this set of variables is the same as the set provided in last year's supervisory scenarios. The variables describing economic developments within the United States include:

- **Six measures of economic activity and prices:** quarterly percent changes (at an annual rate) in real and nominal gross domestic product (GDP), real and nominal disposable personal income, the Consumer Price Index for all urban consumers (CPI), and the level of the unemployment rate of the civilian non-institutional population aged 16 years and over.
- **Four aggregate measures of asset prices or financial conditions:** indexes of house prices, commercial real estate prices, equity prices, and stock market volatility.
- **Six measures of interest rates:** the rate on 3-month Treasury securities; the yield on 5-year Treasury securities; the yield on 10-year Treasury securities; the yield on 10-year BBB-rated corporate securities; the interest rate associated with conforming, conventional, 30-year fixed-rate mortgages; and the prime rate.

The variables describing international economic conditions in each scenario include three variables in four countries or country blocs:

- **The three variables for each country or country bloc:** quarterly percent changes (at an annual rate) in real GDP and in consumer price indexes or local equivalent, and the level of the U.S. dollar exchange rate.
- **Four countries or country blocs:** the euro area (the 19 European Union member states that have adopted the euro as their common currency); the United Kingdom; developing Asia (the nominal GDP-weighted aggregate of China, India, South Korea, Hong Kong Special Administrative Region, and Taiwan); and Japan.

⁴ For more information about the Federal Reserve's framework for designing stress test scenarios, see "Policy Statement on the Scenario Design Framework for Stress Testing" (12 CFR part 252, appendix A).

Baseline and Severely Adverse Scenarios

The following sections describe this year's baseline and severely adverse scenarios. The variables included in these scenarios are provided in tables at the end of this document.⁵ Historical data for the domestic and the international variables are reported in [table 1.A](#) and [table 1.B](#), respectively.

Baseline Scenario

The baseline scenario for U.S. real activity, inflation, and interest rates (see [table 2.A](#)) is similar to the consensus projections from *2022 Blue Chip Financial Forecasts* and *2022 Blue Chip Economic Indicators*.⁶ The near-term component of the baseline scenario is similar to the January 2022 release, while the long-term component of the baseline scenario is similar to the October 2021 release. It is important to emphasize that this scenario is not a forecast of the Federal Reserve.

The baseline scenario for the United States is an economic expansion over the 13-quarter scenario period. The unemployment rate declines gradually from close to 4¼ percent at the end of 2021 to about 3½ percent by the end of the scenario. Real GDP growth declines from about 6 percent at the end of 2021 to around 2 percent at the end of the scenario. CPI inflation also declines from around 8¼ percent at the end of 2021 to about 2¼ percent by the end of the scenario. The scenario includes increases in interest rates. The 3-month Treasury rate increases from around 0 percent to about 1½ percent at the end of the scenario. Ten-year Treasury yields increase from around 1½ percent to around 2½ percent at the end of the scenario. The prime rate increases in line with short-term interest rates, whereas yields on BBB-rated corporate bonds and mortgage rates increase in line with long-term interest rates.

Equity prices remain steady throughout the scenario. Equity market volatility, as measured by the VIX, declines in 2022 by about 6½ points by early 2023, before gradually increasing to reach nearly 28 at the end of the scenario, which is slightly below its level at the start of the scenario. Nominal house prices increase gradually by about 3 percent per year throughout the scenario. Nominal commercial real estate prices also increase gradually by about 3 percent per year.

The baseline paths for the international variables (see [table 2.B](#)) are similar to the trajectories reported in the January 2022 *Blue Chip Economic Indicators* and the International Monetary Fund's October 2021 *World Economic Outlook*.⁷ In the baseline scenario, real GDP growth in developing Asia rises from about 4 percent at the end of 2021 to more than 6½ percent in the third quarter of 2022; thereafter, the growth rate declines and remains relatively stable at about 5 percent for

⁵ The scenarios can also be downloaded (together with the historical time series of the variables) from the Board's website, at <https://www.federalreserve.gov/supervisionreg/dfa-stress-tests.htm>.

⁶ See Wolters Kluwer Legal and Regulatory Solutions, *Blue Chip Economic Indicators* and *Blue Chip Financial Forecasts*.

⁷ See International Monetary Fund, *World Economic Outlook* (October 2021), <https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021>. The January 2022 update to the *World Economic Outlook* was released after the finalization of the scenarios.

the remainder of the scenario. Real GDP growth in the euro area declines from about 4½ percent at the end of 2021 to about 1½ percent by the end of the scenario. Real GDP growth in the United Kingdom follows a very similar path to that of the euro area. Japan also experiences a decline in GDP growth from around 3¾ percent to below ½ percent by the end of the scenario.

Consumer price inflation in the euro area rapidly declines from about 7½ percent at the end of 2021 to 1½ percent by the end of 2022 and averages about 2 percent for the remainder of the scenario. Consumer price inflation gradually declines in the United Kingdom from about 4¼ percent at the end of 2021 to about 2 percent by the third quarter of 2023 and then gradually increases to 2¾ percent by the end of the scenario. Inflation rates are relatively stable in Japan and in developing Asia throughout the scenario, averaging around 1 and 2½ percent, respectively.

Severely Adverse Scenario

The severely adverse scenario follows the Board’s Policy Statement on the Scenario Design Framework for Stress Testing (“Scenario Design Framework”)⁸ and is characterized by a severe global recession accompanied by a period of heightened stress in commercial real estate and corporate debt markets. In this scenario, the economic downturn is amplified by the prolonged continuation of remote work, which leads to larger commercial real estate price declines that, in turn, spill over to the corporate sector and affect investor sentiment. The developments in foreign economies reflect greater stress in emerging market economies, partly driven by building risks in the Chinese economy. This is a hypothetical scenario designed to assess the strength and resilience of banking organizations and does not represent a forecast of the Federal Reserve.

Consistent with the Scenario Design Framework, under the severely adverse scenario the U.S. unemployment rate climbs to a peak of 10 percent in the third quarter of 2023 (see [table 3.A](#)), a 5¾ percentage point increase relative to its fourth-quarter 2021 level. This year’s scenario features a sharp decline in real GDP in 2022 followed by a robust recovery. Real GDP declines more than 3½ percent from the fourth quarter of 2021 to its trough in the first quarter of 2023. The rising unemployment and the rapid decline in aggregate demand for goods and services lead to significantly reduced inflationary pressures. CPI inflation falls from an annual rate of 8¼ percent at the end of 2021 to an annual rate of about 1¼ percent in the third quarter of 2022 and then gradually increases above 1½ percent by the end of the scenario.

Short-term interest rates as measured by the 3-month Treasury rate remain near zero throughout the scenario. Long-term interest rates as measured by the 10-year Treasury yield drop to ¾ percent during the first quarter of 2022 and remain unchanged in the second and third quarters of 2022, after which they gradually rise to 1½ percent by the end of the scenario. Because short-term interest rates remain near zero, the path of the yield curve slope, as defined by the differ-

⁸ 12 CFR part 252, appendix A.

ence between the 10-year Treasury yield and the 3-month Treasury rate, follows that of long-term interest rates.

Conditions in corporate bond markets deteriorate markedly. The spread between yields on investment-grade corporate bonds and yields on 10-year Treasury securities widens to 5¾ percentage points by mid-2022, an increase of close to 4¾ percentage points relative to the fourth quarter of 2021. Corporate bond spreads then gradually decline to 2¼ percentage points by the end of the scenario. The spread between mortgage rates and 10-year Treasury yields widens to 3 percentage points by mid-2022 before declining to slightly above 1½ percentage points at the end of the scenario.

Asset prices drop sharply in the severely adverse scenario. Equity prices fall 55 percent from the fourth quarter of 2021 through the fourth quarter of 2022, accompanied by a rise in the VIX, which reaches a peak value of 75 in the second quarter of 2022. House prices and commercial real estate prices also experience large declines. At their trough at the end of 2023, house prices are 28½ percent below their level at the end of 2021. Commercial real estate prices experience larger declines, reaching a level in the fourth quarter of 2023 that is nearly 40 percent below the level at the end of 2021.

The international component of the severely adverse scenario includes rapid declines in GDP across all four countries or country blocs at the start of the scenario followed by recoveries of various speeds relative to the baseline scenario. The recoveries in the euro area, the United Kingdom, and Japan are faster than those in developing Asia given the greater stresses in that country bloc.

Inflation declines significantly in all four countries or country blocs. Japan and developing Asia experience a prolonged period of deflation. The euro area also experiences a period of deflation. The U.S. dollar appreciates against the euro, the pound sterling, and the currencies of developing Asia, while it depreciates against the yen.

Additional Key Features of the Severely Adverse Scenario

Stress on corporate borrower balance sheets and resulting credit losses on corporate loans should be assumed to be higher for lower-rated nonfinancial corporate borrowers. 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. The fall in commercial real estate prices should be assumed to be concentrated in properties most at risk of a sustained drop in income and asset values: offices, hotels in urban locations or that cater to business travelers, shopping malls, and strip malls. Declines in U.S. house prices and U.S. commercial real estate prices should also be assumed to be representative of the risks to house prices and commercial real estate prices in

foreign regions and economies that experienced rapid price gains before the pandemic 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. The growth slowdown in developing Asia, which is greater than in advanced foreign economies, should be assumed to be representative of conditions across many emerging market economies outside of Latin America. Conditions across Latin American economies should be assumed to be comparable to the sharp slowdown in the global economy on aggregate.

Comparison of the Current Severely Adverse Scenario and 2021 Severely Adverse Scenario

Consistent with improving economic conditions, the current severely adverse scenario features a greater increase in the unemployment rate in the United States but a lower peak unemployment rate as compared to the 2021 severely adverse scenario. This difference reflects the Scenario Design Framework, which calls for a more pronounced economic downturn when current conditions are stronger. The paths of interest rates in the current scenario imply a larger decline in long-term interest rates relative to the 2021 severely adverse scenario.

The continued heightened uncertainty from the pandemic increases asset-price vulnerabilities, particularly for residential properties and commercial real estate. The current scenario features larger declines in house prices and similarly large declines in commercial real estate prices as compared to the previous year's scenario. The potential for spillover effects in asset markets and sharp revisions in investor sentiment are captured by higher increases in market volatility and corporate bond spreads relative to last year's scenario. The decline in equity prices is the same.

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. Banking organizations with significant trading activity must consider the global market shock as part of their supervisory severely adverse scenario.⁹ Even though the losses associated with the global market shock could occur at any point in the scenario, those losses must be recognized in the first quarter of the projection horizon. In addition, certain large and highly interconnected firms must apply the same global market shock

⁹ 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 that is not a Category IV firm under the Board's tailoring framework. See 12 CFR 252.54(b)(2)(i).

to project losses under the counterparty default scenario component. The global market shock is applied to positions held by the banks on a given as-of date, October 8, 2021 for the 2022 supervisory stress test.¹⁰ These shocks do not represent a forecast of the Federal Reserve.

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

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

- Equity prices of key developed economies and developing and emerging market economies along with selected points along term structures of option-implied volatilities;
- Foreign exchange rates of most major and some minor currencies, along with selected points along term structures of option-implied volatilities;
- Selected-maturity government yields (e.g., for 10-year U.S. Treasuries), swap rates, and other important interest rates for key developed economies and developing and emerging market 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 (CDS), and loans; non-agency residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities; 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 finan-

¹⁰ A firm may use data as of the date that corresponds to its weekly internal risk reporting cycle as long as it falls during the business week of the as-of date for the global market shock (i.e., October 4–8, 2021).

cial 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 banks with significant trading activity. Depending on the type of financial market vulnerability that the global market shock is intended to assess, the market shocks could be based on a single historical episode, multiple historical periods, hypothetical 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.¹¹

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. These characteristics may vary depending on the specified market shock narrative. More specifically, the 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 times needed to liquidate exposures under normal conditions because they are designed to capture the unpredictable liquidity conditions that prevail in times of stress.¹² In addition, shocks to risk factors in more-liquid markets, such as those for government securities, foreign exchange, or public equities, are calibrated to shorter horizons (such as three months), while shocks to risk factors in less-liquid markets, such as those for non-agency securitized products or private equities, have longer calibration horizons (such as 12 months).

2022 Severely Adverse Scenario

The 2022 global market shock component for the severely adverse scenario is characterized by a sharp curtailment in global economic activity, a tightening of financial conditions, and a worsening of existing supply-chain disruptions. An increase in term risk premia drives an increase in Treasury rates and a steepening of the yield curve. Benchmark bank lending rates rise sharply, reflecting tighter financial conditions.

The drop in economic activity and additional supply-chain disruptions lead to lower corporate profits, resulting in substantial public equity price declines and increases in public equity volatility across global markets. The U.S. dollar appreciates against the currencies of emerging market economies due to substantial flight-to-safety flows and appreciates more modestly against the cur-

¹¹ For example, credit spread changes in the municipal credit markets during March and April of 2020 would have been considered unprecedented had they been used in earlier global market shock scenarios.

¹² The liquidity of previously well-functioning financial markets can undergo abrupt changes in times of financial stress. For example, prior to the Global Financial Crisis, AAA-rated private-label RMBS would likely have been considered highly liquid, but their liquidity deteriorated drastically during the crisis period.

rencies of most developed economies, while the yen appreciates against the U.S. dollar due to the unwinding of positions. The strains on supply chains more than offset the impact of weaker economic activity and lead to price increases across commodities.

Higher longer-term Treasury rates drive up mortgage rates; valuations of assets related to residential and commercial real estate fall sharply in line with the decline in economic activity. Private equity asset values experience sizable declines, particularly holdings related to real estate.

The combination of a weakened economic environment, further supply-chain disruptions, high levels of debt, and mutual fund redemptions leads to widespread bankruptcies and drives asset sales. As a result, corporate bond spreads widen sharply and leveraged loans experience large price declines. Non-investment-grade debt, which experiences especially high default rates and record low recovery rates, sees a particularly large widening of spreads.

For U.S. state and local governments, revenue declines due to the slowdown in economic activity are combined with significant spending increases and lead to a widening in municipal bond spreads and increased risk of defaults. Mutual funds holding municipal debt face redemptions and outflows that exceed historical experience.

Comparison of the Current Severely Adverse Scenario and the 2021 Severely Adverse Scenario

The global market shock for the current severely adverse scenario differs from the 2021 severely adverse scenario, particularly in the behavior of interest rates and commodities prices. Treasury rates rise in the current severely adverse scenario with larger increases specified for longer tenors, resulting in a steeper yield curve. In the 2021 severely adverse scenario, Treasury rates declined progressively along the term structure, resulting in a flattening of the yield curve. Furthermore, most interest rate volatility shocks are larger in the current scenario, with near-term volatility shocks for the U.S. significantly larger than in the 2021 scenario.

Benchmark bank lending rates generally see larger increases for shorter-term rates, while longer-term rates rise instead of fall. Similarly, inflation breakeven rates increase in the current scenario, while they dropped in the 2021 scenario.

Non-precious metals and other commodities such as oil and natural gas face price appreciation in the current scenario, whereas price declines were applied in last year's scenario. Commodities volatility shocks tend to be smaller in this year's scenario. U.S. public equity and agency RMBS markets experience greater stress in the current scenario, while most asset-backed securities suffer lower market value declines compared to the earlier scenario.

Counterparty Default Component for Supervisory Severely Adverse Scenario

Large banks with substantial trading or custodial operations are required to incorporate a counterparty default scenario component into their supervisory severely adverse scenario for 2022 and recognize associated losses in the first quarter of the projection horizon.¹³ This component involves the unexpected default of the firm's largest counterparty.¹⁴

In connection with the counterparty default scenario component, these banks 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 transactions, including securities lending or borrowing and repurchase or reverse repurchase agreement activities. The counterparty default scenario component is an add-on to the Federal Reserve's severely adverse scenario.

The largest counterparty of each firm will be determined by net stressed losses. Net stressed losses are estimated by applying the global market shock to revalue securities financing transactions and derivatives, including collateral posted or received. The as-of date for the counterparty default scenario component is October 8, 2021—the same as-of date for the global market shock.¹⁵

¹³ The Board may require a company to include one or more additional components in its severely adverse scenario in the annual stress test based on the company's financial condition, size, complexity, risk profile, scope of operations, or activities, or based on risks to the U.S. economy. See 12 CFR 252.54(b)(2)(ii).

¹⁴ 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 CFR 217.2.

U.S. IHCs are not required to include any affiliate as a counterparty. As in the U.S. final rule pursuant to the Dodd-Frank Act for Single Counterparty Credit Limits, an affiliate of the company includes a parent of the company, as well as any other firm that is consolidated with the company under applicable accounting standards, including U.S. generally accepted accounting principles or International Financial Reporting Standards.

¹⁵ As with the global market shock, a firm subject to the counterparty default component may use data as of the date that corresponds to its weekly internal risk reporting cycle as long as it falls during the business week of the as-of date for the counterparty default scenario component (i.e., October 4–8, 2021).

Variables for the Supervisory Scenarios

Table 1.A. Historical data: Domestic variables, Q1:2000–Q4:2021

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	7.2	10.7	4.0	4.0	5.5	6.6	6.7	8.3	8.3	8.7	14,296	102	128	27.0
Q2 2000	7.5	10.2	4.9	6.9	3.9	3.2	5.7	6.5	6.4	8.6	8.3	9.2	13,619	105	127	33.5
Q3 2000	0.4	2.8	5.3	8.0	4.0	3.7	6.0	6.1	6.1	8.2	8.0	9.5	13,613	107	140	21.9
Q4 2000	2.4	4.6	2.5	4.9	3.9	2.9	6.0	5.6	5.8	8.0	7.6	9.5	12,176	110	145	31.7
Q1 2001	-1.3	1.3	3.3	6.4	4.2	3.9	4.8	4.9	5.3	7.5	7.0	8.6	10,646	112	144	32.8
Q2 2001	2.5	5.0	-1.0	0.8	4.4	2.8	3.7	4.9	5.5	7.5	7.1	7.3	11,407	114	143	34.7
Q3 2001	-1.6	0.0	9.0	9.2	4.8	1.1	3.2	4.6	5.3	7.2	7.0	6.6	9,563	116	145	43.7
Q4 2001	1.1	2.4	-6.5	-6.3	5.5	-0.3	1.9	4.2	5.1	7.1	6.8	5.2	10,708	118	140	35.3
Q1 2002	3.4	4.7	9.7	10.6	5.7	1.3	1.7	4.5	5.4	7.4	7.0	4.8	10,776	120	140	26.1
Q2 2002	2.5	3.9	3.3	6.4	5.8	3.2	1.7	4.5	5.4	7.5	6.8	4.8	9,384	124	141	28.4
Q3 2002	1.6	3.6	0.6	2.7	5.7	2.2	1.6	3.4	4.5	7.2	6.3	4.8	7,774	127	142	45.1
Q4 2002	0.5	2.8	2.6	4.5	5.9	2.4	1.3	3.1	4.3	6.9	6.1	4.5	8,343	129	146	42.6
Q1 2003	2.1	4.1	-0.2	2.9	5.9	4.2	1.2	2.9	4.2	6.2	5.8	4.3	8,052	132	153	34.7
Q2 2003	3.6	5.1	5.1	5.5	6.1	-0.7	1.0	2.6	3.8	5.3	5.5	4.2	9,342	135	152	29.1
Q3 2003	6.8	9.3	7.2	10.0	6.1	3.0	0.9	3.1	4.4	5.6	6.0	4.0	9,650	139	151	22.7
Q4 2003	4.7	7.3	1.1	3.1	5.8	1.5	0.9	3.2	4.4	5.4	5.9	4.0	10,800	143	148	21.1
Q1 2004	2.3	5.2	1.8	5.0	5.7	3.4	0.9	3.0	4.1	5.0	5.6	4.0	11,039	148	155	21.6
Q2 2004	3.2	6.5	4.2	7.1	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	6.5	2.9	4.9	5.4	2.6	1.5	3.5	4.4	5.4	5.9	4.4	10,894	159	175	19.3
Q4 2004	4.2	7.4	5.2	8.8	5.4	4.4	2.0	3.5	4.3	5.1	5.7	4.9	11,952	165	180	16.6
Q1 2005	4.5	7.9	-4.8	-2.5	5.3	2.0	2.5	3.9	4.4	5.2	5.8	5.4	11,637	172	181	14.7
Q2 2005	2.0	5.0	3.9	6.6	5.1	2.7	2.9	3.9	4.2	5.4	5.7	5.9	11,857	179	186	17.7
Q3 2005	3.2	7.0	1.7	6.1	5.0	6.2	3.4	4.0	4.3	5.4	5.8	6.4	12,283	185	193	14.2
Q4 2005	2.3	5.6	3.4	6.7	5.0	3.8	3.8	4.4	4.6	5.8	6.2	7.0	12,497	190	200	16.5
Q1 2006	5.5	8.5	8.3	10.6	4.7	2.1	4.4	4.6	4.7	5.8	6.2	7.4	13,122	193	206	14.6
Q2 2006	1.0	4.6	1.5	5.1	4.6	3.7	4.7	5.0	5.2	6.3	6.6	7.9	12,809	193	214	23.8
Q3 2006	0.6	3.4	0.8	3.7	4.6	3.8	4.9	4.8	5.0	6.3	6.6	8.3	13,323	191	222	18.6
Q4 2006	3.4	5.0	5.2	4.5	4.4	-1.6	4.9	4.6	4.7	6.0	6.2	8.3	14,216	191	225	12.7
Q1 2007	1.2	5.1	3.0	6.8	4.5	4.0	5.0	4.6	4.8	6.0	6.2	8.3	14,354	189	232	19.6
Q2 2007	2.6	5.3	1.8	5.3	4.5	4.6	4.7	4.7	4.9	6.2	6.4	8.3	15,163	184	241	18.9
Q3 2007	2.4	4.6	0.7	3.0	4.7	2.6	4.3	4.5	4.8	6.5	6.6	8.2	15,318	178	249	30.8
Q4 2007	2.5	4.2	0.6	4.8	4.8	5.0	3.4	3.8	4.4	6.3	6.2	7.5	14,754	172	249	31.1
Q1 2008	-1.6	-0.2	0.7	4.0	5.0	4.4	2.1	2.8	3.9	6.4	5.9	6.2	13,284	165	236	32.2

(continued)

Table 1.A. Historical data: Domestic variables, Q1:2000–Q4:2021—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
Q2 2008	2.3	4.4	8.0	12.3	5.3	5.3	1.6	3.2	4.1	6.7	6.1	5.1	13,016	158	226	24.1
Q3 2008	-2.1	0.9	-7.8	-3.8	6.0	6.3	1.5	3.1	4.1	7.1	6.3	5.0	11,826	151	232	46.7
Q4 2008	-8.5	-7.6	4.4	-2.1	6.9	-8.9	0.3	2.2	3.7	9.7	5.8	4.1	9,057	143	221	80.9
Q1 2009	-4.6	-4.8	-0.9	-3.5	8.3	-2.7	0.2	1.9	3.2	9.1	5.1	3.3	8,044	139	213	56.7
Q2 2009	-0.7	-1.4	2.2	3.8	9.3	2.1	0.2	2.3	3.7	8.1	5.0	3.3	9,343	139	182	42.3
Q3 2009	1.5	1.9	-4.8	-2.1	9.6	3.5	0.2	2.5	3.8	6.5	5.2	3.3	10,813	140	163	31.3
Q4 2009	4.3	5.7	0.8	3.9	9.9	3.2	0.1	2.3	3.7	5.8	4.9	3.3	11,385	140	159	30.7
Q1 2010	2.0	3.1	3.1	4.7	9.8	0.6	0.1	2.4	3.9	5.6	5.0	3.3	12,033	140	155	27.3
Q2 2010	3.9	6.0	6.8	7.5	9.6	-0.1	0.1	2.3	3.6	5.4	4.9	3.3	10,646	139	168	45.8
Q3 2010	3.1	4.4	2.6	3.4	9.5	1.2	0.2	1.6	2.9	4.8	4.4	3.3	11,814	136	169	32.9
Q4 2010	2.1	4.5	1.5	4.1	9.5	3.3	0.1	1.5	3.0	4.7	4.4	3.3	13,132	135	170	23.5
Q1 2011	-1.0	1.1	3.9	7.4	9.0	4.3	0.1	2.1	3.5	5.0	4.8	3.3	13,909	134	174	29.4
Q2 2011	2.7	5.5	-1.0	2.9	9.1	4.6	0.0	1.8	3.3	4.8	4.7	3.3	13,844	133	175	22.7
Q3 2011	-0.2	2.3	1.8	3.7	9.0	2.6	0.0	1.1	2.5	4.5	4.3	3.3	11,677	134	171	48.0
Q4 2011	4.6	5.1	1.1	2.5	8.6	1.8	0.0	1.0	2.1	4.8	4.0	3.3	13,019	134	178	45.5
Q1 2012	3.3	5.8	7.6	10.4	8.3	2.3	0.1	0.9	2.1	4.4	3.9	3.3	14,628	136	183	23.0
Q2 2012	1.8	3.5	3.6	4.6	8.2	0.8	0.1	0.8	1.8	4.3	3.8	3.3	14,100	139	180	26.7
Q3 2012	0.7	2.8	-2.6	-1.5	8.0	1.8	0.1	0.7	1.6	3.9	3.6	3.3	14,895	142	184	20.5
Q4 2012	0.4	2.5	11.6	14.2	7.8	2.7	0.1	0.7	1.7	3.6	3.4	3.3	14,835	145	185	22.7
Q1 2013	3.5	5.2	-14.9	-13.6	7.7	1.6	0.1	0.8	1.9	3.7	3.5	3.3	16,396	148	189	19.0
Q2 2013	0.6	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	1.5	3.2	7.2	2.2	0.0	1.5	2.7	4.7	4.4	3.3	17,718	156	209	17.0
Q4 2013	2.9	5.4	1.2	2.9	6.9	1.5	0.1	1.4	2.8	4.5	4.3	3.3	19,413	159	212	20.3
Q1 2014	-1.4	0.3	5.1	7.1	6.7	2.5	0.0	1.6	2.8	4.4	4.4	3.3	19,711	161	209	21.4
Q2 2014	5.2	7.6	5.4	7.5	6.2	2.1	0.0	1.7	2.7	4.0	4.2	3.3	20,569	162	215	17.0
Q3 2014	4.7	6.6	4.6	5.8	6.1	1.0	0.0	1.7	2.5	3.9	4.1	3.3	20,459	164	221	17.0
Q4 2014	1.8	2.5	5.7	5.2	5.7	-1.0	0.0	1.6	2.3	4.0	4.0	3.3	21,425	167	227	26.3
Q1 2015	3.3	3.1	5.4	3.7	5.5	-2.6	0.0	1.5	2.0	3.9	3.7	3.3	21,708	169	240	22.4
Q2 2015	2.3	4.6	1.1	3.1	5.4	2.8	0.0	1.5	2.2	3.9	3.8	3.3	21,631	171	243	18.9
Q3 2015	1.3	2.5	2.3	3.3	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	0.5	2.5	2.1	5.0	0.0	0.1	1.6	2.2	4.4	3.9	3.3	21,101	176	246	24.4
Q1 2016	2.4	2.0	3.1	3.3	4.9	-0.2	0.3	1.4	2.0	4.5	3.7	3.5	21,179	178	239	28.1
Q2 2016	1.2	4.1	-0.7	1.9	4.9	3.2	0.3	1.3	1.8	3.9	3.6	3.5	21,622	180	242	25.8
Q3 2016	2.4	3.6	1.9	3.5	4.9	1.7	0.3	1.2	1.6	3.5	3.4	3.5	22,469	182	255	18.1
Q4 2016	2.0	4.2	2.1	4.1	4.8	2.6	0.4	1.7	2.2	3.9	3.8	3.5	23,277	185	257	22.5
Q1 2017	1.9	4.0	4.1	6.4	4.6	2.7	0.6	2.0	2.5	4.0	4.2	3.8	24,508	188	253	13.1
Q2 2017	2.3	3.6	4.0	5.2	4.4	0.7	0.9	1.8	2.3	3.8	4.0	4.0	25,125	190	262	16.0

(continued)

Table 1.A. Historical data: Domestic variables, Q1:2000–Q4:2021—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 2017	2.9	5.0	2.4	4.0	4.3	1.9	1.0	1.8	2.3	3.7	3.9	4.3	26,149	193	267	16.0
Q4 2017	3.8	6.8	2.0	4.7	4.2	3.2	1.2	2.1	2.4	3.7	3.9	4.3	27,673	196	275	13.1
Q1 2018	3.1	5.3	4.9	7.7	4.0	3.1	1.6	2.5	2.8	4.1	4.3	4.5	27,383	199	270	37.3
Q2 2018	3.4	7.1	3.4	5.8	3.9	2.5	1.8	2.8	2.9	4.5	4.5	4.8	28,314	202	283	23.6
Q3 2018	1.9	3.3	3.4	4.7	3.8	1.6	2.0	2.8	2.9	4.5	4.6	5.0	30,190	204	276	16.1
Q4 2018	0.9	3.0	3.0	4.7	3.8	1.6	2.3	2.9	3.0	4.8	4.8	5.3	25,725	205	277	36.1
Q1 2019	2.4	3.7	3.6	4.1	3.9	0.7	2.4	2.5	2.7	4.5	4.4	5.5	29,194	207	283	25.5
Q2 2019	3.2	5.6	-1.4	1.3	3.6	3.5	2.3	2.1	2.4	4.0	4.0	5.5	30,244	209	296	20.6
Q3 2019	2.8	4.1	2.3	3.4	3.6	1.3	2.0	1.7	1.8	3.4	3.7	5.3	30,442	211	305	24.6
Q4 2019	1.9	3.6	2.4	4.1	3.6	2.6	1.6	1.6	1.8	3.3	3.7	4.8	33,035	214	298	20.6
Q1 2020	-5.1	-3.9	3.0	4.3	3.8	1.0	1.1	1.2	1.4	3.4	3.5	4.4	25,985	217	300	82.7
Q2 2020	-31.2	-32.4	48.5	46.1	13.0	-3.1	0.1	0.4	0.7	3.4	3.2	3.3	31,577	220	302	57.1
Q3 2020	33.8	38.7	-16.6	-13.6	8.8	4.7	0.1	0.3	0.6	2.4	3.0	3.3	34,306	225	300	33.6
Q4 2020	4.5	6.6	-8.3	-6.9	6.8	2.4	0.1	0.4	0.9	2.3	2.8	3.3	39,220	233	312	40.3
Q1 2021	6.3	10.9	54.7	60.6	6.2	3.7	0.1	0.6	1.4	2.4	2.9	3.3	41,603	242	313	37.2
Q2 2021	6.7	13.4	-29.0	-24.5	5.9	8.4	0.0	0.8	1.6	2.6	3.0	3.3	44,904	255	323	27.6
Q3 2021	2.3	8.4	-4.3	0.8	5.1	6.6	0.0	0.8	1.4	2.4	2.9	3.3	44,706	266	337	25.7
Q4 2021	5.9	11.5	-4.9	3.9	4.2	8.2	0.1	1.2	1.6	2.7	3.1	3.3	48,634	268	337	31.1

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 1.B. Historical data: International variables, Q1:2000–Q4:2021

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	4.0	0.5	1.592
Q2 2000	3.7	0.9	0.955	6.9	-0.3	100.7	1.9	-1.1	106.1	2.6	0.4	1.513
Q3 2000	2.2	3.4	0.884	7.8	2.2	101.4	0.1	-0.4	107.9	1.5	1.0	1.479
Q4 2000	2.7	2.8	0.939	3.6	2.5	105.2	3.9	-1.0	114.4	1.1	1.9	1.496
Q1 2001	4.2	1.2	0.879	4.8	1.7	106.1	3.0	0.7	125.5	3.5	0.1	1.419
Q2 2001	0.4	4.0	0.847	5.3	2.1	106.2	-3.0	-1.9	124.7	1.9	3.1	1.408
Q3 2001	0.4	1.5	0.910	4.9	1.3	106.5	-4.3	-0.7	119.2	1.9	1.0	1.469
Q4 2001	0.5	1.7	0.890	8.4	0.0	106.9	-1.4	-1.8	131.0	0.9	0.0	1.454
Q1 2002	0.4	3.1	0.872	7.8	0.5	107.4	0.7	-1.2	132.7	2.1	1.9	1.425
Q2 2002	2.2	2.0	0.986	8.1	1.1	104.8	3.3	0.3	119.9	2.6	0.9	1.525

(continued)

Table 1.B. Historical data: International variables, Q1:2000–Q4:2021—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 2002	1.7	1.6	0.988	7.3	1.5	105.5	1.3	-0.4	121.7	2.8	1.4	1.570
Q4 2002	0.6	2.3	1.049	6.7	0.7	104.5	1.1	-0.8	118.8	3.6	1.9	1.610
Q1 2003	-1.2	3.3	1.090	6.6	3.6	105.5	0.3	0.0	118.1	2.3	1.6	1.579
Q2 2003	0.3	0.5	1.150	1.9	1.1	104.0	2.8	0.3	119.9	3.1	0.3	1.653
Q3 2003	2.2	2.1	1.165	14.6	0.1	102.6	1.2	-0.7	111.4	4.0	1.7	1.662
Q4 2003	3.0	2.3	1.260	12.8	5.5	103.4	4.4	-0.7	107.1	3.2	1.6	1.784
Q1 2004	2.0	2.2	1.229	5.8	4.0	101.4	3.0	0.6	104.2	1.8	1.3	1.840
Q2 2004	2.6	2.6	1.218	7.1	4.1	102.8	0.1	-0.3	109.4	2.2	1.0	1.813
Q3 2004	1.0	2.0	1.242	8.3	4.1	102.7	2.5	-0.1	110.2	1.0	1.1	1.809
Q4 2004	1.5	2.4	1.354	6.3	0.8	98.9	-0.8	2.0	102.7	1.4	2.4	1.916
Q1 2005	1.0	1.4	1.297	10.6	2.9	98.5	2.1	-1.2	107.2	2.5	2.5	1.889
Q2 2005	2.3	2.2	1.210	8.7	1.5	98.9	3.2	-1.0	110.9	3.9	1.9	1.793
Q3 2005	3.0	3.1	1.206	9.4	2.4	98.5	4.1	-1.1	113.3	3.6	2.7	1.770
Q4 2005	2.6	2.5	1.184	11.6	1.6	98.1	0.7	0.4	117.9	4.4	1.4	1.719
Q1 2006	3.6	1.7	1.214	10.8	2.4	96.7	0.6	1.1	117.5	2.1	1.9	1.739
Q2 2006	4.5	2.5	1.278	7.2	3.2	96.6	0.7	0.4	114.5	1.4	3.0	1.849
Q3 2006	2.3	2.0	1.269	10.2	2.2	96.3	-0.8	0.4	118.0	0.9	3.3	1.872
Q4 2006	4.8	0.9	1.320	11.4	3.6	94.5	5.5	-0.6	119.0	2.6	2.6	1.959
Q1 2007	2.5	2.3	1.337	13.8	3.6	93.9	2.7	-0.7	117.6	3.2	2.6	1.969
Q2 2007	2.9	2.3	1.352	10.5	4.9	91.8	0.2	0.4	123.4	1.9	1.7	2.006
Q3 2007	1.7	2.1	1.422	8.6	7.6	90.5	-2.1	0.3	115.0	2.8	0.2	2.039
Q4 2007	2.2	4.9	1.460	13.1	5.9	89.4	1.7	2.0	111.7	1.5	4.0	1.984
Q1 2008	1.9	4.2	1.581	7.0	8.1	88.0	1.4	1.4	99.9	2.4	3.7	1.986
Q2 2008	-1.3	3.2	1.575	6.0	6.3	88.7	-2.3	1.7	106.2	-1.8	5.7	1.991
Q3 2008	-2.1	3.2	1.408	2.9	3.0	91.6	-4.9	3.8	105.9	-5.8	5.8	1.780
Q4 2008	-6.9	-1.4	1.392	0.6	-1.1	92.3	-9.5	-2.4	90.8	-7.8	0.5	1.462
Q1 2009	-11.9	-1.0	1.326	4.2	-1.4	94.3	-17.9	-3.5	99.2	-7.0	-0.1	1.430
Q2 2009	-0.1	0.0	1.402	15.0	2.3	92.3	8.1	-1.5	96.4	-1.2	2.2	1.645
Q3 2009	1.6	1.1	1.463	12.6	4.1	91.3	-0.2	-1.5	89.5	0.3	3.5	1.600
Q4 2009	1.8	1.6	1.433	9.7	5.0	90.7	5.0	-1.4	93.1	1.2	3.0	1.617
Q1 2010	1.6	1.8	1.353	9.6	4.4	89.8	4.3	1.0	93.4	2.8	4.0	1.519
Q2 2010	3.9	1.9	1.229	9.5	3.4	91.1	4.9	-1.4	88.5	4.6	3.2	1.495
Q3 2010	1.8	1.6	1.360	8.8	4.2	88.4	7.5	-2.0	83.5	2.8	2.3	1.573
Q4 2010	2.5	2.6	1.327	9.6	7.5	87.4	-3.2	1.4	81.7	0.5	4.0	1.539
Q1 2011	3.4	3.7	1.418	9.6	6.2	86.5	-4.2	-0.4	82.8	1.9	6.7	1.605
Q2 2011	0.0	3.1	1.452	6.8	5.4	85.3	-3.4	-0.7	80.6	0.4	4.7	1.607
Q3 2011	0.5	1.3	1.345	5.6	5.3	87.4	10.1	0.4	77.0	1.3	3.7	1.562
Q4 2011	-1.6	3.5	1.297	6.5	3.0	87.3	-0.6	-0.6	77.0	0.5	3.4	1.554

(continued)

Table 1.B. Historical data: International variables, Q1:2000–Q4:2021—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)
Q1 2012	-0.8	2.9	1.333	7.6	3.2	86.3	5.6	2.3	82.4	2.7	2.1	1.599
Q2 2012	-1.1	2.2	1.267	5.8	3.9	88.1	-3.5	-1.4	79.8	-0.2	2.0	1.569
Q3 2012	-0.5	1.5	1.286	6.6	2.2	86.3	-1.5	-2.0	77.9	5.0	2.2	1.613
Q4 2012	-1.7	2.5	1.319	7.2	3.5	86.0	-0.3	0.1	86.6	-1.0	4.0	1.626
Q1 2013	-1.5	1.3	1.282	6.7	4.6	86.3	5.6	0.6	94.2	1.8	2.9	1.519
Q2 2013	2.2	0.2	1.301	6.2	2.8	87.2	3.7	0.0	99.2	2.7	1.7	1.521
Q3 2013	1.3	1.1	1.354	7.8	3.6	86.6	3.9	2.7	98.3	3.1	2.0	1.618
Q4 2013	1.1	0.5	1.378	6.8	3.8	85.8	-0.5	2.4	105.3	2.1	1.6	1.657
Q1 2014	1.6	0.9	1.378	6.2	1.4	86.9	3.3	1.0	103.0	3.8	1.9	1.668
Q2 2014	0.9	-0.3	1.369	7.4	2.6	86.7	-7.1	8.3	101.3	3.3	1.4	1.711
Q3 2014	1.8	0.1	1.263	6.6	2.5	87.0	0.4	1.9	109.7	2.7	0.7	1.622
Q4 2014	1.7	-0.1	1.210	5.8	0.9	88.1	1.9	-0.8	119.9	2.3	-0.4	1.558
Q1 2015	2.6	-0.8	1.074	6.3	0.9	88.1	6.3	0.1	120.0	2.6	-1.1	1.485
Q2 2015	1.8	2.5	1.115	6.9	2.8	88.5	0.6	1.1	122.1	3.0	0.7	1.573
Q3 2015	1.8	-0.2	1.116	6.5	2.7	91.1	0.3	0.3	119.8	2.2	0.6	1.512
Q4 2015	1.9	-0.4	1.086	5.7	1.1	92.3	-0.5	-0.8	120.3	2.7	0.1	1.475
Q1 2016	2.2	-1.4	1.139	7.0	3.0	91.8	3.0	-0.5	112.4	1.8	0.1	1.438
Q2 2016	1.0	1.5	1.103	6.9	3.0	94.2	-0.6	0.0	102.8	2.3	0.7	1.324
Q3 2016	1.8	1.2	1.124	6.6	1.2	93.7	0.6	-0.4	101.2	1.8	2.0	1.302
Q4 2016	3.0	1.7	1.055	5.8	1.6	97.6	0.8	2.1	116.8	3.0	2.1	1.234
Q1 2017	2.9	2.6	1.070	6.2	1.2	95.2	3.3	-0.5	111.4	2.6	3.8	1.254
Q2 2017	3.3	0.5	1.141	6.6	2.3	94.8	1.6	0.7	112.4	1.2	3.1	1.300
Q3 2017	2.8	1.0	1.181	5.7	2.3	93.7	3.0	0.4	112.6	1.7	2.2	1.340
Q4 2017	3.5	1.6	1.202	6.2	2.4	91.1	0.7	1.8	112.7	1.6	3.1	1.353
Q1 2018	0.3	1.9	1.232	8.7	2.5	89.1	0.5	2.0	106.2	1.0	2.5	1.403
Q2 2018	2.0	2.3	1.168	6.1	2.0	93.5	1.3	-1.1	110.7	2.2	2.0	1.320
Q3 2018	0.2	2.7	1.162	2.8	3.0	97.2	-3.1	1.8	113.5	2.6	2.4	1.305
Q4 2018	2.3	0.9	1.146	5.7	1.0	96.3	0.1	0.7	109.7	1.3	2.2	1.276
Q1 2019	2.9	-0.2	1.123	9.0	1.0	94.6	1.6	-0.5	110.7	2.6	1.0	1.303
Q2 2019	0.7	2.3	1.137	5.3	5.2	96.5	1.7	1.2	107.8	0.5	2.7	1.270
Q3 2019	1.0	0.9	1.091	0.2	3.6	99.9	-0.5	0.0	108.1	1.8	1.5	1.231
Q4 2019	0.0	1.1	1.123	4.8	6.3	98.1	-9.2	1.3	108.7	-0.2	0.5	1.327
Q1 2020	-13.2	0.1	1.102	-21.8	3.6	101.9	1.2	0.1	107.5	-10.1	1.9	1.245
Q2 2020	-39.2	-1.2	1.124	32.0	-1.5	97.5	-28.5	-0.8	107.8	-57.9	-1.4	1.237
Q3 2020	60.5	-0.1	1.172	20.1	2.1	95.6	22.1	-0.7	105.6	91.1	1.3	1.292
Q4 2020	-1.4	0.2	1.223	14.6	-0.6	92.9	9.6	-2.2	103.2	6.1	0.3	1.366
Q1 2021	-0.8	5.5	1.174	7.5	2.9	93.6	-2.9	1.6	110.6	-5.0	2.3	1.380
Q2 2021	9.1	1.9	1.185	0.1	3.0	91.6	2.0	-1.5	111.1	23.6	4.4	1.381

(continued)

Table 1.B. Historical data: International variables, Q1:2000–Q4:2021—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 2021	9.1	3.9	1.158	1.1	1.1	92.6	-3.6	1.3	111.5	4.3	4.2	1.347
Q4 2021	4.4	7.4	1.132	4.1	2.6	92.0	3.8	0.7	115.2	4.0	4.3	1.350

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 2.A. Supervisory baseline scenario: Domestic variables, Q1:2022–Q1:2025

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 2022	3.3	7.0	0.2	3.8	4.0	3.9	0.1	1.3	1.7	2.9	3.2	3.3	48,634	270	340	28.1
Q2 2022	3.9	6.8	2.3	5.1	3.8	3.0	0.3	1.4	1.8	3.0	3.3	3.4	48,634	272	342	25.8
Q3 2022	3.3	6.0	2.5	4.8	3.7	2.5	0.5	1.6	2.0	3.2	3.5	3.6	48,634	274	345	25.2
Q4 2022	2.7	5.2	2.3	4.5	3.6	2.4	0.7	1.7	2.1	3.4	3.6	3.8	48,634	276	348	25.3
Q1 2023	2.5	5.0	2.5	4.6	3.5	2.4	0.9	1.8	2.2	3.5	3.7	4.0	48,634	278	350	24.7
Q2 2023	2.3	4.7	2.6	4.6	3.5	2.3	1.1	1.9	2.3	3.8	3.8	4.2	48,634	280	353	26.5
Q3 2023	2.2	4.6	2.6	4.7	3.5	2.3	1.3	1.9	2.4	4.0	3.9	4.3	48,634	282	355	27.1
Q4 2023	2.2	4.6	2.5	4.6	3.5	2.4	1.4	1.9	2.5	4.1	4.0	4.5	48,634	284	358	27.4
Q1 2024	2.1	4.5	2.3	4.3	3.5	2.3	1.5	2.0	2.5	4.2	4.0	4.5	48,634	286	361	27.5
Q2 2024	2.1	4.0	2.2	4.1	3.5	2.2	1.5	2.0	2.5	4.2	4.0	4.5	48,634	289	364	27.5
Q3 2024	2.0	4.0	2.2	4.0	3.6	2.2	1.5	2.0	2.5	4.3	4.0	4.5	48,634	291	366	27.6
Q4 2024	2.0	3.9	2.1	4.0	3.6	2.1	1.5	2.0	2.5	4.3	4.0	4.6	48,634	293	369	27.7
Q1 2025	2.0	4.0	2.2	4.1	3.6	2.2	1.5	2.0	2.6	4.4	4.1	4.6	48,634	295	372	27.8

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 2.B. Supervisory baseline scenario: International variables, Q1:2022–Q1:2025**

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 2022	3.6	2.8	1.134	5.2	2.8	92.4	3.9	0.8	115.2	3.4	4.2	1.349
Q2 2022	3.4	2.2	1.136	6.2	2.8	92.7	3.3	0.9	115.1	3.6	3.8	1.348
Q3 2022	3.2	1.8	1.137	6.6	2.8	93.0	2.7	0.8	115.1	3.7	3.3	1.348
Q4 2022	2.9	1.5	1.139	6.4	2.7	93.4	2.1	0.8	115.1	3.2	2.7	1.347
Q1 2023	2.3	1.5	1.149	5.5	2.7	93.3	1.3	0.8	114.7	2.3	2.3	1.359
Q2 2023	1.9	1.5	1.158	4.8	2.6	93.2	0.9	0.8	114.2	1.6	2.0	1.371
Q3 2023	1.7	1.6	1.167	4.4	2.5	93.1	0.7	0.8	113.8	1.4	1.9	1.383
Q4 2023	1.6	1.8	1.177	4.4	2.5	93.0	0.7	0.8	113.4	1.4	2.1	1.394
Q1 2024	1.6	2.0	1.177	4.8	2.5	93.0	0.7	0.9	113.4	1.6	2.5	1.394
Q2 2024	1.5	2.2	1.177	5.1	2.5	93.0	0.7	1.0	113.4	1.7	2.7	1.394
Q3 2024	1.5	2.3	1.177	5.3	2.5	93.0	0.6	1.0	113.4	1.7	2.8	1.394
Q4 2024	1.5	2.3	1.177	5.1	2.5	93.0	0.6	1.0	113.4	1.6	2.8	1.394
Q1 2025	1.5	2.2	1.177	4.8	2.5	93.0	0.4	1.0	113.4	1.5	2.7	1.394

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 3.A. Supervisory severely adverse scenario: Domestic variables, Q1:2022–Q1:2025

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 2022	-1.4	-0.2	-3.4	-1.5	7.0	2.3	0.1	0.3	0.7	5.4	3.0	3.1	26,749	246	317	68.6
Q2 2022	-6.2	-6.2	-7.5	-6.4	8.1	1.5	0.1	0.3	0.7	6.3	3.5	3.1	23,345	232	304	75.0
Q3 2022	-4.0	-4.4	-5.0	-4.1	8.9	1.3	0.1	0.3	0.7	6.5	3.7	3.1	22,372	221	283	65.7
Q4 2022	-1.8	-2.0	-2.8	-1.8	9.4	1.3	0.1	0.3	0.8	6.6	3.8	3.1	21,885	213	260	58.2
Q1 2023	-1.0	-1.3	-2.0	-1.0	9.8	1.4	0.1	0.3	0.9	6.4	3.8	3.1	22,858	205	240	52.3
Q2 2023	1.3	1.2	0.2	1.3	9.9	1.4	0.1	0.4	1.0	6.1	3.7	3.1	24,317	200	224	47.5
Q3 2023	1.3	1.2	0.2	1.3	10.0	1.4	0.1	0.5	1.1	5.8	3.7	3.1	26,263	195	211	43.7
Q4 2023	6.6	6.7	5.2	6.4	9.5	1.5	0.1	0.5	1.2	5.5	3.6	3.1	28,694	191	204	40.6
Q1 2024	6.2	6.3	4.7	6.0	8.9	1.5	0.1	0.6	1.3	5.1	3.5	3.1	31,612	195	205	38.2
Q2 2024	5.8	5.6	4.4	5.6	8.5	1.5	0.1	0.7	1.3	4.8	3.4	3.1	34,530	198	207	36.2
Q3 2024	5.5	5.5	4.0	5.3	8.1	1.6	0.1	0.8	1.4	4.5	3.3	3.1	38,907	201	210	34.7
Q4 2024	5.2	5.4	3.7	5.0	7.7	1.6	0.1	0.8	1.5	4.1	3.2	3.1	43,771	205	212	33.4
Q1 2025	4.9	5.8	3.4	4.8	7.4	1.6	0.1	0.9	1.5	3.8	3.2	3.1	48,634	208	215	32.4

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 3.B. Supervisory severely adverse scenario: International variables, Q1:2022–Q1:2025

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 2022	-4.1	3.7	1.112	-4.2	1.5	93.7	-6.7	-0.3	109.3	-2.5	4.0	1.327
Q2 2022	-3.5	3.3	1.093	-1.5	0.3	95.3	-4.3	-0.4	107.9	-2.8	3.5	1.304
Q3 2022	-2.6	2.4	1.046	-0.3	-0.5	99.6	-2.5	-1.4	107.3	-2.0	2.8	1.248
Q4 2022	-2.3	0.4	1.010	-0.1	-2.0	103.1	-2.1	-2.3	106.5	-1.8	1.9	1.205
Q1 2023	-2.1	-0.2	1.002	0.7	-2.9	104.0	-1.6	-2.7	105.4	-1.6	1.1	1.195
Q2 2023	-1.9	-0.5	0.993	1.3	-3.5	104.9	-1.2	-2.9	105.1	-1.4	0.5	1.184
Q3 2023	1.0	-0.7	0.997	2.8	-4.0	104.5	1.0	-2.8	105.4	1.0	0.1	1.190
Q4 2023	4.0	-0.5	1.002	5.9	-3.9	104.0	3.0	-2.4	105.6	4.0	0.0	1.195
Q1 2024	5.0	-0.2	1.019	8.0	-3.5	102.2	4.0	-1.8	106.5	5.0	0.3	1.216
Q2 2024	6.0	0.2	1.055	10.1	-2.6	98.7	5.0	-1.0	106.7	6.0	0.8	1.259
Q3 2024	7.0	0.8	1.074	11.8	-1.3	97.0	5.5	-0.1	107.3	7.0	1.5	1.281
Q4 2024	8.0	1.4	1.093	11.7	0.1	95.3	6.0	0.7	107.6	8.0	2.1	1.304
Q1 2025	9.0	2.1	1.112	12.7	1.8	93.7	7.0	1.4	108.2	9.0	2.7	1.327

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

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

The following are descriptions of data through 2021:Q4 (as released through January 15, 2022). The 2021:Q4 values of variables marked with an asterisk (*) are estimates.

***U.S. real GDP growth:** Quarterly 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:** Quarterly 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:** Quarterly percent change in real disposable personal income (current-dollar values 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:** Quarterly 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 unemployment rates for the civilian, non-institutional population aged 16 years and older, Bureau of Labor Statistics (series LNS14000000).

U.S. CPI inflation: Percent change in the quarterly average of seasonally adjusted monthly levels of 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/US 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").

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:** Quarterly 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:** Quarterly 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:** Quarterly 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:** Quarterly 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.



Find other Federal Reserve Board publications (www.federalreserve.gov/publications/default.htm) or order those offered in print (www.federalreserve.gov/files/orderform.pdf) on our website. Also visit the site for more information about the Board and to learn how to stay connected with us on social media.



www.federalreserve.gov

0222