



2024 Stress Test Scenarios

February 2024





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The Federal Reserve

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

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Contents

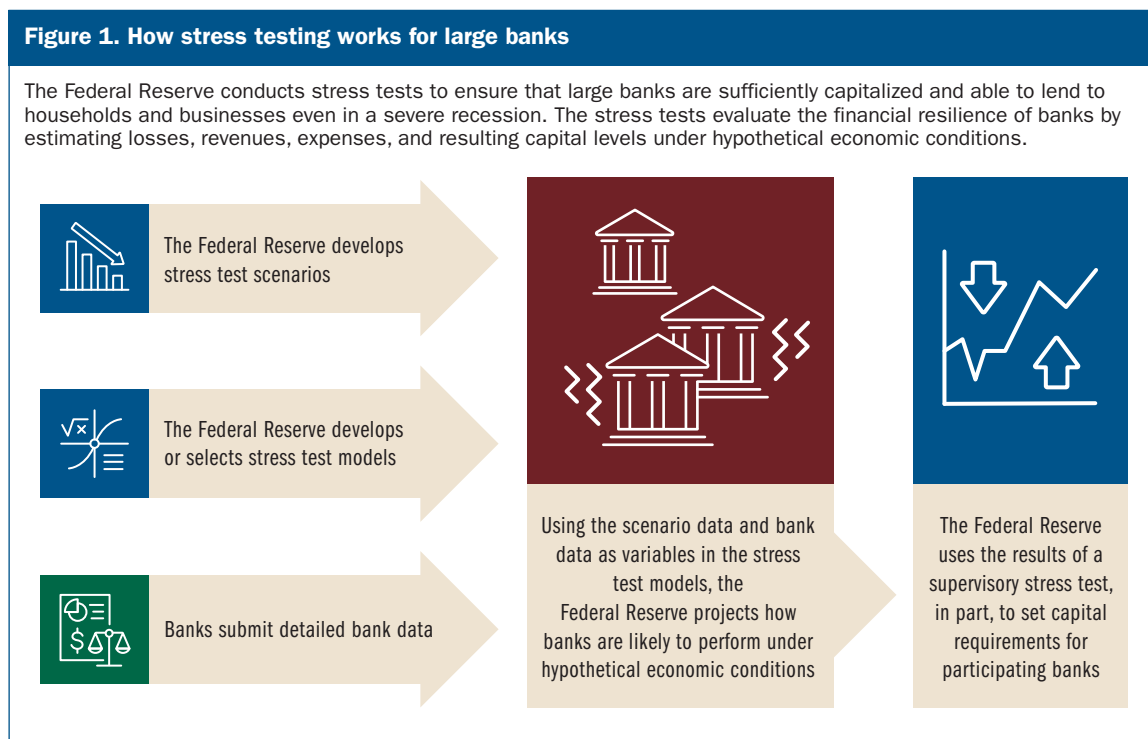
Preface	iii
Executive Summary	1
Supervisory Stress Test Scenarios	3
Baseline and Severely Adverse Scenarios	4
Global Market Shock Component for the Supervisory Severely Adverse Scenario	7
Counterparty Default Component of the Supervisory Severely Adverse Scenario	10
Variables for the Supervisory Scenarios	12
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 stress test. The stress test assesses how large banks are likely to perform under hypothetical economic conditions.¹

Figure 1 summarizes the stress test cycle.



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

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

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

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

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

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

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

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 a stress test to set large bank capital requirements.

The [severely adverse scenario](#) is characterized by a severe global recession accompanied by a period of heightened stress in commercial and residential real estate markets and in corporate debt markets. The U.S. unemployment rate rises 6.3 percentage points from the starting point of the scenario in the fourth quarter of 2023 to its peak of 10 percent in the third quarter of 2025. The sharp decline in economic activity is also accompanied by an increase in market volatility, widening corporate bond spreads, and a collapse in asset prices, including a 36 percent decline in house prices and a 40 percent decline in commercial real estate prices. The international portion of the scenario features recessions in four countries or country blocs, followed by declines in inflation and an appreciation in the value of the U.S. dollar against all countries and country blocs' currencies, except for the Japanese yen.

Banks 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.

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 C.F.R. pt. 238, subpt. O; 12 C.F.R. pt. 252, subpt. E) and capital planning requirements (12 C.F.R. § 225.8; 12 C.F.R. § 238.170). In addition, certain BHCs, SLHCs, U.S. IHCs, and state member banks must comply with the Board's company-run stress test rules (12 C.F.R. pt. 238, subpt. P; and 12 C.F.R. pt. 252, subpts. B and F).

Table 1. 2024 Stress test banks		
Bank¹	Subject to global market shock	Subject to counterparty default
Ally Financial Inc.		
American Express Company		
Bank of America Corporation	X	X
The Bank of New York Mellon Corporation		X
Barclays US LLC	X	X
BMO Financial Corp.		
Capital One Financial Corporation		
The Charles Schwab Corporation		
Citigroup Inc.	X	X
Citizens Financial Group, Inc.		
Credit Suisse Holdings (USA), Inc.	X	X
DB USA Corporation	X	X
Discover Financial Services		
Fifth Third Bancorp		
The Goldman Sachs Group, Inc.	X	X
HSBC North America Holdings Inc.		
Huntington Bancshares Incorporated		
JPMorgan Chase & Co.	X	X
Keycorp		
M&T Bank Corporation		
Morgan Stanley	X	X
Northern Trust Corporation		
The PNC Financial Services Group, Inc.		
RBC US Group Holdings LLC		
Regions Financial Corporation		
Santander Holdings USA, Inc.		
State Street Corporation		X
TD Group US Holdings LLC		
Truist Financial Corporation		
UBS Americas Holding LLC		
U.S. Bancorp		
Wells Fargo & Company	X	X
¹ The information listed in this table is based on third quarter 2023 data.		

Supervisory Stress Test Scenarios

The severely adverse scenario describes a hypothetical set of conditions designed to assess the strength and resilience of banks in an adverse economic environment.³ Meanwhile, the baseline scenario follows a profile similar to that of average projections from a survey of economic forecasters. These scenarios are not Federal Reserve forecasts.

The scenarios start in the first quarter of 2024 and extend through the first quarter of 2027. Each scenario includes 28 variables; the set of variables for the 2024 supervisory stress test is the same as the set provided in last year's supervisory stress test scenarios. The variables describing economic developments within the United States include:

- **Six measures of economic activity and prices:** quarterly percent changes (at an annualized 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 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 20 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.

³ 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 C.F.R. pt. 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.⁴ Historical data for the domestic and the international variables are reported in [tables 2.A](#) and [2.B](#), respectively.

Baseline Scenario

The baseline scenario for U.S. real activity, inflation, and interest rates (see [table 3.A](#)) is similar to the consensus projections from *2024 Blue Chip Financial Forecasts* and *2024 Blue Chip Economic Indicators*.⁵ The near-term component of the baseline scenario is similar to the January 2024 release of the *Blue Chip* publications, while the long-term component of the baseline scenario is similar to the October 2023 release. It is important to emphasize that this scenario is not a forecast by the Federal Reserve.

The baseline scenario for the United States features moderate economic growth. The unemployment rate increases from 3.7 percent at the end of 2023 to 4.1 percent at the end of the scenario. Real GDP growth increases from 1.5 percent at the end of 2023 to 1.9 percent by the end of the scenario. Inflation, measured as the quarterly change in the CPI and reported as an annualized rate, declines from 2.8 percent to a trough of 2.2 percent in the second quarter of 2025, where it remains for the rest of the scenario. The 3-month Treasury rate gradually falls from 5.3 percent at the end of 2023 to 3.1 percent at the end of the scenario. Ten-year Treasury yields decline steadily from 4.5 percent to 3.6 percent at the end of the scenario. The prime rate follows a path similar to short-term interest rates, while yields on BBB-rated corporate bonds and mortgage rates follow paths similar to long-term interest rates.

Equity prices remain at their level for the fourth quarter of 2023 throughout the scenario. Equity market volatility, as measured by the U.S. Market Volatility Index (VIX), increases modestly to about 28 by the end of the scenario. Nominal house prices and commercial real estate prices each increase gradually by 1.5 percent per year over the scenario.

The baseline paths for the international variables (see [table 3.B](#)) are similar to the trajectories reported in the January 2024 *Blue Chip Economic Indicators* and the International Monetary Fund's October 2023 *World Economic Outlook*.⁶ In the baseline scenario, real GDP growth in developing Asia rises from 4.6 percent at the end of 2023 to a peak of 4.7 percent by the second quarter of 2024 and then declines to 4.1 percent at the end of the scenario. Real GDP growth in the euro

⁴ 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-2024.htm>.

⁵ See Wolters Kluwer Legal and Regulatory Solutions, *Blue Chip Economic Indicators* and *Blue Chip Financial Forecasts*.

⁶ See International Monetary Fund, *World Economic Outlook (October 2023)*, <https://www.imf.org/en/Publications/WEO/Issues/2023/10/10/world-economic-outlook-october-2023>. The January 2024 update to the *World Economic Outlook* was released after the finalization of the scenarios.

area increases from 0 to a high of 1.7 percent in the second quarter of 2025, before declining to 1.1 percent by the end of the scenario. Real GDP growth in the United Kingdom increases at the beginning of the scenario, from 1.1 percent to 2.2 percent in the third quarter of 2025, before declining to 1.4 percent at the end of the scenario. GDP growth in Japan starts at negative 0.8 percent and increases to 2.2 percent in the third quarter of 2024. It then declines to 0.1 percent in the third quarter of 2025, before reverting to 0.3 percent by the end of the scenario.

Consumer price inflation in the euro area initially increases from 0.6 percent at the end of 2023 to 2.3 percent in the first quarter of 2024, after which it gradually declines to 1.3 percent by the end of the scenario. Consumer price inflation declines gradually in the United Kingdom as well, falling from 3.3 percent at the end of 2023 to 1.6 percent by the end of the scenario. Inflation in Japan starts at 2.6 percent before declining to 1.4 percent by the second quarter of 2025, where it hovers through the end of the scenario. Inflation rates in developing Asia start at 2.0 percent and peak at 2.5 percent in the third quarter of 2025 before declining to 2.3 percent in the second quarter of 2026, where they hover through the end of the scenario.

Severely Adverse Scenario

The severely adverse scenario follows the Board's Policy Statement on the Scenario Design Framework for Stress Testing ("Scenario Design Framework").⁷ This scenario is characterized by a severe global recession, including prolonged declines in both residential and commercial real estate prices, which spill over into the corporate sector and affect investment sentiment. This is a hypothetical scenario designed to assess the strength and resilience of banks 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 2025 (see [table 4.A](#)), a 6.3 percentage point increase relative to its fourth-quarter 2023 level. Real GDP declines 8.5 percent from the fourth quarter of 2023 to its trough in the first quarter of 2025, before recovering. The rising unemployment rate and the rapid decline in aggregate demand for goods and services significantly reduce inflationary pressures. Inflation, measured as the quarterly change in the CPI and reported as an annualized rate, falls from 2.8 percent at the end of 2023 to 1.3 percent in the third quarter of 2024 and then gradually increases to 1.6 percent by the end of the scenario.

Short-term interest rates, as measured by the 3-month Treasury rate, fall significantly to 0.1 percent by the third quarter of 2024 and remain there for the remainder of the scenario. Long-term interest rates, as measured by the 10-year Treasury yield, fall 3.7 percentage points to 0.8 percent by the second quarter of 2024, and then gradually start to rise in late 2024 to 1.5 percent by the end of the scenario. These interest rate paths imply that the yield curve is inverted in the first

⁷ 12 C.F.R. pt. 252, appendix A.

quarter of 2024. Thereafter, the slope of the yield curve becomes positive and steepens over the remainder of the scenario.

Conditions in corporate bond markets deteriorate markedly. The spread between yields on BBB-rated bonds and yields on 10-year Treasury securities widens to 5.8 percentage points by the fourth quarter of 2024, an increase of 4.1 percentage points relative to the fourth quarter of 2023. Corporate bond spreads then gradually decline to 2.3 percentage points by the end of the severely adverse scenario. The spread between mortgage rates and 10-year Treasury yields widens to 3 percentage points by the third quarter of 2024 before narrowing to about 1.6 percentage points at the end of the severely adverse scenario.

Asset prices drop sharply in the severely adverse scenario. Equity prices fall about 55 percent from the fourth quarter of 2023 through the fourth quarter of 2024, and do not return to their initial level until the end of the scenario. The maximum quarterly value of the VIX reaches a peak value of 70 in the second quarter of 2024, then declines to about 32 at the end of the scenario. House prices and commercial real estate prices also experience large declines. House prices fall sharply through the third quarter of 2025, reaching a trough that is about 36 percent below their level in the fourth quarter of 2023. Commercial real estate prices experience a slightly larger decline, reaching a trough in the fourth quarter of 2025 that is about 40 percent below their level at the end of 2023. House prices and commercial real estate prices recover slowly and are well below their fourth quarter of 2023 values at the end of the scenario.

The international component of the severely adverse scenario involves sharp declines in real GDP in three of the four countries or country blocs at the start of the scenario (see [table 4.B](#)). Japan experiences the most severe contraction, followed by the euro area and United Kingdom, while developing Asia experiences only a moderate decline in real GDP despite a 7 percentage-point reduction in the rate of growth. In Japan, the euro area, and the United Kingdom, GDP levels return to around their 2023 fourth-quarter levels by the end of the scenario. By contrast, in developing Asia, where output falls less, the level of GDP surpasses its fourth quarter of 2023 level in 2025.

Inflation declines significantly in all four countries or country blocs. All areas experience a period of deflation at various points in the scenario, although deflation is more severe and protracted in Japan and developing Asia. The U.S. dollar appreciates against the euro, the pound sterling, and the currencies of developing Asia, but depreciates slightly 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 experi-

enced rapid price gains over the past few years. Declines 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, such as offices that may be affected by remote work. Declines in U.S. house prices and U.S. commercial real estate prices also should be assumed to be representative of the declines in house prices and commercial real estate prices in foreign regions and economies.

Weakness in developing Asia reflects a significant slowdown in economic growth in China. Conditions across Latin American economies should be assumed to feature a slowdown comparable to the average slowdown in the global economy. Conditions in other emerging economies outside of Latin America should be assumed to feature a slowdown similar to the one in developing Asia.

Comparison of the Current Severely Adverse Scenario and 2023 Severely Adverse Scenario

The current severely adverse scenario features a slightly smaller increase in the unemployment rate in the United States as compared to the 2023 severely adverse scenario. This difference reflects the Scenario Design Framework, which calls for a smaller increase in the unemployment rate when the starting level of the unemployment rate is higher.

The current severely adverse scenario features a significantly higher starting level of interest rates compared to the previous year's severely adverse scenario. As a result, interest rates decline more significantly in response to the hypothetical drop in economic activity and inflation. The current severely adverse scenario also features a slightly smaller decline in house prices, as compared to their declines in the previous year's severely adverse scenario. This smaller decline reflects the Scenario Design Framework's response to the slightly lower ratio of nominal house prices to per capita disposable income at the end of 2023.

The potential for spillover effects in asset markets and sharp changes in investor sentiment are captured by a decline in equity prices and an increase in corporate bond spreads, both of which are somewhat more severe relative to last year's severely adverse scenario. These more severe changes reflect the moves in prices over the course of 2023 and limits procyclicality in the scenario. The international component of the current severely adverse scenario shows a recessionary episode that, relative to last year's severely adverse scenario, is more severe in developing Asia and Japan but less severe in the euro area and the United Kingdom.

Global Market Shock Component for the Supervisory Severely Adverse Scenario

The global market shock component for the severely adverse scenario (global market shock) is a set of hypothetical shocks to a large set of risk factors reflecting general market distress and

heightened uncertainty. Banks with significant trading activity must consider the global market shock as part of the supervisory severely adverse scenario in their company-run stress test.⁸ The losses associated with the global market shock are recognized in the first quarter of the scenario and are carried through all subsequent quarters. In addition, certain large and highly interconnected firms must apply the same global market shock to project losses under the counterparty default scenario component. The global market shock is applied to positions held by the banks on a given as-of date, which is October 13, 2023.⁹ These shocks do not represent a forecast of the Federal Reserve.

The design and specification of the global market shock differ from 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 severely adverse scenario. 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 banks' capital ratios in each quarter of the severely adverse scenario.

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

- equity prices of key advanced 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 advanced 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

⁸ The global market shock applies to a firm that is subject to the 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 C.F.R. § 238.143(b)(2)(i); 12 C.F.R. § 252.54(b)(2)(i).

⁹ 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 9–13, 2023).

- 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 (CMBS); sovereign debt; and municipal bonds.

The Board considers emerging and ongoing areas of financial market vulnerabilities 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 banks with significant trading activity. Depending on the type of financial market vulnerability that the global market shock is intended to assess, the risk factor 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 observed over history.¹⁰

Risk factor shocks are calibrated based on assumed time horizons. The calibration horizons reflect several 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 banks 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.¹¹ 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).

2024 Global Market Shock Component of the Supervisory Severely Adverse Scenario

The 2024 global market shock is characterized by a sudden dislocation to financial markets stemming from expectations of reduced global economic activity and heightened inflation.

¹⁰ 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 shocks.

¹¹ 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.

The expected fall in economic activity leads to equity price declines across global markets, while public equity volatility rises from heightened market uncertainty. Private equity values experience sizable declines as well, in response to a weak economic outlook.

Increases in interest rates and commodity prices signal risks for persistent inflation. Short-term Treasury rates rise sharply, while longer-term rates increase to a lesser extent. The U.S. dollar weakens against advanced economy currencies as the market reacts to heightened expectations for a severe recession in the United States. An increase in anticipated defaults leads to a significant widening in credit spreads.

Comparison of the 2024 Global Market Shock Component and the 2023 Global Market Shock Component

The 2024 global market shock features increasing inflationary risk, while last year's global market shock was characterized by fading inflationary pressures. Accordingly, the current global market shock mainly differs from the 2023 global market shock in the behavior of interest rates and commodities prices.

Treasury rates increase in the current global market shock, with large increases specified for the short end of the yield curve and milder increases specified for the longer end of the yield curve. In the 2023 global market shock, Treasury rates decreased across the term structure, resulting in a downward shift in the yield curve. Similarly, inflation breakeven rates increase in the current global market shock, while they decreased in the 2023 global market shock.

The U.S. dollar depreciates against the currencies of advanced economies in the 2024 global market shock, as in the 2023 global market shock. Nonprecious metals and other commodities, such as oil and natural gas, face large price increases from inflationary pressures in the current global market shock, while those commodity prices decreased in the 2023 global market shock.

Counterparty Default Component of the 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 2024 and recognize associated losses in the first quarter of the scenario.¹² This component involves the unexpected default of the firm's largest counterparty.¹³

¹² 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 C.F.R. § 252.54(b)(2)(ii).

¹³ 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 the definition of a QCCP at 12 C.F.R. § 217.2.

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 bank 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 13, 2023, which is the same as-of date as the global market shock component.¹⁴

U.S. IHCs are not required to include any affiliate as a counterparty. As in the 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.

¹⁴ As with the global market shock component, 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 9–13, 2023).

Variables for the Supervisory Scenarios

Table 2.A. Historical Data: Domestic variables, Q1:2000–Q4:2023

Percent, unless otherwise indicated

Date	Real GDP growth	Nominal GDP growth	Real disposable income growth	Nominal disposable income growth	Unemployment rate	CPI inflation rate	3-month Treasury rate	5-year Treasury yield	10-year Treasury yield	BBB corporate yield	Mortgage rate	Prime rate	Level			
													Dow Jones Total Stock Market Index	House Price Index	Commercial Real Estate Price Index	Market Volatility Index
Q1 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	125	27.0
Q2 2000	7.5	10.2	4.8	6.8	3.9	3.2	5.7	6.5	6.4	8.6	8.3	9.2	13,619	105	134	33.5
Q3 2000	0.4	2.8	5.4	8.1	4.0	3.7	6.0	6.1	6.1	8.2	8.0	9.5	13,613	107	143	21.9
Q4 2000	2.4	4.6	2.7	5.1	3.9	2.9	6.0	5.6	5.8	8.0	7.6	9.5	12,176	110	146	31.7
Q1 2001	-1.3	1.3	3.2	6.3	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	-0.3	1.6	4.4	2.8	3.7	4.9	5.5	7.5	7.1	7.3	11,407	114	145	34.7
Q3 2001	-1.6	0.0	9.5	9.7	4.8	1.1	3.2	4.6	5.3	7.2	7.0	6.6	9,563	116	146	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	139	35.3
Q1 2002	3.4	4.7	9.9	10.8	5.7	1.3	1.7	4.5	5.4	7.4	7.0	4.8	10,776	120	143	26.1
Q2 2002	2.5	3.9	3.2	6.3	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	0.5	2.6	5.7	2.2	1.6	3.4	4.5	7.2	6.3	4.8	7,774	127	144	45.1
Q4 2002	0.5	2.8	2.5	4.4	5.9	2.4	1.3	3.1	4.3	6.9	6.1	4.5	8,343	129	150	42.6
Q1 2003	2.1	4.1	0.1	3.2	5.9	4.2	1.2	2.9	4.2	6.2	5.8	4.3	8,052	132	155	34.7
Q2 2003	3.6	5.1	4.6	5.0	6.1	-0.7	1.0	2.6	3.8	5.3	5.5	4.2	9,342	135	153	29.1
Q3 2003	6.8	9.3	7.0	9.8	6.1	3.0	0.9	3.1	4.4	5.6	6.0	4.0	9,650	139	149	22.7
Q4 2003	4.7	7.3	1.1	3.1	5.8	1.5	0.9	3.2	4.4	5.4	5.9	4.0	10,800	143	151	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	161	21.6
Q2 2004	3.1	6.5	4.2	7.0	5.6	3.2	1.1	3.7	4.7	5.7	6.1	4.0	11,145	154	169	20.0
Q3 2004	3.8	6.5	2.6	4.6	5.4	2.6	1.5	3.5	4.4	5.4	5.9	4.4	10,894	159	180	19.3
Q4 2004	4.1	7.4	4.7	8.4	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	-5.3	-3.1	5.3	2.0	2.5	3.9	4.4	5.2	5.8	5.4	11,637	172	186	14.7
Q2 2005	2.0	5.0	3.7	6.4	5.1	2.7	2.9	3.9	4.2	5.4	5.7	5.9	11,857	179	189	17.7
Q3 2005	3.2	7.0	1.5	5.9	5.0	6.2	3.4	4.0	4.3	5.4	5.8	6.4	12,283	185	198	14.2
Q4 2005	2.2	5.6	3.6	7.0	5.0	3.8	3.8	4.4	4.6	5.8	6.2	7.0	12,497	190	204	16.5
Q1 2006	5.5	8.5	7.6	9.9	4.7	2.1	4.4	4.6	4.7	5.8	6.2	7.4	13,122	194	210	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	192	219	23.8
Q3 2006	0.6	3.4	0.6	3.5	4.6	3.8	4.9	4.8	5.0	6.3	6.6	8.3	13,323	191	225	18.6
Q4 2006	3.5	5.0	5.0	4.3	4.4	-1.6	4.9	4.6	4.7	6.0	6.2	8.3	14,216	191	230	12.7
Q1 2007	1.2	5.1	3.1	6.9	4.5	4.0	5.0	4.6	4.8	6.0	6.2	8.3	14,354	189	236	19.6
Q2 2007	2.5	5.3	2.0	5.5	4.5	4.6	4.7	4.7	4.9	6.2	6.4	8.3	15,163	183	246	18.9
Q3 2007	2.3	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	251	30.8
Q4 2007	2.5	4.2	0.5	4.6	4.8	5.0	3.4	3.8	4.4	6.3	6.2	7.5	14,754	173	249	31.1
Q1 2008	-1.7	-0.2	1.7	5.1	5.0	4.4	2.1	2.8	3.9	6.4	5.9	6.2	13,284	166	229	32.2

(continued)

Table 2.A—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	2.4	4.4	8.5	12.8	5.3	5.3	1.6	3.2	4.1	6.7	6.1	5.1	13,016	158	233	24.1
Q3 2008	-2.1	0.9	-7.5	-3.5	6.0	6.3	1.5	3.1	4.1	7.1	6.3	5.0	11,826	151	228	46.7
Q4 2008	-8.5	-7.6	4.6	-1.9	6.9	-8.9	0.3	2.2	3.7	9.7	5.9	4.1	9,057	143	221	80.9
Q1 2009	-4.5	-4.8	-0.3	-3.0	8.3	-2.7	0.2	1.9	3.2	9.1	5.1	3.3	8,044	139	207	56.7
Q2 2009	-0.7	-1.4	2.7	4.3	9.3	2.1	0.2	2.3	3.7	8.1	5.0	3.3	9,343	139	170	42.3
Q3 2009	1.4	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	165	31.3
Q4 2009	4.4	5.7	0.6	3.7	9.9	3.2	0.1	2.3	3.7	5.8	4.9	3.3	11,385	141	154	30.7
Q1 2010	2.0	3.1	2.4	4.0	9.8	0.6	0.1	2.4	3.9	5.6	5.0	3.3	12,033	139	159	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	140	171	45.8
Q3 2010	3.1	4.4	2.2	3.0	9.5	1.2	0.2	1.6	2.9	4.8	4.4	3.3	11,814	137	170	32.9
Q4 2010	2.1	4.5	1.5	4.2	9.5	3.3	0.1	1.5	3.0	4.7	4.4	3.3	13,132	136	172	23.5
Q1 2011	-0.9	1.1	4.1	7.6	9.0	4.3	0.1	2.1	3.5	5.0	4.8	3.3	13,909	133	178	29.4
Q2 2011	2.7	5.5	-0.8	3.2	9.1	4.6	0.0	1.8	3.3	4.8	4.7	3.3	13,844	134	175	22.7
Q3 2011	-0.1	2.3	2.1	4.1	9.0	2.6	0.0	1.1	2.5	4.5	4.3	3.3	11,677	134	172	48.0
Q4 2011	4.6	5.1	0.9	2.2	8.6	1.8	0.0	1.0	2.1	4.8	4.0	3.3	13,019	134	183	45.5
Q1 2012	3.4	5.8	6.3	9.1	8.3	2.3	0.1	0.9	2.1	4.4	3.9	3.3	14,628	135	183	23.0
Q2 2012	1.8	3.5	2.7	3.7	8.2	0.8	0.1	0.8	1.8	4.3	3.8	3.3	14,100	139	182	26.7
Q3 2012	0.6	2.8	-3.1	-2.0	8.0	1.8	0.1	0.7	1.6	3.9	3.6	3.3	14,895	142	185	20.5
Q4 2012	0.5	2.5	11.6	14.1	7.8	2.7	0.1	0.7	1.7	3.6	3.4	3.3	14,835	145	188	22.7
Q1 2013	4.0	5.7	-14.9	-13.7	7.7	1.6	0.1	0.8	1.9	3.7	3.5	3.3	16,396	149	190	19.0
Q2 2013	1.1	1.9	3.1	3.3	7.5	-0.4	0.1	0.9	2.0	3.8	3.7	3.3	16,771	152	201	20.5
Q3 2013	3.4	5.5	1.4	3.1	7.2	2.2	0.0	1.5	2.7	4.7	4.4	3.3	17,718	156	213	17.0
Q4 2013	3.5	5.7	0.6	2.0	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	0.1	4.7	6.7	6.7	2.5	0.0	1.6	2.8	4.4	4.4	3.3	19,711	161	209	21.4
Q2 2014	5.3	7.7	5.1	7.0	6.2	2.1	0.0	1.7	2.7	4.0	4.2	3.3	20,569	162	219	17.0
Q3 2014	5.0	6.7	3.8	5.0	6.1	1.0	0.0	1.7	2.5	3.9	4.1	3.3	20,459	165	223	17.0
Q4 2014	2.0	2.4	5.8	5.3	5.7	-1.0	0.0	1.6	2.3	4.0	4.0	3.3	21,425	167	230	26.3
Q1 2015	3.7	3.4	5.6	3.7	5.5	-2.6	0.0	1.5	2.0	3.9	3.7	3.3	21,708	169	241	22.4
Q2 2015	2.5	4.9	1.2	3.2	5.4	2.8	0.0	1.5	2.2	3.9	3.8	3.3	21,631	171	246	18.9
Q3 2015	1.6	2.7	2.2	3.3	5.1	1.5	0.0	1.6	2.3	4.3	4.0	3.3	19,959	174	246	40.7
Q4 2015	0.7	0.7	2.3	2.0	5.0	0.0	0.1	1.6	2.2	4.4	3.9	3.3	21,101	176	244	24.4
Q1 2016	2.3	2.0	3.3	3.5	4.9	-0.2	0.3	1.4	2.0	4.5	3.7	3.5	21,179	178	239	28.1
Q2 2016	1.3	4.1	-0.8	1.7	4.9	3.2	0.3	1.3	1.8	3.9	3.6	3.5	21,622	180	248	25.8
Q3 2016	2.9	3.9	2.3	3.7	4.9	1.7	0.3	1.2	1.6	3.5	3.4	3.5	22,469	183	256	18.1
Q4 2016	2.2	4.2	2.6	4.5	4.8	2.6	0.4	1.7	2.2	3.9	3.8	3.5	23,277	186	257	22.5
Q1 2017	2.0	4.1	4.2	6.7	4.6	2.8	0.6	2.0	2.5	4.0	4.2	3.8	24,508	188	252	13.1
Q2 2017	2.3	3.3	4.4	5.3	4.4	0.5	0.9	1.8	2.3	3.8	4.0	4.0	25,125	191	272	16.0

(continued)

Table 2.A—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	3.2	5.3	2.8	4.3	4.3	1.9	1.0	1.8	2.3	3.7	3.9	4.3	26,149	194	267	16.0
Q4 2017	4.6	7.2	2.5	5.0	4.2	3.2	1.2	2.1	2.4	3.7	3.9	4.3	27,673	197	271	13.1
Q1 2018	3.3	5.9	4.3	7.2	4.0	3.4	1.6	2.5	2.8	4.1	4.3	4.5	27,383	200	274	37.3
Q2 2018	2.1	5.1	3.6	5.8	3.9	2.2	1.8	2.8	2.9	4.5	4.5	4.8	28,314	202	275	23.6
Q3 2018	2.5	4.3	4.3	5.7	3.8	1.6	2.0	2.8	2.9	4.5	4.6	5.0	30,190	204	275	16.1
Q4 2018	0.6	2.3	3.9	5.5	3.8	1.6	2.3	2.9	3.0	4.8	4.8	5.3	25,725	206	272	36.1
Q1 2019	2.2	3.6	4.7	5.6	3.9	1.1	2.4	2.5	2.7	4.5	4.4	5.5	29,194	207	284	25.5
Q2 2019	3.4	5.4	-0.3	1.8	3.6	2.9	2.3	2.1	2.4	4.0	4.0	5.5	30,244	209	297	20.6
Q3 2019	4.6	5.9	2.8	3.8	3.6	1.4	2.0	1.7	1.8	3.4	3.7	5.3	30,442	212	294	24.6
Q4 2019	2.6	3.9	2.3	3.9	3.6	2.8	1.6	1.6	1.8	3.3	3.7	4.8	33,035	215	291	20.6
Q1 2020	-5.3	-3.5	2.4	3.7	3.8	1.4	1.1	1.2	1.4	3.4	3.5	4.4	25,985	218	296	82.7
Q2 2020	-28.0	-29.2	45.7	43.2	13.0	-3.8	0.1	0.4	0.7	3.4	3.2	3.3	31,577	220	289	57.1
Q3 2020	34.8	39.7	-13.3	-10.4	8.8	4.6	0.1	0.3	0.6	2.4	3.0	3.3	34,306	227	295	33.6
Q4 2020	4.2	7.1	-7.7	-5.8	6.7	2.8	0.1	0.4	0.9	2.3	2.8	3.3	39,220	236	305	40.3
Q1 2021	5.2	10.9	56.0	63.5	6.2	4.2	0.1	0.6	1.4	2.4	2.9	3.3	41,603	243	309	37.2
Q2 2021	6.2	12.8	-27.6	-23.1	5.9	7.5	0.0	0.8	1.6	2.6	3.0	3.3	44,904	255	317	27.6
Q3 2021	3.3	9.5	-5.2	0.1	5.1	6.6	0.0	0.8	1.4	2.4	2.9	3.3	44,706	266	341	25.7
Q4 2021	7.0	14.6	-5.6	0.7	4.2	8.8	0.1	1.2	1.6	2.7	3.1	3.3	48,634	276	354	31.1
Q1 2022	-2.0	6.2	-9.8	-2.9	3.8	9.2	0.3	1.9	2.0	3.5	3.8	3.3	45,847	290	346	36.5
Q2 2022	-0.6	8.5	-1.4	5.7	3.6	9.7	1.1	3.0	3.0	4.9	5.3	3.9	37,977	298	345	34.8
Q3 2022	2.7	7.2	3.6	8.5	3.5	5.5	2.7	3.3	3.2	5.3	5.6	5.4	36,098	296	351	32.6
Q4 2022	2.6	6.5	2.2	6.4	3.6	4.2	4.0	4.1	3.9	6.1	6.7	6.8	38,521	296	350	33.6
Q1 2023	2.2	6.3	10.8	15.5	3.5	3.8	4.6	3.8	3.7	5.6	6.4	7.7	41,137	299	347	26.5
Q2 2023	2.1	3.8	3.3	5.8	3.6	2.7	5.1	3.7	3.7	5.7	6.5	8.2	44,412	303	354	20.1
Q3 2023	4.9	8.3	0.3	2.9	3.7	3.6	5.3	4.3	4.2	6.0	7.0	8.4	42,789	309	349	18.9
Q4 2023	1.5	3.6	2.2	4.4	3.7	2.8	5.3	4.5	4.5	6.2	7.3	8.5	47,788	311	349	21.7

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. Historical Data: International variables, Q1:2000–Q4:2023

Percent, unless otherwise indicated

Date	Euro area real GDP growth	Euro area inflation	Euro area bilateral dollar exchange rate (USD/euro)	Developing Asia real GDP growth	Developing Asia inflation	Developing Asia bilateral dollar exchange rate (F/USD, index) 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	5.0	2.6	0.957	7.3	1.5	100.0	7.0	-0.5	102.7	5.0	0.3	1.592
Q2 2000	3.6	0.9	0.955	6.9	-0.3	100.7	1.9	-1.1	106.1	3.0	0.5	1.513
Q3 2000	2.5	3.4	0.884	7.8	2.2	101.4	0.1	-0.4	107.9	2.6	1.0	1.479
Q4 2000	2.6	2.8	0.939	3.6	2.5	105.2	3.9	-1.0	114.4	2.6	1.9	1.496
Q1 2001	3.9	1.2	0.879	4.8	1.7	106.1	3.0	0.8	125.5	3.6	-0.1	1.419
Q2 2001	0.5	4.0	0.847	5.3	2.1	106.2	-3.0	-2.2	124.7	1.8	3.2	1.408
Q3 2001	0.6	1.5	0.910	4.9	1.3	106.5	-4.3	-0.6	119.2	2.1	1.0	1.469
Q4 2001	0.1	1.7	0.890	8.4	0.0	106.9	-1.4	-1.8	131.0	1.3	-0.1	1.454
Q1 2002	0.6	3.1	0.872	7.8	0.5	107.4	0.7	-1.2	132.7	1.0	2.0	1.425
Q2 2002	2.2	2.0	0.986	8.1	1.1	104.8	3.2	0.3	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	1.3	1.570
Q4 2002	0.7	2.3	1.049	6.7	0.7	104.5	1.1	-0.8	118.8	3.1	1.9	1.610
Q1 2003	-1.2	3.3	1.090	6.6	3.6	105.5	0.3	0.0	118.1	2.9	1.7	1.579
Q2 2003	0.4	0.5	1.150	1.9	1.1	104.0	2.8	0.3	119.9	3.8	0.2	1.653
Q3 2003	2.4	2.1	1.165	14.6	0.1	102.6	1.2	-0.7	111.4	3.6	1.7	1.662
Q4 2003	2.8	2.3	1.260	12.8	5.5	103.4	4.4	-0.7	107.1	3.2	1.7	1.784
Q1 2004	2.0	2.2	1.229	5.8	4.0	101.4	3.0	0.6	104.2	1.5	1.4	1.840
Q2 2004	2.5	2.6	1.218	7.1	4.1	102.8	0.1	-0.3	109.4	2.4	0.8	1.813
Q3 2004	1.0	2.0	1.242	8.3	4.1	102.7	2.5	-0.1	110.2	1.6	1.1	1.809
Q4 2004	1.5	2.4	1.354	6.3	0.8	98.9	-0.8	2.0	102.7	2.1	2.4	1.916
Q1 2005	0.8	1.4	1.297	10.6	2.9	98.5	2.1	-1.2	107.2	3.0	2.6	1.889
Q2 2005	2.5	2.2	1.210	8.7	1.5	98.9	3.2	-0.8	110.9	3.4	1.8	1.793
Q3 2005	3.2	3.1	1.206	9.4	2.4	98.5	4.1	-1.3	113.3	3.2	2.8	1.770
Q4 2005	2.5	2.5	1.184	11.6	1.6	98.1	0.7	0.4	117.9	3.8	1.4	1.719
Q1 2006	3.4	1.7	1.214	10.8	2.4	96.7	0.6	1.3	117.5	2.1	1.9	1.739
Q2 2006	4.6	2.5	1.278	7.2	3.2	96.6	0.6	0.1	114.5	1.6	3.0	1.849
Q3 2006	2.5	2.0	1.269	10.2	2.2	96.3	-0.8	0.6	118.0	1.1	3.3	1.872
Q4 2006	4.7	0.9	1.320	11.4	3.6	94.5	5.6	-0.6	119.0	2.1	2.6	1.959
Q1 2007	2.4	2.3	1.337	13.8	3.6	93.9	2.6	-0.7	117.6	3.8	2.5	1.969
Q2 2007	2.9	2.3	1.352	10.5	4.9	91.8	0.2	0.4	123.4	3.0	1.8	2.006
Q3 2007	1.8	2.1	1.422	8.6	7.6	90.5	-2.2	0.3	115.0	2.7	0.3	2.039
Q4 2007	2.1	4.9	1.460	13.1	5.9	89.4	1.8	2.0	111.7	2.4	4.0	1.984
Q1 2008	2.1	4.2	1.581	7.0	8.1	88.0	1.4	1.4	99.9	2.0	3.4	1.986
Q2 2008	-1.4	3.2	1.575	6.0	6.3	88.7	-2.3	1.7	106.2	-1.9	5.8	1.991
Q3 2008	-2.0	3.2	1.408	2.9	3.0	91.6	-4.8	3.8	105.9	-6.0	5.9	1.780
Q4 2008	-7.1	-1.4	1.392	0.6	-1.1	92.3	-9.5	-2.4	90.8	-8.2	0.4	1.462
Q1 2009	-11.9	-1.0	1.326	4.2	-1.4	94.3	-18.0	-3.4	99.2	-7.9	-0.2	1.430

(continued)

Table 2.B—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)
Q2 2009	-0.2	0.0	1.402	15.0	2.3	92.3	8.1	-1.7	96.4	-1.3	2.3	1.645
Q3 2009	1.6	1.1	1.463	12.6	4.1	91.3	-0.1	-1.5	89.5	0.2	3.6	1.600
Q4 2009	1.9	1.6	1.433	9.7	5.0	90.7	5.0	-1.4	93.1	1.2	2.8	1.617
Q1 2010	1.5	1.8	1.353	9.6	4.4	89.8	4.2	1.0	93.4	3.8	4.2	1.519
Q2 2010	3.9	1.9	1.229	9.5	3.4	91.1	5.0	-1.4	88.5	4.4	3.3	1.495
Q3 2010	1.8	1.6	1.360	8.8	4.2	88.4	7.4	-2.0	83.5	2.2	2.2	1.573
Q4 2010	2.4	2.6	1.327	9.6	7.5	87.4	-3.2	1.3	81.7	0.4	3.9	1.539
Q1 2011	3.5	3.7	1.418	9.6	6.2	86.5	-4.2	-0.1	82.8	1.0	7.0	1.605
Q2 2011	0.0	3.1	1.452	6.8	5.4	85.3	-3.4	-0.8	80.6	0.5	4.6	1.607
Q3 2011	0.5	1.3	1.345	5.6	5.3	87.4	10.1	0.4	77.0	1.2	3.5	1.562
Q4 2011	-1.6	3.5	1.297	6.5	3.0	87.3	-0.5	-0.6	77.0	0.6	3.4	1.554
Q1 2012	-1.0	2.9	1.333	7.6	3.2	86.3	5.6	2.3	82.4	3.5	2.3	1.599
Q2 2012	-0.9	2.2	1.267	5.8	3.9	88.1	-3.6	-1.4	79.8	-0.5	1.9	1.569
Q3 2012	-0.4	1.5	1.286	6.6	2.2	86.3	-1.5	-2.0	77.9	3.9	2.1	1.613
Q4 2012	-1.8	2.5	1.319	7.2	3.5	86.0	-0.2	0.1	86.6	-0.4	4.2	1.626
Q1 2013	-1.4	1.3	1.282	6.7	4.5	86.3	5.6	0.6	94.2	1.1	3.0	1.519
Q2 2013	2.2	0.2	1.301	6.2	2.8	87.2	3.7	0.0	99.2	2.9	1.5	1.521
Q3 2013	1.2	1.1	1.354	7.7	3.7	86.6	3.9	2.7	98.3	3.4	2.1	1.618
Q4 2013	1.2	0.5	1.378	6.8	3.8	85.8	-0.4	2.4	105.3	2.8	1.7	1.657
Q1 2014	1.6	0.9	1.378	6.1	1.4	86.9	3.2	1.1	103.0	3.3	1.8	1.668
Q2 2014	0.9	-0.4	1.369	7.4	2.6	86.7	-7.0	8.2	101.3	3.6	1.4	1.711
Q3 2014	1.9	0.1	1.263	6.6	2.5	87.0	0.4	1.9	109.7	3.0	0.8	1.622
Q4 2014	1.4	0.0	1.210	5.8	0.9	88.1	1.9	-0.8	119.9	2.9	-0.3	1.558
Q1 2015	2.6	-0.8	1.074	6.3	0.9	88.1	6.2	0.1	120.0	1.2	-1.3	1.485
Q2 2015	1.9	2.4	1.115	6.9	2.8	88.5	0.6	1.2	122.1	2.4	0.8	1.573
Q3 2015	1.6	-0.2	1.116	6.5	2.8	91.1	0.4	0.1	119.8	1.6	0.7	1.512
Q4 2015	1.8	-0.4	1.086	5.7	1.1	92.3	-0.7	-0.8	120.3	2.3	0.0	1.475
Q1 2016	2.4	-1.4	1.139	6.9	3.1	91.8	2.9	-0.5	112.4	1.5	0.0	1.438
Q2 2016	0.9	1.5	1.103	7.0	2.9	94.2	-0.5	0.0	102.8	2.3	0.7	1.324
Q3 2016	1.9	1.3	1.124	6.6	1.2	93.7	0.8	-0.4	101.2	1.5	2.0	1.302
Q4 2016	3.2	1.7	1.055	5.8	1.7	97.6	0.6	2.2	116.8	2.6	2.1	1.234
Q1 2017	2.8	2.6	1.070	6.2	1.3	95.2	3.2	-0.7	111.4	3.4	3.8	1.254
Q2 2017	3.2	0.5	1.141	6.7	2.2	94.7	1.6	0.7	112.4	2.6	3.1	1.300
Q3 2017	3.0	1.1	1.181	5.8	2.3	93.7	3.3	0.4	112.6	2.6	2.2	1.340
Q4 2017	3.2	1.6	1.202	6.0	2.5	91.1	0.5	1.8	112.7	2.9	3.0	1.353
Q1 2018	0.0	1.8	1.232	8.4	2.5	89.1	0.3	1.9	106.2	0.2	2.5	1.403
Q2 2018	2.3	2.3	1.168	6.4	1.8	93.5	1.4	-1.1	110.7	0.7	1.9	1.320
Q3 2018	-0.1	2.8	1.162	2.9	3.0	97.2	-2.2	1.9	113.5	1.3	2.6	1.305

(continued)

Table 2.B—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)
Q4 2018	2.7	0.9	1.146	5.3	1.2	96.3	-0.5	0.7	109.7	0.5	2.1	1.276
Q1 2019	2.5	-0.4	1.123	8.2	1.1	94.5	0.9	-0.4	110.7	2.9	1.0	1.303
Q2 2019	1.4	2.3	1.137	6.4	4.9	96.4	1.5	1.1	107.8	1.3	2.5	1.270
Q3 2019	0.7	1.1	1.091	0.6	3.5	99.8	0.6	0.0	108.1	2.9	1.8	1.231
Q4 2019	0.2	1.1	1.123	3.9	6.7	98.0	-10.6	1.5	108.7	-0.1	0.4	1.327
Q1 2020	-12.9	-0.3	1.102	-23.5	3.8	101.7	2.1	0.0	107.5	-10.4	2.2	1.245
Q2 2020	-38.0	-1.1	1.124	35.8	-2.1	97.5	-27.6	-0.9	107.8	-59.7	-2.0	1.237
Q3 2020	57.5	0.2	1.172	20.5	2.0	95.7	24.0	-0.5	105.6	86.0	1.9	1.292
Q4 2020	-0.1	0.1	1.223	12.8	0.2	92.9	7.6	-2.2	103.2	5.5	0.1	1.366
Q1 2021	1.9	4.9	1.174	5.6	3.2	93.6	1.1	1.6	110.6	-4.0	2.7	1.380
Q2 2021	8.6	2.2	1.185	5.6	1.9	91.6	1.5	-1.7	111.1	32.7	3.3	1.381
Q3 2021	8.6	4.3	1.158	0.7	0.9	92.9	-1.7	1.8	111.5	7.0	5.0	1.347
Q4 2021	2.0	7.2	1.132	7.2	3.6	92.4	4.6	0.4	115.2	6.2	8.6	1.350
Q1 2022	2.7	10.9	1.109	4.2	2.0	92.9	-2.4	3.1	121.4	2.1	8.1	1.315
Q2 2022	3.3	9.9	1.047	-1.1	6.1	98.3	4.4	4.3	135.7	0.3	14.9	1.216
Q3 2022	1.8	9.3	0.978	6.7	2.2	103.9	-0.4	3.7	144.7	-0.3	8.6	1.113
Q4 2022	-0.4	9.7	1.070	1.9	0.7	101.5	1.0	4.5	131.8	0.4	11.4	1.208
Q1 2023	0.4	3.2	1.087	9.3	0.3	100.9	5.0	2.1	132.8	1.0	6.0	1.237
Q2 2023	0.5	2.8	1.092	6.6	1.0	104.7	3.6	3.2	144.5	0.2	7.6	1.271
Q3 2023	-0.5	4.4	1.058	2.5	2.8	106.7	-2.9	2.8	149.4	-0.5	2.0	1.221
Q4 2023	0.0	0.6	1.106	4.6	2.0	104.4	-0.8	2.6	140.9	1.1	3.3	1.274

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 baseline scenario: Domestic variables, Q1:2024–Q1:2027

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 2024	1.0	3.2	2.5	4.6	3.9	2.4	5.3	4.2	4.1	5.8	6.5	8.4	47,788	312	350	24.6
Q2 2024	0.7	2.9	1.8	4.0	4.1	2.3	5.0	4.0	4.0	5.7	6.1	8.1	47,788	313	352	26.0
Q3 2024	0.9	3.1	1.8	4.0	4.2	2.4	4.6	3.9	3.9	5.7	5.8	7.7	47,788	314	353	26.8
Q4 2024	1.5	3.6	2.0	4.1	4.3	2.3	4.2	3.8	3.8	5.6	5.6	7.3	47,788	315	354	27.2
Q1 2025	1.8	4.1	2.4	4.5	4.3	2.2	3.9	3.6	3.7	5.5	5.4	7.0	47,788	316	356	27.5
Q2 2025	2.0	4.2	2.3	4.3	4.2	2.2	3.6	3.6	3.7	5.5	5.3	6.7	47,788	318	357	27.7
Q3 2025	2.1	4.3	2.2	4.3	4.2	2.3	3.4	3.5	3.6	5.5	5.3	6.4	47,788	319	358	27.9
Q4 2025	2.1	4.3	2.2	4.2	4.1	2.3	3.2	3.4	3.6	5.5	5.2	6.3	47,788	320	360	28.0
Q1 2026	2.1	4.3	2.2	4.3	4.1	2.2	3.2	3.3	3.6	5.5	5.2	6.2	47,788	321	361	28.1
Q2 2026	2.0	3.9	2.0	4.2	4.1	2.2	3.2	3.3	3.6	5.5	5.2	6.2	47,788	322	362	28.2
Q3 2026	2.0	3.9	1.9	4.1	4.1	2.2	3.2	3.2	3.6	5.5	5.2	6.2	47,788	323	364	28.2
Q4 2026	1.9	3.9	1.9	4.1	4.1	2.2	3.2	3.2	3.6	5.5	5.1	6.2	47,788	325	365	28.3
Q1 2027	1.9	3.9	2.0	4.1	4.1	2.2	3.1	3.1	3.6	5.5	5.1	6.2	47,788	326	366	28.3

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 3.B. Supervisory baseline scenario: International variables, Q1:2024–Q1:2027**

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 2024	0.4	2.3	1.106	4.7	2.0	104.4	0.7	2.4	140.9	0.2	2.7	1.274
Q2 2024	0.8	2.2	1.106	4.7	2.0	104.4	1.8	2.2	140.9	-0.4	2.4	1.274
Q3 2024	1.0	2.1	1.106	4.7	2.1	104.4	2.2	2.0	140.9	-0.5	2.2	1.274
Q4 2024	1.2	1.9	1.106	4.6	2.2	104.4	1.8	1.8	140.9	0.1	2.1	1.274
Q1 2025	1.5	1.8	1.106	4.5	2.3	104.4	0.9	1.6	140.9	1.3	2.0	1.274
Q2 2025	1.7	1.6	1.106	4.3	2.4	104.4	0.3	1.4	140.9	2.0	1.9	1.274
Q3 2025	1.7	1.5	1.106	4.3	2.5	104.4	0.1	1.3	140.9	2.2	1.8	1.274
Q4 2025	1.5	1.4	1.106	4.3	2.4	104.4	0.2	1.3	140.9	2.0	1.7	1.274
Q1 2026	1.2	1.3	1.106	4.3	2.4	104.4	0.4	1.3	140.9	1.6	1.6	1.274
Q2 2026	1.0	1.3	1.106	4.3	2.3	104.4	0.5	1.4	140.9	1.4	1.6	1.274
Q3 2026	1.0	1.3	1.106	4.3	2.2	104.4	0.6	1.4	140.9	1.3	1.6	1.274
Q4 2026	1.0	1.3	1.106	4.2	2.2	104.4	0.5	1.4	140.9	1.3	1.6	1.274
Q1 2027	1.1	1.3	1.106	4.1	2.3	104.4	0.3	1.4	140.9	1.4	1.6	1.274

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 4.A. Supervisory severely adverse scenario: Domestic variables, Q1:2024–Q1:2027

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 2024	-11.6	-9.9	-7.8	-6.0	5.6	2.3	2.1	0.4	1.1	5.8	4.0	5.1	26,131	261	339	65.0
Q2 2024	-6.7	-5.7	-4.0	-2.8	6.8	1.5	0.2	0.3	0.8	6.3	3.7	3.2	22,762	241	328	70.0
Q3 2024	-8.0	-7.1	-4.2	-3.2	8.1	1.3	0.1	0.4	0.8	6.5	3.8	3.1	21,799	225	314	61.4
Q4 2024	-5.9	-5.1	-2.9	-1.8	9.2	1.3	0.1	0.5	0.8	6.6	3.8	3.1	21,318	214	293	54.5
Q1 2025	-1.8	-0.7	-0.1	1.1	9.7	1.4	0.1	0.5	0.9	6.4	3.8	3.1	22,281	207	269	49.1
Q2 2025	0.6	1.9	1.2	2.4	9.9	1.4	0.1	0.6	1.0	6.1	3.7	3.1	23,724	202	248	44.8
Q3 2025	0.9	2.1	1.7	2.9	10.0	1.4	0.1	0.7	1.1	5.8	3.5	3.1	25,649	199	228	41.5
Q4 2025	6.5	7.6	5.3	6.6	9.5	1.5	0.1	0.7	1.2	5.5	3.4	3.1	28,056	204	209	38.8
Q1 2026	6.1	7.5	5.6	7.1	9.0	1.5	0.1	0.8	1.3	5.1	3.3	3.1	30,943	210	211	36.6
Q2 2026	5.7	6.6	5.3	6.9	8.5	1.5	0.1	0.9	1.3	4.8	3.2	3.1	33,831	216	213	34.9
Q3 2026	5.4	6.5	5.0	6.6	8.1	1.6	0.1	1.0	1.4	4.5	3.1	3.1	38,162	221	215	33.6
Q4 2026	5.1	6.3	4.8	6.4	7.8	1.6	0.1	1.1	1.5	4.1	3.1	3.1	42,975	227	217	32.5
Q1 2027	4.8	6.2	4.5	6.1	7.4	1.6	0.1	1.2	1.5	3.8	3.1	3.1	47,788	232	219	31.7

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 4.B. Supervisory severely adverse scenario: International variables, Q1:2024–Q1:2027**

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 2024	-4.7	1.5	1.092	-2.4	-0.1	105.8	-9.2	0.9	139.1	-3.8	2.0	1.257
Q2 2024	-4.1	0.7	1.077	-1.6	-1.8	107.3	-6.8	-0.1	138.6	-4.2	1.2	1.241
Q3 2024	-3.2	0.8	1.042	-0.2	-1.4	110.9	-5.0	-0.8	138.4	-3.4	1.1	1.200
Q4 2024	-3.0	0.3	1.014	0.1	-2.1	113.9	-4.6	-1.6	138.1	-3.2	0.7	1.169
Q1 2025	-2.8	-0.3	1.008	1.3	-2.7	114.6	-4.1	-1.9	137.8	-3.0	0.2	1.161
Q2 2025	-2.6	-0.7	1.001	1.9	-2.8	115.4	-3.7	-2.1	137.7	-2.8	-0.2	1.153
Q3 2025	1.0	-0.5	1.004	4.3	-1.9	115.0	1.0	-1.5	137.8	1.0	0.0	1.157
Q4 2025	3.6	-0.4	1.008	5.6	-1.3	114.6	4.5	-0.9	137.9	3.5	0.2	1.161
Q1 2026	4.5	-0.1	1.021	6.0	-0.7	113.1	5.5	-0.1	138.1	4.4	0.5	1.176
Q2 2026	5.4	0.1	1.049	6.3	-0.4	110.1	6.5	0.7	138.2	5.3	0.7	1.208
Q3 2026	6.3	0.5	1.063	6.7	0.6	108.7	7.0	1.3	138.4	6.2	1.2	1.224
Q4 2026	7.2	1.0	1.077	6.9	1.4	107.3	7.5	1.8	138.5	7.0	1.7	1.241
Q1 2027	8.1	1.6	1.092	6.8	2.3	105.8	8.5	2.4	138.7	7.9	2.2	1.257

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 2023:Q4 (as released through January 12, 2024). The 2023:Q4 values of variables marked with an asterisk (*) are estimates.

***U.S. real GDP growth:** Quarterly percent change in real gross domestic product (chained 2017 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/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").

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 L.P.

***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 real 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 real 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.



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