

A faint, sepia-toned background image of the Great Seal of the United States is visible behind the title. It shows an eagle with wings spread, holding a shield on its chest, with the motto "E PLURIBUS UNUM" on a banner below it.

2017 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule

February 10, 2017



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Errata

The Federal Reserve revised this paper on February 10, 2017. The revisions reflect a correction to the historical values for the BBB corporate yield. This correction resulted in adjustments to the paths of the BBB corporate yield in the baseline, adverse, and severely adverse scenarios, which also affect the scenario text and tables. The notes on the sources for certain historical data were also revised. The revisions are listed below.

Revisions to the scenario text:

- On page 4, the original text said that spreads between investment-grade corporate bond yields and 10-year Treasury yields widen to a little above 4 percentage points. That spread has been revised to about $3\frac{3}{4}$ percentage points.
- On page 5, the original text said that the spread between yields on investment-grade corporate bonds and yields on long-term Treasury securities widen to about $5\frac{3}{4}$ percentage points. That spread has been revised to a spread of about $5\frac{1}{2}$ percentage points.

Revisions to the scenario tables:

On page 10, under Table 1.A. Historical data: Domestic variables, Q1:2000–Q4:2016, continued:

- BBB corporate yield, Q1 2016 has been revised from 5.1 to 4.6.
- BBB corporate yield, Q2 2016 has been revised from 4.3 to 4.1.
- BBB corporate yield, Q3 2016 has been revised from 4.4 to 3.7.
- BBB corporate yield, Q4 2016 has been revised from 4.5 to 4.1.

On page 13, under Table 2.A. Supervisory baseline scenario: Domestic variables, Q1:2017–Q1:2020:

- BBB corporate yield, Q1 2017 has been revised from 4.7 to 4.2.
- BBB corporate yield, Q2 2017 has been revised from 4.7 to 4.4.
- BBB corporate yield, Q3 2017 has been revised from 4.8 to 4.5.
- BBB corporate yield, Q4 2017 has been revised from 4.9 to 4.6.

- BBB corporate yield, Q1 2018 has been revised from 4.9 to 4.7.
- BBB corporate yield, Q2 2018 has been revised from 5.0 to 4.8.
- BBB corporate yield, Q3 2018 has been revised from 5.1 to 4.9.
- BBB corporate yield, Q4 2018 has been revised from 5.1 to 5.0.
- BBB corporate yield, Q1 2019 has been revised from 5.2 to 5.1.
- BBB corporate yield, Q2 2019 has been revised from 5.2 to 5.1.
- BBB corporate yield, Q3 2019 has been revised from 5.3 to 5.2.
- BBB corporate yield, Q4 2019 has been revised from 5.3 to 5.2.
- BBB corporate yield, Q1 2020 has been revised from 5.3 to 5.2.

On page 14, under Table 3.A. Supervisory adverse scenario: Domestic variables, Q1:2017–Q1:2020:

- BBB corporate yield, Q1 2017 has been revised from 6.1 to 5.6.
- BBB corporate yield, Q2 2017 has been revised from 6.4 to 5.9.
- BBB corporate yield, Q3 2017 has been revised from 6.5 to 6.1.
- BBB corporate yield, Q4 2017 has been revised from 6.6 to 6.2.
- BBB corporate yield, Q1 2018 has been revised from 6.4 to 6.0.
- BBB corporate yield, Q2 2018 has been revised from 6.3 to 5.8.
- BBB corporate yield, Q3 2018 has been revised from 6.1 to 5.6.
- BBB corporate yield, Q4 2018 has been revised from 5.9 to 5.4.
- BBB corporate yield, Q1 2019 has been revised from 5.6 to 5.2.
- BBB corporate yield, Q2 2019 has been revised from 5.4 to 5.0.
- BBB corporate yield, Q3 2019 has been revised from 5.3 to 4.8.

- BBB corporate yield, Q4 2019 has been revised from 5.1 to 4.7.
- BBB corporate yield, Q1 2020 has been revised from 5.0 to 4.5.

On page 15, under Table 4.A. Supervisory severely adverse scenario: Domestic variables, Q1:2017–Q1:2020:

- BBB corporate yield, Q1 2017 has been revised from 5.9 to 5.5.
- BBB corporate yield, Q2 2017 has been revised from 6.4 to 6.0.
- BBB corporate yield, Q3 2017 has been revised from 6.7 to 6.3.
- BBB corporate yield, Q4 2017 has been revised from 6.9 to 6.4.
- BBB corporate yield, Q1 2018 has been revised from 6.5 to 6.1.
- BBB corporate yield, Q2 2018 has been revised from 6.2 to 5.7.
- BBB corporate yield, Q3 2018 has been revised from 5.8 to 5.4.
- BBB corporate yield, Q4 2018 has been revised from 5.5 to 5.0.
- BBB corporate yield, Q1 2019 has been revised from 5.1 to 4.7.
- BBB corporate yield, Q2 2019 has been revised from 4.7 to 4.3.

- BBB corporate yield, Q3 2019 has been revised from 4.5 to 4.0.
- BBB corporate yield, Q4 2019 has been revised from 4.2 to 3.8.
- BBB corporate yield, Q1 2020 has been revised from 4.0 to 3.6.

Revisions to Notes Regarding Scenario Variables:

- On page 16, the note on U.S. real disposable income growth incorrectly referred to NIPA Table 1.2. It now refers to NIPA Table 2.1.
- On page 16, the note on U.S. nominal disposable income growth incorrectly referred to NIPA Table 1.2. It now refers to NIPA Table 2.1.
- On page 16, the note on U.S. mortgage rate omitted to reference additional staff calculations and other sources.
- On page 17, the note on Japan inflation omitted to reference additional staff calculations.
- On page 17, the note on U.K. inflation omitted to reference additional staff calculations.
- On page 17, the note on the exchange rates incorrectly characterized the transformation from daily to quarterly frequency. The exchange rates are end-of-quarter rates, not quarterly averages of daily rates. The same note incorrectly characterized the source of the exchange rates. The source is the H.10 Release, Foreign Exchange Rates, Federal Reserve Board, not Bloomberg.

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Introduction

The Dodd-Frank Wall Street Reform and Consumer Protection Act requires the Board of Governors of the Federal Reserve System (Board) to conduct an annual supervisory stress test of bank holding companies (BHCs) with \$50 billion or greater in total consolidated assets (large BHCs), and to require BHCs and state member banks with total consolidated assets of more than \$10 billion to conduct company-run stress tests at least once a year.¹ This publication describes the three supervisory scenarios—baseline, adverse, and severely adverse—that

¹ 12 U.S.C. 5365(i).

the Board will use in its supervisory stress test for this stress test cycle; that a BHC or state member bank must use in conducting its annual company-run stress test; and that a large BHC must use to estimate projected revenues, losses, reserves, and pro forma capital levels as part of its 2017 capital plan submission.² The publication also details additional components that certain BHCs will be required to incorporate into the supervisory scenarios—the global market shock component and the counterparty default component.

² See 12 CFR 252.14(b), 12 CFR 252.54(b), and 12 CFR 225.8.

Supervisory Scenarios

The adverse and severely adverse scenarios describe hypothetical sets of conditions designed to assess the strength of banking organizations and their resilience to adverse economic environments. The baseline scenario follows a profile similar to the average projections from a survey of economic forecasters. The scenarios are not forecasts of the Federal Reserve.³

The scenarios start in the first quarter of 2017 and extend through the first quarter of 2020. 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:** percent changes (at an annual rate) in real and nominal gross domestic product (GDP); the unemployment rate of the civilian non-institutional population aged 16 years and over; percent changes (at an annual rate) in real and nominal disposable personal income; and the percent change (at an annual rate) in the consumer price index (CPI);
- **Four aggregate measures of asset prices or financial conditions:** indexes of house prices, commercial real estate prices, equity prices, and U.S. stock market volatility; and
- **Six measures of interest rates:** the rate on the 3-month Treasury bill; the yield on the 5-year Treasury bond; the yield on the 10-year Treasury bond; the yield on a 10-year BBB corporate security; the interest rate associated with a conforming, conventional, 30-year fixed-rate mortgage; and the prime rate.

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

- **The three variables for each country or country block:** the percent change (at an annual rate) in real

GDP, the percent change (at an annual rate) in the CPI or local equivalent, and the level of the U.S. dollar exchange rate.

- **The four countries or country blocks included:** 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.

Baseline, Adverse, and Severely Adverse Scenarios

The following sections describe the baseline scenario, the adverse scenario, and the severely adverse scenario. The variables included in these scenarios are provided in tables at the end of this document. They can also be downloaded as a spreadsheet (together with the historical time series of the variables) from the Board's website, at www.federalreserve.gov/bankinfo/ccar-2017.htm#data. Historical data for the domestic and the international variables are reported in [Tables 1A](#) and [1B](#), respectively.

Baseline Scenario

The baseline outlook for U.S. real activity, inflation, and interest rates (see [Table 2A](#)) is similar to the January 2017 consensus projections from *Blue Chip Economic Indicators*.⁴ This scenario does not represent the forecast of the Federal Reserve.

The baseline scenario for the United States is a moderate economic expansion through the projection period. Real GDP grows on average about 2¼ percent per year, with a slightly faster pace of growth over the first half of the scenario period. The unemployment rate initially declines from around 4¾ percent at the start of the scenario period to slightly

³ For more on the Federal Reserve's framework for designing scenarios for stress testing, see 12 CFR 252, appendix A.

⁴ See Wolters Kluwer Legal and Regulatory Solutions (2017), "Blue Chip Economic Indicators," vol. 42, no. 1 (January 10).

under 4½ percent in the fourth quarter of 2018. It subsequently rises slightly above that level through the rest of the scenario period. CPI inflation moves to a little under 2½ percent at an annual rate by the end of 2018, before dropping back to about 2¼ percent and remaining near that level through the end of the scenario period.

Accompanying the moderate economic expansion, Treasury yields are assumed to rise steadily across the maturity spectrum through the scenario period. Short-term Treasury rates increase from ½ percent at the beginning of 2017 to about 2¼ percent by the beginning of 2019, while yields on 10-year Treasury securities rise from 2¼ percent to a little more than 3¼ percent over the same period. The prime rate increases in line with short-term Treasury rates and mortgage rates rise in line with long-term Treasury yields. Reflecting steady growth and stable economic conditions, spreads between yields on investment-grade corporate bonds and yields on long-term Treasury securities narrow modestly over the scenario period. Equity prices rise by an average of about 5 percent per year and equity market volatility is assumed to remain near its historical average level. Nominal house prices rise by an average of 2¾ percent per year and commercial real estate prices rise by an average of 4¼ percent per year.

The outlook for the international variables (see [Table 2B](#)) is similar to that reported in the January 2017 *Blue Chip Economic Indicators* and the International Monetary Fund's October 2016 *World Economic Outlook*.⁵ The baseline scenario features an expansion in international economic activity, albeit one that proceeds at different rates in the four countries or country blocks under consideration. Real GDP growth in developing Asia averages about 6 percent per year over the scenario period; real GDP growth in both the euro area and the United Kingdom averages about 1½ percent per year; and real GDP growth in Japan averages ¾ percent per year.

Adverse Scenario

The adverse scenario is characterized by weakening economic activity across all of the economies included in the scenario. This economic downturn is accompanied by a global aversion to long-term

fixed-income assets that, despite lower short rates, brings about a near-term rise in long-term rates and steepening yield curves in the United States and the four countries/country blocks in the scenario. It is important to note that this is a hypothetical scenario designed to assess the strength of banking organizations and their resilience to adverse economic conditions. This scenario does not represent a forecast of the Federal Reserve.

In the adverse scenario, the U.S. economy experiences a moderate recession that begins in the first quarter of 2017 (see [Table 3A](#)). Real GDP falls slightly more than 2 percent from the pre-recession peak in the fourth quarter of 2016 to the recession trough in the first quarter of 2018, while the unemployment rate rises steadily, peaking at about 7¼ percent in the third quarter of 2018. The U.S. recession is accompanied by an initial fall in inflation through the third quarter of 2017, with the rate of increase in consumer prices then rising steadily and reaching 2 percent by the middle of 2018.

Reflecting weak economic conditions, short-term interest rates in the United States fall and remain near zero for the rest of the scenario period. With the increase in term premiums, 10-year Treasury yields gradually rise to a little less than 2¾ percent by the second half of 2018. Financial conditions tighten for corporations and households during the recession. Spreads between investment-grade corporate bond yields and 10-year Treasury yields widen to about 3¾ percentage points by the end of 2017, while spreads between mortgage rates and 10-year Treasury yields widen to about 2½ percentage points over the same period.

Asset prices decline in the adverse scenario. Equity prices fall approximately 40 percent through the fourth quarter of 2017, accompanied by a rise in equity market volatility. Aggregate house prices and commercial real estate prices experience less sizable but more sustained declines compared to equity prices; house prices fall 12 percent through the first quarter of 2019 and commercial real estate prices fall 15 percent through the fourth quarter of 2018.

Following the recession in the United States, real activity picks up slowly at first and then gains momentum; growth in real U.S. GDP accelerates from an increase of 1 percent at an annual rate in the second quarter of 2018 to an increase of 3 percent at an annual rate by the middle of 2019. The unemployment rate declines modestly, from its peak of about

⁵ See International Monetary Fund (2016), "World Economic Outlook," www.imf.org/external/pubs/ft/weo/2016/02.

7¼ percent in the third quarter of 2018 to under 7 percent by the end of the scenario period. Consumer price inflation remains at roughly 2 percent from the middle of 2018 through the end of the scenario period. Ten-year Treasury yields show little change after the second half of 2018 and remain around 2¾ percent.

Outside of the United States, the adverse scenario features recessions in the euro area, the United Kingdom, and Japan, as well as below-trend growth in developing Asia (see [Table 3B](#)). The declines in activity in the euro area and the United Kingdom are broadly similar and less pronounced than in Japan. Weakness in global demand results in a slowing in inflation in all of the foreign economies under consideration. Japan experiences outright deflation through the first quarter of 2019. Reflecting flight-to-safety capital flows, the U.S. dollar appreciates against the euro, the pound sterling, and the currencies of developing Asia. The dollar depreciates modestly against the yen, also in line with flight-to-safety capital flows.

Comparison of 2016 Adverse Scenario and 2017 Adverse Scenario

The main difference relative to the 2016 adverse scenario is that this year's adverse scenario features higher long-term rates and a steeper yield curve across all of the economies during the recession. Another difference from last year's scenario is the incidence and extent of deflationary episodes. The 2016 adverse scenario featured wide-spread deflation across all of the economies included in the scenario. In this year's adverse scenario, deflation is regionally concentrated—more pronounced in Japan, less severe in the euro area and developing Asia, and absent in the United Kingdom and United States.

Additional Key Features of the Adverse Scenario

As in last year's adverse scenario, the slowdown in euro area economic activity reflects a broad-based contraction in euro area demand, not a contraction that is concentrated in a few specific economies. Similarly, the slowdown in developing Asia reflects a weakening in economic conditions across emerging market economies, not merely a weakening in Asia-specific conditions. Declines in aggregate U.S. residential real estate prices and commercial real estate prices should be assumed to be concentrated in regions that have experienced rapid price gains over

the past several years. Declines in prices of U.S. housing and commercial real estate should also be assumed to be representative of risks to house prices and commercial real estate prices in foreign regions and economies that have experienced rapid price gains over the past several years.

Severely Adverse Scenario

The severely adverse scenario is characterized by a severe global recession that is accompanied by a period of heightened stress in corporate loan markets and commercial real estate markets. It is important to note that this is a hypothetical scenario designed to assess the strength of banking organizations and their resilience to unfavorable economic conditions. This scenario does not represent a forecast of the Federal Reserve.⁶

In this scenario, the level of U.S. real GDP begins to decline in the first quarter of 2017 and reaches a trough in the second quarter of 2018 that is about 6½ percent below the pre-recession peak (see [Table 4A](#)). The unemployment rate increases by about 5¼ percentage points, to 10 percent, by the third quarter of 2018. Headline consumer price inflation falls to about 1¼ percent at an annual rate by the second quarter of 2017 and then rises to about 1¾ percent at an annual rate by the middle of 2018.

As a result of the severe decline in real activity, short-term Treasury rates fall and remain near zero through the end of the scenario period. The 10-year Treasury yield drops to ¾ percent in the first quarter of 2017, rising gradually thereafter to around 1½ percent by the first quarter of 2019 and to about 1¾ percent by the first quarter of 2020. Financial conditions in corporate and real estate lending markets are stressed severely. The spread between yields on investment-grade corporate bonds and yields on long-term Treasury securities widens to about 5½ percentage points by the end of 2017, an increase of 3½ percentage points relative to the fourth quarter of 2016. The spread between mortgage rates and 10-year Treasury yields widens to over 3½ percentage points over the same time period.

⁶ The set of hypothetical conditions in the severely adverse scenario is distinct from the set of hypothetical conditions in the adverse scenario, unless otherwise noted.

Asset prices drop sharply in this scenario. Equity prices fall by 50 percent through the end of 2017, accompanied by a surge in equity market volatility, which approaches the levels attained in 2008. House prices and commercial real estate prices also experience large declines, with house prices and commercial real estate prices falling by 25 percent and 35 percent, respectively, through the first quarter of 2019.

The international component of this scenario features severe recessions in the euro area, the United Kingdom, and Japan and a marked growth slowdown in developing Asia (see [Table 4B](#)). As a result of the sharp contraction in economic activity, all foreign economies included in the scenario experience a decline in consumer prices. As in this year's adverse scenario, the U.S. dollar appreciates against the euro, the pound sterling, and the currencies of developing Asia but depreciates modestly against the yen because of flight-to-safety capital flows.

Comparison of 2016 Severely Adverse Scenario and 2017 Severely Adverse Scenario

This year's severely adverse scenario features a slightly more severe downturn in the U.S. economy as compared to last year's scenario. Under this framework, the unemployment rate in the severely adverse scenario will reach a peak of at least 10 percent, which leads to a progressively greater increase in the unemployment rate if the starting unemployment rate is below 6 percent. Furthermore, this year's scenario does not feature a path of negative short-term U.S. Treasury rates that was featured in last year's scenario. In addition, this year's severely adverse scenario features a larger decline in commercial real estate prices. The international dimension of the scenarios shows recessionary episodes that, relative to last year's scenario, are more severe in the euro area and United Kingdom but less severe in developing Asia.

Additional Key Features of the Severely Adverse Scenario

As in the adverse scenario, the weakness in euro area economic conditions reflects a broad-based contraction in euro area demand, although this contraction should be assumed to be more protracted in countries with less room for fiscal policy intervention. The sharp slowdown in developing Asia is distributed unevenly across countries, with decelerations more pronounced in the larger economies. Economic

conditions in developing Asia should be assumed to be representative of conditions across emerging market economies.

Declines in aggregate U.S. commercial and residential real estate prices should be assumed to be concentrated in regions and property types that have experienced rapid price gains over the past several years. In particular, given that prices of multifamily properties have risen rapidly in recent years, they should be assumed to decline by more than the CRE index. Declines in prices of U.S. housing and commercial real estate should also be assumed to be representative of risks to house prices and commercial real estate prices in foreign regions and economies, particularly where real estate prices have been growing at a fast pace. Spreads on commercial mortgage-backed securities (CMBS) widen to attain the same peaks reached in the 2007–2009 recession.

Global Market Shock Components for Supervisory Adverse and Severely Adverse Scenarios

The global market shock is a set of instantaneous, hypothetical shocks to a large set of risk factors. Generally, these shocks involve large and sudden changes in asset prices, interest rates, and spreads, reflecting general market distress and heightened uncertainty.⁷ BHCs with significant trading activity will be required to include the global market shock as part of their supervisory adverse and severely adverse scenarios.⁸ In addition, as discussed below, certain large and highly interconnected BHCs must apply the same global market shock to their counterparty exposures to project losses under the counterparty default scenario component. The as-of date for the global market shock is January 3, 2017.⁹

⁷ The global market shock components consist of shocks to a large number of risk factors that include a wide range of financial market variables that affect asset prices, such as a credit spread or the yield on a bond, and also include, in some cases, shocks to the value of the position itself (for example, the market value of private-equity positions).

⁸ For this cycle, six BHCs are subject to the global market shock components: Bank of America Corporation; Citigroup Inc.; The Goldman Sachs Group, Inc.; JPMorgan Chase & Co.; Morgan Stanley; and Wells Fargo & Company. See 12 CFR 252.54(b)(2)(i).

⁹ A BHC 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., January 2, 2017, to January 6, 2017).

2017 Adverse Scenario

The global market shock component for the adverse scenario simulates an extended low-growth environment and muted market volatility across most asset classes and term structures. Generally, domestic government yields and associated volatility move lower, while swap spreads widen. Due to reduced demand, global commodity prices decline moderately, while mortgage-backed securities (MBS) and domestic credit spreads widen moderately. Select currency markets also experience small flight-to-quality moves. Equity markets experience a mild correction with a measured increase in volatility.

The 2017 adverse scenario addresses themes similar to those of the 2016 adverse scenario.

2017 Severely Adverse Scenario

The severely adverse scenario's global market shock is designed around three main elements: a sudden sharp increase in general risk premiums and credit risk; significant market illiquidity; and the distress of one or more large entities that rapidly sell a variety of assets into an already fragile market. Liquidity deterioration is most severe in those asset markets that are typically less liquid, such as non-agency securitized products, corporate debt and private equity, and is less pronounced in those markets that are typically more liquid, such as foreign exchange, publicly traded equity and U.S. Treasury markets. Markets facing a significant deterioration in liquidity experience conditions that are generally comparable to the peak-to-trough changes in asset valuations during the 2007–2009 period. The severity of deterioration reflects the market conditions that could occur in the event of a significant pullback in market liquidity in which market participants are less able to engage in market transactions that could offset or moderate the price dislocations. Worsening liquidity also leads prices of related assets that would ordinarily be expected to move together to diverge markedly. In particular, the valuation of certain cash market securities and their derivative counterparts fail to move together because the normal market mechanics that would ordinarily result in small pricing differentials are impeded by a lack of market liquidity. Notably, option-adjusted spreads on agency MBS increase significantly.

Globally, government bond yield curves undergo shifts in level and shape due to market participants'

increased risk aversion. The flight-to-quality and lack of liquidity in affected markets push risk-free rates down in the United States. The yield curves for government bonds generally rally across advanced economies while volatility increases across the term structure. Emerging market countries with deteriorating economic and fiscal accounts would also experience a sharp increase in sovereign spreads.

The major differences between the 2017 and 2016 severely adverse scenarios include (1) dampened shocks to interest rates and other liquid markets, (2) increased shocks to select commodities and equities basis risks, and (3) a less severe widening in spreads between agency MBS and TBA forwards.

Counterparty Default Component for Supervisory Adverse and Severely Adverse Scenarios

In CCAR 2016, the eight BHCs with substantial trading or custodial operations will be required to incorporate a counterparty default scenario component into their supervisory adverse and severely adverse stress scenarios.¹⁰ The counterparty default scenario component involves the instantaneous and unexpected default of the BHC's largest counterparty.¹¹

In connection with the counterparty default scenario component, these BHCs will be required to estimate and report the potential losses and related effects on capital associated with the instantaneous and unexpected default of the counterparty that would generate the largest losses across their derivatives and securities financing activities, including securities lending, and repurchase or reverse repurchase agreement activities. The counterparty default scenario component is an add-on to the macroeconomic conditions and financial market environment specified in the Federal Reserve's adverse and severely adverse stress scenarios.

¹⁰ The eight BHCs subject to the counterparty default component are as follows: Bank of America Corporation; The Bank of New York Mellon Corp.; Citigroup Inc.; The Goldman Sachs Group, Inc.; JPMorgan Chase & Co.; Morgan Stanley; State Street Corp.; and Wells Fargo & Company. See 12 CFR 252.54(b)(2)(ii).

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

Each BHC's largest counterparty will be determined by net stressed losses; estimated by applying the global market shock to revalue non-cash securities financing activity assets (securities or collateral) posted or received; and for derivatives, to the value of the trade position and non-cash collateral exchanged. The as-of date for the counterparty

default scenario component is January 3, 2017—the same date as the global market shock.¹²

¹² As with the global market shock, a BHC 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., January 3 to January 6, 2017).

Variables for the Supervisory Scenarios

Table 1A. Historical data: Domestic variables, Q1:2000–Q4:2016

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 | 1.2 | 4.3 | 8.1 | 11.8 | 4.0 | 4.0 | 5.5 | 6.6 | 6.7 | 8.2 | 8.3 | 8.7 | 14,296 | 102 | 125 | 27.0 |
| Q2 2000 | 7.8 | 10.2 | 4.2 | 6.1 | 3.9 | 3.2 | 5.7 | 6.5 | 6.4 | 8.5 | 8.3 | 9.2 | 13,619 | 105 | 124 | 33.5 |
| Q3 2000 | 0.5 | 3.1 | 4.8 | 7.4 | 4.0 | 3.7 | 6.0 | 6.1 | 6.1 | 8.1 | 8.0 | 9.5 | 13,613 | 107 | 137 | 21.9 |
| Q4 2000 | 2.3 | 4.5 | 1.4 | 3.6 | 3.9 | 2.9 | 6.0 | 5.6 | 5.8 | 7.9 | 7.6 | 9.5 | 12,176 | 110 | 141 | 31.7 |
| Q1 2001 | -1.1 | 1.4 | 3.5 | 6.3 | 4.2 | 3.9 | 4.8 | 4.9 | 5.3 | 7.4 | 7.0 | 8.6 | 10,646 | 112 | 139 | 32.8 |
| Q2 2001 | 2.1 | 5.1 | -0.3 | 1.6 | 4.4 | 2.8 | 3.7 | 4.9 | 5.5 | 7.5 | 7.1 | 7.3 | 11,407 | 114 | 139 | 34.7 |
| Q3 2001 | -1.3 | 0.0 | 9.8 | 10.1 | 4.8 | 1.1 | 3.2 | 4.6 | 5.3 | 7.3 | 6.9 | 6.6 | 9,563 | 116 | 141 | 43.7 |
| Q4 2001 | 1.1 | 2.3 | -4.9 | -4.6 | 5.5 | -0.3 | 1.9 | 4.2 | 5.1 | 7.2 | 6.8 | 5.2 | 10,708 | 118 | 136 | 35.3 |
| Q1 2002 | 3.7 | 5.1 | 10.1 | 10.9 | 5.7 | 1.3 | 1.7 | 4.5 | 5.4 | 7.6 | 7.0 | 4.8 | 10,776 | 120 | 137 | 26.1 |
| Q2 2002 | 2.2 | 3.8 | 2.0 | 5.2 | 5.8 | 3.2 | 1.7 | 4.5 | 5.4 | 7.6 | 6.8 | 4.8 | 9,384 | 123 | 136 | 28.4 |
| Q3 2002 | 2.0 | 3.8 | -0.5 | 1.5 | 5.7 | 2.2 | 1.6 | 3.4 | 4.5 | 7.3 | 6.2 | 4.8 | 7,774 | 126 | 139 | 45.1 |
| Q4 2002 | 0.3 | 2.4 | 1.9 | 3.8 | 5.9 | 2.4 | 1.3 | 3.1 | 4.3 | 7.0 | 6.1 | 4.5 | 8,343 | 129 | 142 | 42.6 |
| Q1 2003 | 2.1 | 4.6 | 1.1 | 4.0 | 5.9 | 4.2 | 1.2 | 2.9 | 4.2 | 6.5 | 5.8 | 4.3 | 8,052 | 132 | 148 | 34.7 |
| Q2 2003 | 3.8 | 5.1 | 5.9 | 6.3 | 6.1 | -0.7 | 1.0 | 2.6 | 3.8 | 5.7 | 5.5 | 4.2 | 9,342 | 135 | 149 | 29.1 |
| Q3 2003 | 6.9 | 9.3 | 6.7 | 9.3 | 6.1 | 3.0 | 0.9 | 3.1 | 4.4 | 6.0 | 6.1 | 4.0 | 9,650 | 138 | 147 | 22.7 |
| Q4 2003 | 4.8 | 6.8 | 1.6 | 3.3 | 5.8 | 1.5 | 0.9 | 3.2 | 4.4 | 5.8 | 5.9 | 4.0 | 10,800 | 143 | 146 | 21.1 |
| Q1 2004 | 2.3 | 5.9 | 2.9 | 6.1 | 5.7 | 3.4 | 0.9 | 3.0 | 4.1 | 5.5 | 5.6 | 4.0 | 11,039 | 148 | 153 | 21.6 |
| Q2 2004 | 3.0 | 6.6 | 4.0 | 7.0 | 5.6 | 3.2 | 1.1 | 3.7 | 4.7 | 6.1 | 6.2 | 4.0 | 11,145 | 154 | 160 | 20.0 |
| Q3 2004 | 3.7 | 6.3 | 2.1 | 4.5 | 5.4 | 2.6 | 1.5 | 3.5 | 4.4 | 5.8 | 5.9 | 4.4 | 10,894 | 159 | 172 | 19.3 |
| Q4 2004 | 3.5 | 6.4 | 5.1 | 8.5 | 5.4 | 4.4 | 2.0 | 3.5 | 4.3 | 5.4 | 5.7 | 4.9 | 11,951 | 165 | 176 | 16.6 |
| Q1 2005 | 4.3 | 8.3 | -3.8 | -1.8 | 5.3 | 2.0 | 2.5 | 3.9 | 4.4 | 5.4 | 5.8 | 5.4 | 11,637 | 172 | 176 | 14.6 |
| Q2 2005 | 2.1 | 5.1 | 3.2 | 6.0 | 5.1 | 2.7 | 2.9 | 3.9 | 4.2 | 5.5 | 5.7 | 5.9 | 11,857 | 179 | 182 | 17.7 |
| Q3 2005 | 3.4 | 7.3 | 2.1 | 6.6 | 5.0 | 6.2 | 3.4 | 4.0 | 4.3 | 5.5 | 5.8 | 6.4 | 12,283 | 185 | 187 | 14.2 |
| Q4 2005 | 2.3 | 5.4 | 3.4 | 6.6 | 5.0 | 3.8 | 3.8 | 4.4 | 4.6 | 5.9 | 6.2 | 7.0 | 12,497 | 191 | 195 | 16.5 |
| Q1 2006 | 4.9 | 8.2 | 9.5 | 11.5 | 4.7 | 2.1 | 4.4 | 4.6 | 4.7 | 6.0 | 6.3 | 7.4 | 13,122 | 194 | 200 | 14.6 |
| Q2 2006 | 1.2 | 4.5 | 0.6 | 3.7 | 4.6 | 3.7 | 4.7 | 5.0 | 5.2 | 6.5 | 6.6 | 7.9 | 12,809 | 193 | 209 | 23.8 |
| Q3 2006 | 0.4 | 3.2 | 1.2 | 4.1 | 4.6 | 3.8 | 4.9 | 4.8 | 5.0 | 6.4 | 6.5 | 8.3 | 13,322 | 192 | 219 | 18.6 |
| Q4 2006 | 3.2 | 4.6 | 5.3 | 4.6 | 4.4 | -1.6 | 4.9 | 4.6 | 4.7 | 6.1 | 6.2 | 8.3 | 14,216 | 191 | 217 | 12.7 |
| Q1 2007 | 0.2 | 4.8 | 2.6 | 6.5 | 4.5 | 4.0 | 5.0 | 4.6 | 4.8 | 6.1 | 6.2 | 8.3 | 14,354 | 189 | 227 | 19.6 |
| Q2 2007 | 3.1 | 5.4 | 0.8 | 4.0 | 4.5 | 4.6 | 4.7 | 4.7 | 4.9 | 6.3 | 6.4 | 8.3 | 15,163 | 183 | 236 | 18.9 |
| Q3 2007 | 2.7 | 4.2 | 1.1 | 3.4 | 4.7 | 2.6 | 4.3 | 4.5 | 4.8 | 6.5 | 6.5 | 8.2 | 15,318 | 178 | 249 | 30.8 |
| Q4 2007 | 1.4 | 3.2 | 0.3 | 4.4 | 4.8 | 5.0 | 3.4 | 3.8 | 4.4 | 6.4 | 6.2 | 7.5 | 14,754 | 172 | 251 | 31.1 |
| Q1 2008 | -2.7 | -0.5 | 2.9 | 6.5 | 5.0 | 4.4 | 2.1 | 2.8 | 3.9 | 6.5 | 5.9 | 6.2 | 13,284 | 165 | 240 | 32.2 |
| Q2 2008 | 2.0 | 4.0 | 8.7 | 13.3 | 5.3 | 5.3 | 1.6 | 3.2 | 4.1 | 6.8 | 6.1 | 5.1 | 13,016 | 157 | 224 | 24.1 |
| Q3 2008 | -1.9 | 0.8 | -8.9 | -5.1 | 6.0 | 6.3 | 1.5 | 3.1 | 4.1 | 7.2 | 6.3 | 5.0 | 11,826 | 149 | 233 | 46.7 |
| Q4 2008 | -8.2 | -7.7 | 2.6 | -3.2 | 6.9 | -8.9 | 0.3 | 2.2 | 3.7 | 9.4 | 5.8 | 4.1 | 9,057 | 142 | 223 | 80.9 |
| Q1 2009 | -5.4 | -4.5 | -0.8 | -3.0 | 8.3 | -2.7 | 0.2 | 1.9 | 3.2 | 9.0 | 5.0 | 3.3 | 8,044 | 137 | 209 | 56.7 |
| Q2 2009 | -0.5 | -1.2 | 2.9 | 4.7 | 9.3 | 2.1 | 0.2 | 2.3 | 3.7 | 8.2 | 5.1 | 3.3 | 9,343 | 137 | 178 | 42.3 |

(continued)

Table 1A.—*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 2009 | 1.3 | 1.2 | -4.3 | -1.9 | 9.6 | 3.5 | 0.2 | 2.5 | 3.8 | 6.8 | 5.1 | 3.3 | 10,813 | 138 | 154 | 31.3 |
| Q4 2009 | 3.9 | 5.2 | -0.5 | 2.2 | 9.9 | 3.2 | 0.1 | 2.3 | 3.7 | 6.1 | 4.9 | 3.3 | 11,385 | 138 | 155 | 30.7 |
| Q1 2010 | 1.7 | 3.2 | 0.4 | 1.8 | 9.8 | 0.6 | 0.1 | 2.4 | 3.9 | 5.8 | 5.0 | 3.3 | 12,032 | 138 | 150 | 27.3 |
| Q2 2010 | 3.9 | 5.8 | 5.3 | 5.8 | 9.6 | -0.1 | 0.1 | 2.3 | 3.6 | 5.6 | 4.8 | 3.3 | 10,646 | 137 | 165 | 45.8 |
| Q3 2010 | 2.7 | 4.6 | 2.0 | 3.2 | 9.5 | 1.2 | 0.2 | 1.6 | 2.9 | 5.1 | 4.4 | 3.3 | 11,814 | 135 | 167 | 32.9 |
| Q4 2010 | 2.5 | 4.7 | 2.8 | 5.0 | 9.5 | 3.3 | 0.1 | 1.5 | 3.0 | 5.0 | 4.5 | 3.3 | 13,131 | 133 | 173 | 23.5 |
| Q1 2011 | -1.5 | 0.2 | 5.0 | 8.2 | 9.0 | 4.3 | 0.1 | 2.1 | 3.5 | 5.4 | 4.9 | 3.3 | 13,909 | 132 | 180 | 29.4 |
| Q2 2011 | 2.9 | 6.0 | -0.6 | 3.5 | 9.1 | 4.6 | 0.0 | 1.8 | 3.3 | 5.1 | 4.6 | 3.3 | 13,843 | 132 | 177 | 22.7 |
| Q3 2011 | 0.8 | 3.3 | 2.1 | 4.3 | 9.0 | 2.6 | 0.0 | 1.1 | 2.5 | 4.9 | 4.2 | 3.3 | 11,677 | 132 | 177 | 48.0 |
| Q4 2011 | 4.6 | 5.2 | 0.2 | 1.6 | 8.6 | 1.8 | 0.0 | 1.0 | 2.1 | 5.0 | 4.0 | 3.3 | 13,019 | 132 | 188 | 45.5 |
| Q1 2012 | 2.7 | 4.9 | 6.7 | 9.2 | 8.3 | 2.4 | 0.1 | 0.9 | 2.1 | 4.7 | 3.9 | 3.3 | 14,627 | 134 | 188 | 23.0 |
| Q2 2012 | 1.9 | 3.8 | 3.1 | 4.4 | 8.2 | 0.8 | 0.1 | 0.8 | 1.8 | 4.5 | 3.8 | 3.3 | 14,100 | 137 | 189 | 26.7 |
| Q3 2012 | 0.5 | 2.7 | -0.2 | 1.1 | 8.0 | 1.6 | 0.1 | 0.7 | 1.6 | 4.2 | 3.5 | 3.3 | 14,895 | 140 | 197 | 20.5 |
| Q4 2012 | 0.1 | 1.7 | 10.9 | 13.3 | 7.8 | 2.9 | 0.1 | 0.7 | 1.7 | 3.9 | 3.4 | 3.3 | 14,835 | 143 | 198 | 22.7 |
| Q1 2013 | 2.8 | 4.4 | -15.7 | -14.5 | 7.7 | 1.6 | 0.1 | 0.8 | 1.9 | 4.0 | 3.5 | 3.3 | 16,396 | 147 | 202 | 19.0 |
| Q2 2013 | 0.8 | 1.6 | 2.4 | 2.5 | 7.5 | -0.5 | 0.1 | 0.9 | 2.0 | 4.1 | 3.7 | 3.3 | 16,771 | 151 | 213 | 20.5 |
| Q3 2013 | 3.1 | 5.1 | 2.4 | 3.9 | 7.3 | 2.0 | 0.0 | 1.5 | 2.7 | 4.9 | 4.4 | 3.3 | 17,718 | 154 | 224 | 17.0 |
| Q4 2013 | 4.0 | 6.1 | 0.9 | 2.6 | 6.9 | 1.9 | 0.1 | 1.4 | 2.8 | 4.8 | 4.3 | 3.3 | 19,413 | 158 | 229 | 20.3 |
| Q1 2014 | -1.2 | 0.6 | 4.5 | 6.6 | 6.7 | 2.4 | 0.0 | 1.6 | 2.8 | 4.6 | 4.4 | 3.3 | 19,711 | 160 | 229 | 21.4 |
| Q2 2014 | 4.0 | 6.3 | 5.3 | 7.3 | 6.2 | 1.9 | 0.0 | 1.7 | 2.7 | 4.3 | 4.2 | 3.3 | 20,569 | 161 | 239 | 17.0 |
| Q3 2014 | 5.0 | 6.7 | 4.1 | 5.2 | 6.1 | 0.9 | 0.0 | 1.7 | 2.5 | 4.2 | 4.1 | 3.3 | 20,459 | 163 | 245 | 17.0 |
| Q4 2014 | 2.3 | 2.8 | 4.3 | 4.3 | 5.7 | -0.3 | 0.0 | 1.6 | 2.3 | 4.2 | 3.9 | 3.3 | 21,425 | 165 | 253 | 26.3 |
| Q1 2015 | 2.0 | 2.1 | 2.0 | 0.3 | 5.6 | -2.9 | 0.0 | 1.5 | 2.0 | 4.0 | 3.7 | 3.3 | 21,708 | 168 | 262 | 22.4 |
| Q2 2015 | 2.6 | 4.9 | 3.9 | 5.8 | 5.4 | 2.4 | 0.0 | 1.5 | 2.2 | 4.2 | 3.8 | 3.3 | 21,631 | 170 | 266 | 18.9 |
| Q3 2015 | 2.0 | 3.2 | 3.3 | 4.4 | 5.2 | 1.4 | 0.0 | 1.6 | 2.3 | 4.5 | 3.9 | 3.3 | 19,959 | 172 | 272 | 40.7 |
| Q4 2015 | 0.9 | 1.8 | 3.0 | 3.4 | 5.0 | 0.8 | 0.1 | 1.6 | 2.2 | 4.6 | 3.9 | 3.3 | 21,101 | 174 | 277 | 24.4 |
| Q1 2016 | 0.8 | 1.3 | 2.1 | 2.4 | 4.9 | -0.3 | 0.3 | 1.4 | 2.0 | 4.6 | 3.7 | 3.5 | 21,179 | 177 | 278 | 28.1 |
| Q2 2016 | 1.4 | 3.7 | 2.9 | 5.0 | 4.9 | 2.5 | 0.3 | 1.3 | 1.8 | 4.1 | 3.6 | 3.5 | 21,621 | 179 | 283 | 25.8 |
| Q3 2016 | 3.5 | 5.0 | 2.6 | 4.1 | 4.9 | 1.6 | 0.3 | 1.2 | 1.6 | 3.7 | 3.4 | 3.5 | 22,469 | 182 | 290 | 18.1 |
| Q4 2016 | 3.1 | 6.1 | 1.6 | 4.5 | 4.7 | 3.4 | 0.4 | 1.7 | 2.2 | 4.1 | 3.9 | 3.5 | 23,277 | 183 | 294 | 22.5 |

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

Table 1B. Historical data: International variables, Q1:2000–Q4:2016

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) | 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 | 4.4 | 2.6 | 0.957 | 7.0 | 1.5 | 100.0 | 7.9 | -2.7 | 102.7 | 4.1 | 0.3 | 1.592 |
| Q2 2000 | 3.8 | 0.9 | 0.955 | 7.1 | -0.2 | 100.7 | 0.8 | 1.2 | 106.1 | 2.9 | 0.5 | 1.513 |
| Q3 2000 | 2.2 | 3.4 | 0.884 | 8.1 | 2.2 | 101.5 | 0.1 | -1.2 | 107.9 | 1.1 | 1.0 | 1.479 |
| Q4 2000 | 3.3 | 2.8 | 0.939 | 2.9 | 2.5 | 105.1 | 4.0 | -0.6 | 114.4 | 0.6 | 1.9 | 1.496 |
| Q1 2001 | 3.5 | 1.2 | 0.879 | 4.9 | 1.7 | 106.0 | 2.6 | -1.2 | 125.5 | 5.3 | 0.0 | 1.419 |
| Q2 2001 | 0.4 | 4.0 | 0.847 | 5.5 | 2.1 | 106.1 | -2.4 | -0.3 | 124.7 | 2.8 | 3.2 | 1.408 |
| Q3 2001 | 0.3 | 1.4 | 0.910 | 4.7 | 1.2 | 106.4 | -4.4 | -1.1 | 119.2 | 2.7 | 1.0 | 1.469 |
| Q4 2001 | 0.7 | 1.7 | 0.890 | 8.5 | 0.0 | 106.9 | -0.8 | -1.4 | 131.0 | 1.6 | -0.1 | 1.454 |
| Q1 2002 | 0.7 | 3.1 | 0.872 | 7.7 | 0.4 | 107.3 | 0.3 | -2.7 | 132.7 | 1.7 | 2.0 | 1.425 |
| Q2 2002 | 1.9 | 2.0 | 0.986 | 8.1 | 1.1 | 104.8 | 3.2 | 1.7 | 119.9 | 3.0 | 0.9 | 1.525 |
| Q3 2002 | 1.6 | 1.6 | 0.988 | 7.2 | 1.5 | 105.5 | 1.7 | -0.7 | 121.7 | 3.1 | 1.3 | 1.570 |
| Q4 2002 | 0.4 | 2.3 | 1.049 | 6.5 | 0.8 | 104.5 | 1.5 | -0.4 | 118.8 | 3.5 | 1.9 | 1.610 |
| Q1 2003 | -0.8 | 3.3 | 1.090 | 6.7 | 3.6 | 105.5 | -1.2 | -1.6 | 118.1 | 3.3 | 1.7 | 1.579 |
| Q2 2003 | 0.2 | 0.5 | 1.150 | 2.1 | 1.2 | 104.0 | 3.8 | 1.7 | 119.9 | 3.7 | 0.2 | 1.653 |
| Q3 2003 | 2.2 | 2.1 | 1.165 | 14.3 | 0.1 | 102.6 | 1.7 | -0.7 | 111.4 | 4.0 | 1.7 | 1.662 |
| Q4 2003 | 2.9 | 2.3 | 1.260 | 13.0 | 5.5 | 103.4 | 4.3 | -0.6 | 107.1 | 3.3 | 1.7 | 1.784 |
| Q1 2004 | 2.4 | 2.2 | 1.229 | 5.6 | 4.1 | 101.4 | 3.5 | -0.9 | 104.2 | 2.3 | 1.4 | 1.840 |
| Q2 2004 | 2.1 | 2.6 | 1.218 | 6.9 | 4.1 | 102.8 | -0.3 | 1.1 | 109.4 | 1.9 | 0.8 | 1.813 |
| Q3 2004 | 1.3 | 2.0 | 1.242 | 8.3 | 4.0 | 102.7 | 1.9 | 0.1 | 110.2 | 0.8 | 1.1 | 1.809 |
| Q4 2004 | 1.4 | 2.4 | 1.354 | 6.4 | 0.8 | 98.9 | -1.6 | 1.7 | 102.7 | 2.4 | 2.4 | 1.916 |
| Q1 2005 | 0.8 | 1.4 | 1.297 | 10.6 | 2.9 | 98.6 | 2.2 | -2.7 | 107.2 | 2.3 | 2.6 | 1.889 |
| Q2 2005 | 2.6 | 2.2 | 1.210 | 8.6 | 1.5 | 98.9 | 3.6 | -1.0 | 110.9 | 4.4 | 1.8 | 1.793 |
| Q3 2005 | 3.1 | 3.1 | 1.206 | 9.3 | 2.3 | 98.6 | 3.9 | -1.0 | 113.3 | 4.4 | 2.8 | 1.770 |
| Q4 2005 | 2.5 | 2.5 | 1.184 | 11.7 | 1.7 | 98.1 | 0.7 | 0.2 | 117.9 | 5.5 | 1.4 | 1.719 |
| Q1 2006 | 3.7 | 1.7 | 1.214 | 11.0 | 2.4 | 96.8 | 0.2 | 1.2 | 117.5 | 1.3 | 1.9 | 1.739 |
| Q2 2006 | 4.2 | 2.5 | 1.278 | 7.0 | 3.2 | 96.7 | 1.7 | 0.4 | 114.5 | 0.9 | 3.0 | 1.849 |
| Q3 2006 | 2.6 | 2.1 | 1.269 | 10.3 | 2.1 | 96.4 | -0.7 | 0.4 | 118.0 | 0.6 | 3.3 | 1.872 |
| Q4 2006 | 4.4 | 0.9 | 1.320 | 11.2 | 3.7 | 94.6 | 4.5 | -0.6 | 119.0 | 1.4 | 2.7 | 1.959 |
| Q1 2007 | 3.1 | 2.3 | 1.337 | 13.9 | 3.6 | 94.0 | 3.6 | -0.7 | 117.6 | 4.1 | 2.5 | 1.969 |
| Q2 2007 | 2.5 | 2.3 | 1.352 | 10.5 | 4.9 | 91.9 | -0.4 | 0.4 | 123.4 | 3.0 | 1.8 | 2.006 |
| Q3 2007 | 1.8 | 2.1 | 1.422 | 8.7 | 7.5 | 90.6 | -1.2 | 0.3 | 115.0 | 3.1 | 0.3 | 2.039 |
| Q4 2007 | 2.2 | 4.9 | 1.460 | 12.8 | 6.0 | 89.4 | 1.9 | 2.2 | 111.7 | 3.0 | 4.0 | 1.984 |
| Q1 2008 | 2.0 | 4.3 | 1.581 | 7.2 | 8.1 | 88.0 | 1.6 | 1.3 | 99.9 | 0.6 | 3.4 | 1.986 |
| Q2 2008 | -1.3 | 3.2 | 1.575 | 5.9 | 6.4 | 88.7 | -2.8 | 1.8 | 106.2 | -2.6 | 5.8 | 1.991 |
| Q3 2008 | -2.2 | 3.2 | 1.408 | 3.1 | 2.8 | 91.5 | -4.8 | 3.5 | 105.9 | -6.6 | 5.9 | 1.780 |
| Q4 2008 | -6.8 | -1.4 | 1.392 | 0.3 | -1.0 | 92.2 | -8.3 | -2.1 | 90.8 | -8.7 | 0.4 | 1.462 |
| Q1 2009 | -11.4 | -1.1 | 1.326 | 4.4 | -1.4 | 94.2 | -18.0 | -3.6 | 99.2 | -6.4 | -0.2 | 1.430 |
| Q2 2009 | -0.9 | 0.0 | 1.402 | 15.1 | 2.2 | 92.2 | 8.2 | -1.6 | 96.4 | -0.9 | 2.3 | 1.645 |
| Q3 2009 | 1.2 | 1.1 | 1.463 | 12.8 | 3.9 | 91.3 | -0.3 | -1.4 | 89.5 | 0.3 | 3.6 | 1.600 |
| Q4 2009 | 2.1 | 1.6 | 1.433 | 9.2 | 5.1 | 90.6 | 6.1 | -1.6 | 93.1 | 1.6 | 2.8 | 1.617 |
| Q1 2010 | 1.8 | 1.8 | 1.353 | 9.9 | 4.4 | 89.8 | 4.4 | 1.1 | 93.4 | 2.2 | 4.2 | 1.519 |
| Q2 2010 | 4.0 | 2.0 | 1.229 | 9.7 | 3.4 | 91.0 | 4.0 | -1.4 | 88.5 | 4.1 | 3.3 | 1.495 |
| Q3 2010 | 1.6 | 1.6 | 1.360 | 8.8 | 4.0 | 88.4 | 7.7 | -2.1 | 83.5 | 2.3 | 2.2 | 1.573 |
| Q4 2010 | 2.3 | 2.6 | 1.327 | 9.3 | 7.7 | 87.4 | -2.7 | 1.4 | 81.7 | 0.5 | 3.9 | 1.539 |
| Q1 2011 | 3.2 | 3.7 | 1.418 | 9.8 | 6.3 | 86.4 | -5.7 | 0.0 | 82.8 | 2.2 | 7.0 | 1.605 |
| Q2 2011 | 0.0 | 3.2 | 1.452 | 6.5 | 5.4 | 85.3 | -2.0 | -0.8 | 80.6 | 0.3 | 4.6 | 1.607 |
| Q3 2011 | 0.1 | 1.3 | 1.345 | 5.2 | 5.1 | 87.3 | 9.5 | 0.3 | 77.0 | 1.7 | 3.5 | 1.562 |
| Q4 2011 | -1.4 | 3.5 | 1.297 | 6.9 | 3.2 | 87.2 | -0.5 | -0.7 | 77.0 | 1.0 | 3.4 | 1.554 |
| Q1 2012 | -0.8 | 2.8 | 1.333 | 7.3 | 3.3 | 86.2 | 4.4 | 2.5 | 82.4 | 1.8 | 2.3 | 1.599 |
| Q2 2012 | -1.3 | 2.3 | 1.267 | 6.0 | 3.9 | 88.0 | -1.6 | -1.6 | 79.8 | -0.3 | 1.9 | 1.569 |

(continued)

Table 1B.—*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) | Japan real GDP growth | Japan inflation | Japan bilateral dollar exchange rate (yen/USD) | U.K. real GDP growth | U.K. inflation | U.K. bilateral dollar exchange rate (USD/pound) |
|---------|---------------------------|---------------------|---|---------------------------------|---------------------------|---|-----------------------|-----------------|--|----------------------|----------------|---|
| Q3 2012 | -0.6 | 1.6 | 1.286 | 6.5 | 2.1 | 86.3 | -1.8 | -1.8 | 77.9 | 4.7 | 2.0 | 1.613 |
| Q4 2012 | -1.7 | 2.4 | 1.319 | 7.3 | 3.6 | 85.9 | 0.3 | 0.3 | 86.6 | -0.9 | 4.2 | 1.626 |
| Q1 2013 | -1.2 | 1.3 | 1.282 | 6.6 | 4.3 | 86.1 | 5.1 | 0.6 | 94.2 | 2.5 | 3.0 | 1.519 |
| Q2 2013 | 1.8 | 0.4 | 1.301 | 6.5 | 2.9 | 87.1 | 4.3 | -0.2 | 99.2 | 2.1 | 1.6 | 1.521 |
| Q3 2013 | 1.3 | 1.2 | 1.354 | 7.8 | 3.7 | 86.7 | 2.4 | 2.4 | 98.3 | 3.1 | 2.0 | 1.618 |
| Q4 2013 | 0.8 | 0.3 | 1.378 | 6.4 | 4.0 | 85.7 | -0.8 | 3.1 | 105.3 | 2.0 | 1.7 | 1.657 |
| Q1 2014 | 1.3 | 0.9 | 1.378 | 6.4 | 1.4 | 86.8 | 4.9 | 1.3 | 103.0 | 3.4 | 1.9 | 1.668 |
| Q2 2014 | 0.7 | -0.1 | 1.369 | 7.0 | 2.5 | 86.7 | -7.1 | 7.7 | 101.3 | 3.8 | 1.5 | 1.711 |
| Q3 2014 | 1.4 | 0.2 | 1.263 | 6.9 | 2.4 | 87.0 | -0.8 | 1.6 | 109.7 | 3.3 | 0.6 | 1.622 |
| Q4 2014 | 1.8 | -0.4 | 1.210 | 5.6 | 1.2 | 88.1 | 2.1 | -0.3 | 119.9 | 3.4 | -0.4 | 1.558 |
| Q1 2015 | 3.3 | -0.8 | 1.074 | 6.2 | 0.8 | 88.1 | 6.3 | 0.4 | 120.0 | 1.0 | -1.2 | 1.485 |
| Q2 2015 | 1.5 | 1.8 | 1.115 | 6.6 | 2.7 | 88.3 | -0.5 | 0.3 | 122.1 | 1.9 | 0.9 | 1.573 |
| Q3 2015 | 1.1 | -0.3 | 1.116 | 6.6 | 2.7 | 90.9 | 0.8 | 0.0 | 119.8 | 1.1 | 0.5 | 1.512 |
| Q4 2015 | 2.0 | 0.0 | 1.086 | 5.4 | 1.6 | 92.2 | -1.8 | 0.1 | 120.3 | 2.8 | 0.0 | 1.475 |
| Q1 2016 | 2.0 | -1.2 | 1.139 | 6.3 | 2.8 | 91.7 | 2.8 | -0.1 | 112.4 | 1.4 | 0.1 | 1.438 |
| Q2 2016 | 1.2 | 1.2 | 1.103 | 6.4 | 2.7 | 94.0 | 1.8 | -1.3 | 102.8 | 2.6 | 0.9 | 1.324 |
| Q3 2016 | 1.8 | 1.1 | 1.124 | 6.6 | 1.2 | 93.6 | 1.3 | -0.8 | 101.2 | 2.3 | 1.9 | 1.302 |
| Q4 2016 | 1.4 | 1.9 | 1.055 | 6.0 | 2.5 | 97.4 | 0.8 | 0.3 | 116.8 | 1.4 | 2.0 | 1.234 |

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 2A. Supervisory baseline scenario: Domestic variables, Q1:2017–Q1:2020

Percent, unless otherwise indicated.

| Date | Real GDP growth | Nominal GDP growth | Real disposable income growth | Nominal disposable income growth | Unemployment rate | CPI inflation rate | 3-month Treasury rate | 5-year Treasury yield | 10-year Treasury yield | BBB corporate yield | Mortgage rate | Prime rate | Level | | | |
|---------|-----------------|--------------------|-------------------------------|----------------------------------|-------------------|--------------------|-----------------------|-----------------------|------------------------|---------------------|---------------|------------|------------------------------------|-------------------|------------------------------------|-------------------------|
| | | | | | | | | | | | | | Dow Jones Total Stock Market Index | House Price Index | Commercial Real Estate Price Index | Market Volatility Index |
| Q1 2017 | 2.2 | 4.3 | 2.2 | 4.3 | 4.7 | 2.4 | 0.6 | 1.7 | 2.5 | 4.2 | 4.2 | 3.8 | 23,551 | 184 | 298 | 19.0 |
| Q2 2017 | 2.3 | 4.3 | 2.5 | 4.6 | 4.6 | 2.4 | 0.7 | 1.9 | 2.6 | 4.4 | 4.3 | 3.9 | 23,831 | 185 | 301 | 20.3 |
| Q3 2017 | 2.4 | 4.5 | 2.9 | 5.0 | 4.6 | 2.3 | 0.9 | 2.0 | 2.7 | 4.5 | 4.4 | 4.1 | 24,123 | 187 | 305 | 19.3 |
| Q4 2017 | 2.3 | 4.5 | 2.7 | 4.8 | 4.5 | 2.3 | 1.1 | 2.2 | 2.9 | 4.6 | 4.5 | 4.3 | 24,422 | 188 | 309 | 19.4 |
| Q1 2018 | 2.4 | 4.6 | 2.9 | 4.9 | 4.5 | 2.3 | 1.3 | 2.3 | 3.0 | 4.7 | 4.6 | 4.4 | 24,727 | 189 | 313 | 19.2 |
| Q2 2018 | 2.4 | 4.7 | 2.6 | 4.7 | 4.5 | 2.3 | 1.5 | 2.4 | 3.1 | 4.8 | 4.7 | 4.6 | 25,042 | 190 | 317 | 19.2 |
| Q3 2018 | 2.4 | 4.6 | 2.6 | 4.7 | 4.4 | 2.3 | 1.7 | 2.6 | 3.2 | 4.9 | 4.8 | 4.8 | 25,354 | 191 | 321 | 19.3 |
| Q4 2018 | 2.3 | 4.5 | 2.4 | 4.6 | 4.4 | 2.4 | 1.9 | 2.7 | 3.3 | 5.0 | 5.0 | 5.0 | 25,668 | 193 | 325 | 19.4 |
| Q1 2019 | 2.0 | 4.2 | 2.2 | 4.3 | 4.5 | 2.3 | 2.2 | 2.8 | 3.4 | 5.1 | 5.0 | 5.2 | 25,968 | 194 | 327 | 19.8 |
| Q2 2019 | 2.1 | 4.2 | 2.3 | 4.3 | 4.6 | 2.3 | 2.4 | 2.9 | 3.4 | 5.1 | 5.1 | 5.5 | 26,269 | 195 | 330 | 20.0 |
| Q3 2019 | 2.1 | 4.1 | 2.2 | 4.3 | 4.6 | 2.2 | 2.6 | 2.9 | 3.5 | 5.2 | 5.1 | 5.7 | 26,571 | 197 | 332 | 20.2 |
| Q4 2019 | 2.0 | 4.1 | 2.2 | 4.2 | 4.7 | 2.2 | 2.8 | 3.0 | 3.5 | 5.2 | 5.2 | 5.9 | 26,874 | 198 | 335 | 20.3 |
| Q1 2020 | 2.0 | 4.0 | 2.1 | 4.0 | 4.7 | 2.1 | 2.9 | 3.0 | 3.5 | 5.2 | 5.2 | 5.9 | 27,173 | 200 | 337 | 20.2 |

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 2B. Supervisory baseline scenario: International variables, Q1:2017–Q1:2020**

Percent, unless otherwise indicated.

| Date | Euro area real GDP growth | Euro area inflation | Euro area bilateral dollar exchange rate (USD/euro) | Developing Asia real GDP growth | Developing Asia inflation | Developing Asia bilateral dollar exchange rate (F/USD, index) | 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 2017 | 1.5 | 1.3 | 1.050 | 6.0 | 2.4 | 97.9 | 0.9 | 0.5 | 116.4 | 1.2 | 1.9 | 1.228 |
| Q2 2017 | 1.5 | 1.4 | 1.044 | 5.9 | 2.5 | 98.4 | 0.9 | 0.6 | 116.0 | 1.1 | 2.0 | 1.222 |
| Q3 2017 | 1.6 | 1.5 | 1.039 | 5.9 | 2.6 | 98.9 | 0.9 | 0.8 | 115.6 | 1.0 | 2.1 | 1.216 |
| Q4 2017 | 1.6 | 1.5 | 1.034 | 5.8 | 2.6 | 99.4 | 0.9 | 0.9 | 115.2 | 1.1 | 2.2 | 1.210 |
| Q1 2018 | 1.6 | 1.5 | 1.036 | 5.8 | 2.6 | 99.7 | 0.9 | 1.1 | 115.6 | 1.3 | 2.2 | 1.222 |
| Q2 2018 | 1.6 | 1.6 | 1.039 | 5.7 | 2.6 | 100.0 | 0.8 | 1.2 | 116.1 | 1.4 | 2.2 | 1.234 |
| Q3 2018 | 1.5 | 1.6 | 1.041 | 5.7 | 2.6 | 100.3 | 0.8 | 1.3 | 116.5 | 1.6 | 2.2 | 1.245 |
| Q4 2018 | 1.5 | 1.6 | 1.044 | 5.8 | 2.7 | 100.6 | 0.8 | 1.3 | 117.0 | 1.7 | 2.1 | 1.257 |
| Q1 2019 | 1.5 | 1.7 | 1.044 | 5.8 | 2.7 | 100.6 | 0.8 | 1.4 | 117.0 | 1.8 | 2.1 | 1.257 |
| Q2 2019 | 1.5 | 1.7 | 1.044 | 5.9 | 2.8 | 100.6 | 0.8 | 1.5 | 117.0 | 1.8 | 2.0 | 1.257 |
| Q3 2019 | 1.5 | 1.7 | 1.044 | 5.9 | 2.9 | 100.6 | 0.8 | 1.5 | 117.0 | 1.9 | 2.0 | 1.257 |
| Q4 2019 | 1.5 | 1.8 | 1.044 | 5.8 | 2.9 | 100.6 | 0.8 | 1.6 | 117.0 | 1.9 | 2.0 | 1.257 |
| Q1 2020 | 1.5 | 1.8 | 1.044 | 5.8 | 3.0 | 100.6 | 0.8 | 1.6 | 117.0 | 1.9 | 1.9 | 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.

Table 3A. Supervisory adverse scenario: Domestic variables, Q1:2017–Q1:2020

Percent, unless otherwise indicated.

| Date | Real GDP growth | Nominal GDP growth | Real disposable income growth | Nominal disposable income growth | Unemployment rate | CPI inflation rate | 3-month Treasury rate | 5-year Treasury yield | 10-year Treasury yield | BBB corporate yield | Mortgage rate | Prime rate | Level | | | |
|---------|-----------------|--------------------|-------------------------------|----------------------------------|-------------------|--------------------|-----------------------|-----------------------|------------------------|---------------------|---------------|------------|------------------------------------|-------------------|------------------------------------|-------------------------|
| | | | | | | | | | | | | | Dow Jones Total Stock Market Index | House Price Index | Commercial Real Estate Price Index | Market Volatility Index |
| Q1 2017 | -1.5 | 0.9 | 0.7 | 2.4 | 5.2 | 1.8 | 0.1 | 1.7 | 2.3 | 5.6 | 4.7 | 3.3 | 15,960 | 181 | 291 | 37.1 |
| Q2 2017 | -2.8 | -0.7 | -0.6 | 1.1 | 5.8 | 1.8 | 0.1 | 1.8 | 2.4 | 5.9 | 4.9 | 3.3 | 15,042 | 179 | 283 | 32.7 |
| Q3 2017 | -2.0 | 0.0 | -0.5 | 1.1 | 6.3 | 1.8 | 0.1 | 1.8 | 2.5 | 6.1 | 5.1 | 3.3 | 14,290 | 176 | 275 | 34.4 |
| Q4 2017 | -1.5 | 0.5 | -0.5 | 1.2 | 6.8 | 1.8 | 0.1 | 1.9 | 2.5 | 6.2 | 5.2 | 3.2 | 13,982 | 173 | 267 | 32.0 |
| Q1 2018 | -0.5 | 1.4 | 0.2 | 1.9 | 7.1 | 1.8 | 0.1 | 1.9 | 2.6 | 6.0 | 5.2 | 3.2 | 14,367 | 170 | 259 | 28.5 |
| Q2 2018 | 1.0 | 3.0 | 0.6 | 2.4 | 7.3 | 2.0 | 0.1 | 1.9 | 2.7 | 5.8 | 5.2 | 3.2 | 15,001 | 166 | 254 | 25.8 |
| Q3 2018 | 1.4 | 3.3 | 1.0 | 2.7 | 7.4 | 2.0 | 0.1 | 2.0 | 2.7 | 5.6 | 5.1 | 3.2 | 15,693 | 163 | 250 | 23.6 |
| Q4 2018 | 2.6 | 4.4 | 1.5 | 3.4 | 7.3 | 2.1 | 0.1 | 2.0 | 2.7 | 5.4 | 5.1 | 3.2 | 16,603 | 161 | 249 | 21.6 |
| Q1 2019 | 2.6 | 4.3 | 1.6 | 3.5 | 7.2 | 2.1 | 0.1 | 2.0 | 2.7 | 5.2 | 5.0 | 3.2 | 17,519 | 161 | 249 | 20.1 |
| Q2 2019 | 3.0 | 4.6 | 2.1 | 3.8 | 7.1 | 2.0 | 0.1 | 2.0 | 2.7 | 5.0 | 4.9 | 3.2 | 18,514 | 161 | 251 | 18.7 |
| Q3 2019 | 3.0 | 4.5 | 2.2 | 3.8 | 7.0 | 2.0 | 0.1 | 2.0 | 2.7 | 4.8 | 4.8 | 3.2 | 19,243 | 162 | 255 | 18.2 |
| Q4 2019 | 3.0 | 4.5 | 2.1 | 3.8 | 6.9 | 1.9 | 0.1 | 2.0 | 2.7 | 4.7 | 4.8 | 3.2 | 20,025 | 163 | 259 | 17.6 |
| Q1 2020 | 3.0 | 4.5 | 2.0 | 3.5 | 6.8 | 1.8 | 0.1 | 2.0 | 2.7 | 4.5 | 4.7 | 3.2 | 20,867 | 164 | 262 | 17.3 |

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 3B. Supervisory adverse scenario: International variables, Q1:2017–Q1:2020**

Percent, unless otherwise indicated.

| Date | Euro area real GDP growth | Euro area inflation | Euro area bilateral dollar exchange rate (USD/euro) | Developing Asia real GDP growth | Developing Asia inflation | Developing Asia bilateral dollar exchange rate (F/USD, index) | 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 2017 | -3.0 | 0.7 | 0.998 | 1.4 | 1.7 | 105.4 | -3.2 | -2.5 | 111.4 | -2.9 | 0.5 | 1.205 |
| Q2 2017 | -3.9 | 0.1 | 0.977 | 1.8 | 0.9 | 109.1 | -6.3 | -3.4 | 108.0 | -4.3 | 0.0 | 1.189 |
| Q3 2017 | -2.7 | 0.3 | 0.964 | 3.5 | 0.0 | 108.8 | -5.8 | -2.7 | 109.2 | -3.7 | 0.1 | 1.175 |
| Q4 2017 | -1.5 | 0.3 | 0.953 | 5.3 | -0.1 | 109.4 | -4.4 | -2.7 | 108.8 | -2.7 | 0.2 | 1.163 |
| Q1 2018 | -0.2 | 0.4 | 0.958 | 6.4 | 0.0 | 108.7 | -3.1 | -2.1 | 109.2 | -1.4 | 0.4 | 1.177 |
| Q2 2018 | 0.7 | 0.6 | 0.964 | 6.7 | 0.1 | 108.1 | -1.9 | -1.5 | 109.6 | -0.2 | 0.7 | 1.191 |
| Q3 2018 | 1.3 | 0.8 | 0.970 | 6.7 | 0.4 | 107.5 | -0.9 | -1.0 | 110.0 | 0.7 | 1.0 | 1.204 |
| Q4 2018 | 1.7 | 1.0 | 0.975 | 6.8 | 0.7 | 106.9 | -0.1 | -0.5 | 110.5 | 1.5 | 1.2 | 1.217 |
| Q1 2019 | 1.9 | 1.2 | 0.979 | 6.8 | 1.0 | 106.2 | 0.5 | -0.2 | 110.6 | 2.0 | 1.3 | 1.218 |
| Q2 2019 | 2.0 | 1.4 | 0.982 | 6.9 | 1.3 | 105.5 | 1.0 | 0.2 | 110.8 | 2.4 | 1.4 | 1.218 |
| Q3 2019 | 2.0 | 1.5 | 0.986 | 7.0 | 1.6 | 105.0 | 1.3 | 0.5 | 111.1 | 2.6 | 1.5 | 1.218 |
| Q4 2019 | 1.9 | 1.6 | 0.989 | 7.0 | 1.9 | 104.7 | 1.5 | 0.7 | 111.4 | 2.6 | 1.6 | 1.218 |
| Q1 2020 | 1.9 | 1.6 | 0.991 | 7.0 | 2.1 | 104.4 | 1.6 | 0.9 | 111.6 | 2.7 | 1.6 | 1.218 |

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 4A. Supervisory severely adverse scenario: Domestic variables, Q1:2017–Q1:2020

Percent, unless otherwise indicated.

| Date | Real GDP growth | Nominal GDP growth | Real disposable income growth | Nominal disposable income growth | Unemployment rate | CPI inflation rate | 3-month Treasury rate | 5-year Treasury yield | 10-year Treasury yield | BBB corporate yield | Mortgage rate | Prime rate | Level | | | |
|---------|-----------------|--------------------|-------------------------------|----------------------------------|-------------------|--------------------|-----------------------|-----------------------|------------------------|---------------------|---------------|------------|------------------------------------|-------------------|------------------------------------|-------------------------|
| | | | | | | | | | | | | | Dow Jones Total Stock Market Index | House Price Index | Commercial Real Estate Price Index | Market Volatility Index |
| Q1 2017 | -5.1 | -2.7 | -1.0 | 0.5 | 5.6 | 1.5 | 0.1 | 0.3 | 0.8 | 5.5 | 4.0 | 3.3 | 15,374 | 179 | 288 | 68.7 |
| Q2 2017 | -7.5 | -5.5 | -4.0 | -2.7 | 6.9 | 1.3 | 0.1 | 0.4 | 0.8 | 6.0 | 4.3 | 3.3 | 13,538 | 174 | 270 | 50.9 |
| Q3 2017 | -5.9 | -4.1 | -3.9 | -2.6 | 8.0 | 1.3 | 0.1 | 0.5 | 0.9 | 6.3 | 4.5 | 3.3 | 12,295 | 168 | 251 | 57.2 |
| Q4 2017 | -5.1 | -3.3 | -3.7 | -2.3 | 8.9 | 1.4 | 0.1 | 0.6 | 1.0 | 6.4 | 4.6 | 3.2 | 11,704 | 162 | 234 | 49.3 |
| Q1 2018 | -3.0 | -1.4 | -2.5 | -1.1 | 9.6 | 1.5 | 0.1 | 0.7 | 1.1 | 6.1 | 4.5 | 3.2 | 12,338 | 156 | 218 | 39.1 |
| Q2 2018 | 0.0 | 1.6 | -1.4 | 0.2 | 9.8 | 1.7 | 0.1 | 0.7 | 1.2 | 5.7 | 4.4 | 3.2 | 13,325 | 148 | 206 | 31.9 |
| Q3 2018 | 0.7 | 2.3 | -0.4 | 1.1 | 10.0 | 1.7 | 0.1 | 0.8 | 1.3 | 5.4 | 4.4 | 3.2 | 14,348 | 142 | 196 | 26.7 |
| Q4 2018 | 3.0 | 4.5 | 0.8 | 2.4 | 9.9 | 1.9 | 0.1 | 0.9 | 1.4 | 5.0 | 4.3 | 3.2 | 15,625 | 138 | 193 | 22.2 |
| Q1 2019 | 3.0 | 4.4 | 1.4 | 2.9 | 9.8 | 1.8 | 0.1 | 1.0 | 1.5 | 4.7 | 4.1 | 3.2 | 17,070 | 137 | 192 | 19.3 |
| Q2 2019 | 3.9 | 5.1 | 2.2 | 3.7 | 9.6 | 1.7 | 0.1 | 1.1 | 1.6 | 4.3 | 4.0 | 3.2 | 18,739 | 138 | 194 | 16.8 |
| Q3 2019 | 3.9 | 5.0 | 2.5 | 3.8 | 9.4 | 1.6 | 0.1 | 1.1 | 1.6 | 4.0 | 3.9 | 3.2 | 19,909 | 140 | 198 | 16.0 |
| Q4 2019 | 3.9 | 4.9 | 2.6 | 3.8 | 9.1 | 1.6 | 0.1 | 1.2 | 1.7 | 3.8 | 3.9 | 3.2 | 21,186 | 142 | 203 | 14.9 |
| Q1 2020 | 3.9 | 4.8 | 2.5 | 3.6 | 8.9 | 1.4 | 0.1 | 1.2 | 1.8 | 3.6 | 3.8 | 3.2 | 22,577 | 145 | 207 | 14.3 |

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 4B. Supervisory severely adverse scenario: International variables, Q1:2017–Q1:2020**

Percent, unless otherwise indicated.

| Date | Euro area real GDP growth | Euro area inflation | Euro area bilateral dollar exchange rate (USD/euro) | Developing Asia real GDP growth | Developing Asia inflation | Developing Asia bilateral dollar exchange rate (F/USD, index) | 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 2017 | -6.0 | 0.6 | 0.959 | -0.1 | 0.5 | 107.4 | -4.3 | -3.1 | 113.0 | -4.7 | -0.1 | 1.179 |
| Q2 2017 | -7.0 | -0.2 | 0.928 | 0.4 | -0.5 | 112.1 | -7.8 | -4.1 | 110.4 | -6.6 | -0.8 | 1.154 |
| Q3 2017 | -5.7 | -1.0 | 0.928 | 2.2 | -1.2 | 114.3 | -9.2 | -4.6 | 109.5 | -6.1 | -1.1 | 1.141 |
| Q4 2017 | -4.7 | -1.5 | 0.929 | 3.4 | -1.6 | 115.8 | -9.5 | -4.9 | 108.0 | -5.0 | -1.0 | 1.126 |
| Q1 2018 | -2.9 | -1.5 | 0.949 | 5.1 | -1.6 | 114.5 | -7.7 | -4.2 | 108.1 | -3.1 | -0.6 | 1.142 |
| Q2 2018 | -1.5 | -1.3 | 0.964 | 5.9 | -1.3 | 113.2 | -5.5 | -3.5 | 108.2 | -1.4 | -0.1 | 1.158 |
| Q3 2018 | -0.3 | -0.9 | 0.975 | 6.2 | -1.0 | 112.0 | -3.6 | -2.8 | 108.4 | 0.1 | 0.2 | 1.174 |
| Q4 2018 | 0.6 | -0.4 | 0.981 | 6.3 | -0.6 | 110.9 | -2.1 | -2.2 | 108.7 | 1.2 | 0.6 | 1.188 |
| Q1 2019 | 1.3 | 0.1 | 0.985 | 6.4 | -0.2 | 109.6 | -0.9 | -1.6 | 108.7 | 2.0 | 0.8 | 1.189 |
| Q2 2019 | 1.8 | 0.5 | 0.989 | 6.5 | 0.2 | 108.5 | 0.0 | -1.1 | 108.7 | 2.6 | 1.0 | 1.190 |
| Q3 2019 | 2.0 | 0.7 | 0.994 | 6.6 | 0.6 | 107.5 | 0.7 | -0.6 | 108.9 | 2.9 | 1.1 | 1.190 |
| Q4 2019 | 2.1 | 0.9 | 0.999 | 6.6 | 0.9 | 106.7 | 1.1 | -0.3 | 109.2 | 3.0 | 1.3 | 1.191 |
| Q1 2020 | 2.1 | 1.1 | 1.003 | 6.7 | 1.3 | 106.0 | 1.4 | 0.1 | 109.4 | 3.0 | 1.4 | 1.192 |

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

Notes Regarding Scenario Variables

Sources for data through 2016:Q4 (as released through 1/18/2017). The 2016:Q4 values of variables marked with an asterisk (*) are projected.

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

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

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

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

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

U.S. CPI inflation: Percent change in the quarterly average of seasonally-adjusted monthly data for the consumer price index, 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.

U.S. 5-year Treasury yield: Quarterly average of the yield on 5-year U.S. Treasury bonds, 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 bonds, constructed for the FRB/U.S. model by Federal Reserve staff based on the Svensson smoothed term structure model; see id.

U.S. BBB corporate yield: Quarterly average of the yield on 10-year BBB-rated corporate bonds, constructed for the FRB/U.S. model by Federal Reserve staff using a Nelson-Siegel smoothed yield curve model; see Charles R. Nelson and Andrew F. Siegel (1987), “Parsimonious Modeling of Yield Curves,” *Journal of Business*, vol. 60, pp. 473–89). Data prior to 1997 is based on the WARGA database. Data after 1997 is based on the Merrill Lynch database.

U.S. mortgage rate: Staff calculations based on 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 and other sources.

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

U.S. Dow Jones Total Stock Market (Float Cap) Index: End of quarter value, Dow Jones.

***U.S. House Price Index:** CoreLogic, index level, seasonally adjusted by Federal Reserve staff.

***U.S. Commercial Real Estate Price Index:** From the Financial Accounts of the United States, Federal Reserve Board (Z.1 release); the series corresponds to the data for price indexes: Commercial Real Estate Price Index (series FL075035503.Q, divided by 1000).

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

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

Euro area inflation: Percent change in the quarterly average of the harmonized index of consumer prices

at an annualized rate, staff calculations based on Statistical Office of the European Communities via Haver.

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

***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 Chinese National Bureau of Statistics via CEIC; Indian Ministry of Statistics and Programme Implementation via Haver; Labour Bureau of India via CEIC; National Statistical Office of Korea via CEIC; Census and Statistic Department of Hong Kong via CEIC; and Taiwan Directorate-General of Budget, Accounting, and Statistics via CEIC.

***Japan real GDP growth:** Percent change in gross domestic product at an annualized rate, Cabinet Office via Haver.

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

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

U.K. inflation: Percent change in the quarterly average of the consumer price index at an annualized rate, staff calculations based on Office for National Statistics via Haver.

Exchange rates: End-of-quarter rates from the H.10 Release, Foreign Exchange Rates, Federal Reserve Board.

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