

Dodd-Frank Act Stress Test (DFAST) Baseline and Severely Adverse Scenarios

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Brief Description of the Scenarios

In the *baseline scenario* for the United States, real gross domestic product (GDP) growth increases from 1.5 percent at the end of 2023 to 1.9 percent by the end of the scenario. The unemployment rate increases from 3.7 percent at the end of 2023 to 4.1 percent at the end of the scenario. Consumer price index (CPI) inflation 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. 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 scenario for international economic activity features steady growth in developing Asia with a pickup in growth in the euro area, United Kingdom, and Japan in 2024 and early 2025 before growth slows in all regions through the end of the scenario. Inflation rates in the euro area and developing Asia pick up in the early part of the scenario before gradually declining through the end of the scenario, while inflation in the United Kingdom and Japan gradually declines from initial levels over the course of the scenario.

The *severely adverse scenario* is characterized by a severe global recession accompanied by a period of heightened stress in both commercial and residential real estate markets, as well as 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 the currencies of all of these countries and country blocs, except for the Japanese yen.

It is important to recognize that these scenarios are not forecasts. Rather, they are designed to assess the strength and resilience of covered institutions in varying economic environments.

Introduction

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (DFA),¹ as implemented in the stress testing rule issued by the Office of the Comptroller of the Currency (OCC), requires certain national banks and federal savings associations to conduct periodic stress tests using scenarios provided by the OCC.² This note provides a narrative on the two scenarios to be used for the 2024 stress test. The OCC developed these scenarios in coordination with the Board of Governors of the Federal Reserve System and the Federal Deposit Insurance Corporation.³

Supervisory Scenarios

Scenario timing and variables: 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 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 GDP, real and nominal disposable personal income, the 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; and,
- **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.

¹ Public Law 111-203, 124 Stat. 1376 (2010), codified at 12 USC 5365, as amended by the Economic Growth, Regulatory Relief, and Consumer Protection Act, Pub. L. 115-174, 132 Stat. 1296-1368 (2018).

² 12 CFR 46. See also 77 Fed. Reg. 195 (Oct. 9, 2012); 84 Fed. Reg. 54472 (Oct. 10, 2019).

³ See 78 Fed. Reg. 64153 (October 28, 2013) (Policy Statement on the Principles for Development and Distribution of Annual Stress Test Scenarios).

Baseline and Severely Adverse Scenarios

The following sections describe the baseline and severely adverse scenarios. The specific values for all variables included in the scenarios are provided as an Excel spreadsheet on the [OCC's website](#). Further, this document provides a qualitative summary of the global market shock component that certain banks with significant trading activity are required to apply to their trading and counterparty positions as of October 13, 2023.

Baseline Scenario

The baseline outlook for U.S. real activity, inflation, and interest rates is similar to the October 2023 and January 2024 consensus projections from *Blue Chip Economic Indicators* and *Blue Chip Financial Forecasts*.⁴ This scenario does not represent a forecast of the OCC.

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 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*.⁵ 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 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

⁴ The near-term forecast is similar to the January 2024 release, while the long-range forecast is similar to the October 2023 release. See Wolters Kluwer Legal and Regulatory Solutions, *Blue Chip Economic Indicators* and *Blue Chip Financial Forecasts*.

⁵ See International Monetary Fund, [World Economic Outlook, October 2023: Navigating Global Divergences \(imf.org\)](#). The January 2024 update to the World Economic Outlook was released after the finalization of the scenarios.

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 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 OCC.

Under the severely adverse scenario the U.S. unemployment rate climbs to a peak of 10 percent in the third quarter of 2025, an increase of a 6.3 percentage points from 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 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 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 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. 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 reduction of 7 percentage points in the rate of growth. In Japan, the euro area, and the United Kingdom, GDP levels return to around their fourth-quarter 2023 levels by the end of the scenario. By contrast, in developing Asia, where output contracts less, the level of GDP surpasses its fourth-quarter 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 experienced 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 the 2023 Severely Adverse Scenario

The current severely adverse scenario features a slightly smaller increase in the unemployment rate in the United States compared with the 2023 severely adverse scenario.

The current severely adverse scenario features a significantly higher starting level of interest rates compared with 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, compared with their declines in the previous year's severely adverse scenario.

The potential for spillover effects in asset markets and sharp changes in investor sentiment is 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 limit 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 Severely Adverse Scenario

The OCC will provide to certain banks a global market shock component for the severely adverse scenario to be used in the current stress test.⁶ Under the DFA stress testing rules, large, complex institutions with significant trading activity must apply this component to their trading and counterparty exposures as of a specific date (October 13, 2023,⁷ for the current stress testing cycle) to project mark-to-market losses.⁸

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. The losses associated with the global market shock are recognized in the first quarter of the projection horizon. 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. These shocks do not represent a forecast of the OCC.

The design and specifications 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 the 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

⁶ The global market shock component consists of hypothetical shocks to a large set of risk factors that include a wide range of financial market variables that affect asset prices, such as credit spread or the yield on a bond, and also include, in some cases, shocks to the value of a position itself (for example, the market value of private equity positions). See 12 CFR 46.5(c).

⁷ A bank 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). Losses from the global market shock will be assumed to occur in the first quarter of the planning horizon.

⁸ Currently, four national banks are subject to global market shocks: Bank of America, N.A.; Citibank, N.A.; JPMorgan Chase Bank, N.A.; and Wells Fargo Bank, N.A.

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 markets and developing and emerging market economies along with selected points along term structures of implied volatilities;
- Foreign exchange rates of most major and some minor currencies, along with selected points along term structures of 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, and loans; non-agency residential mortgage-backed securities (RMBS) and commercial mortgage-backed securities (CMBS); sovereign debt; and municipal bonds.

Please note:

- The global market shock is a separate and additional component of the scenario applied only to the largest banks with complex trading portfolios.
- Changes to risk factors comprising the global market shock are assumed to occur instantaneously, while the macroeconomic scenario describes the evolution of variables over time.⁹

Global Market Shock – 2024 Severely Adverse Scenario

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

⁹ The global market shock is a component of the macroeconomic scenario but is not necessarily directionally consistent with the macroeconomic scenario.

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 for the Supervisory Severely Adverse Scenario

For DFAST 2024, the four banks that are completing the global market shock component must incorporate a counterparty default scenario component in the severely adverse scenario.¹⁰ The counterparty default scenario component involves the unexpected default of the bank's largest counterparty.¹¹

In connection with the counterparty default scenario component, these banks will be 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 severely adverse scenario.

¹⁰ These are the same national banks that are subject to the global market shocks, see footnote 8.

¹¹ In selecting its largest counterparty, a bank will not consider certain sovereign entities (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) or designated central clearing counterparties or the bank's own affiliates.

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—the same date as the global market shock component.¹²

¹² As with the global market shock component, a bank subject to the counterparty default scenario 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). Losses will be assumed to occur in the first quarter of the projection horizon.