

**Federal Reserve System  
Capital Plan Review**

**Summary Instructions and Guidance**

**November 22, 2011**

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## Background

As indicated in the final rule regarding capital plans (the capital plans rule),<sup>1</sup> the Federal Reserve's assessment of capital adequacy for U.S.-domiciled, top-tier bank holding companies (BHCs) with total consolidated assets of \$50 billion or more<sup>2</sup> will include consideration of a BHC's overall financial condition, risk profile and capital adequacy. Assessments will also be made on the overall content of a capital plan and the strength of the BHC's capital adequacy process, including its capital policies.<sup>3</sup> Pursuant to this, BHCs with assets of \$50 billion or more that are subject to the capital plans rule but that did not participate in the 2011 Comprehensive Capital Analysis and Review (CCAR)<sup>4</sup> are required to submit comprehensive capital plans approved by the BHC's board of directors, or a committee thereof, for the 2012 Capital Plan Review (CapPR 2012) by January 9, 2012, irrespective of whether they intend to undertake any capital distributions over the planning horizon covered in the comprehensive capital plan.<sup>5</sup>

As outlined in the capital plans rule, supervisory review of a BHC's comprehensive capital plan will specifically assess:

- 1) The comprehensiveness of the capital plan, including the extent to which the analysis underlying the plan captures and appropriately addresses potential risks stemming from all activities across the BHC under baseline and stressed operating conditions;
- 2) The reasonableness of the BHC's assumptions and analysis underlying the capital plan and a review of the robustness of its capital adequacy process;
- 3) The BHC's capital policy; and

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<sup>1</sup> The capital plans rule will be codified at 12 CFR 225.8.

<sup>2</sup> Asset size will be as measured over the previous four calendar quarters.

<sup>3</sup> See section 225.8(e)(1)(i) of the capital plans rule.

<sup>4</sup> The 12 bank holding companies participating in the CapPR are: BBVA USA Bancshares Inc., BMO Financial Corp., Citizens Financial Group Inc., Comerica Inc., Discover Financial Services, HSBC North America Holdings Inc., Huntington Bancshares Inc., M&T Bank Corp., Northern Trust Corp., RBC USA Holdco Corp., UnionBanCal Corp., and Zions Bancorporation.

<sup>5</sup> Until July 21, 2015, the capital plans rule does not apply to any bank holding company subsidiary of a foreign banking organization that is currently relying on Supervision and Regulation Letter SR 01-01 issued by the Board (as in effect on May 19, 2010). See section 225.8(b)(2)(i) of the capital plans rule. Under CapPR 2012, the Federal Reserve will assess capital plans in a manner consistent with the capital plans rule but will not be conducting the same detailed post-stress capital analysis as in CCAR 2012. As such, FR Y-14A and FR Y-14QA schedules are not required for these BHCs; rather, a separate documentation request will be provided to each BHC regarding its submission. While the capital plans rule requires plans to be submitted by January 5<sup>th</sup>, the Federal Reserve has extended this deadline to January 9. See section 225.8(e)(1)(i) of the capital plans rule.

- 4) The BHC's ability to maintain capital above each minimum regulatory capital ratio and above a tier 1 common ratio of 5 percent on a pro forma basis under expected and stressful conditions throughout the planning horizon.<sup>6</sup>

As a part of the supervisory review of the comprehensive capital plans, supervisors will also assess BHCs' strategies for addressing proposed revisions to the regulatory capital framework agreed upon by the Basel Committee on Banking Supervision (BCBS), commonly known as Basel III, and changes arising from the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank).<sup>7</sup> The Federal banking agencies have begun the process for adopting the Basel III framework agreed to by the BCBS, and the Federal Reserve expects to issue for comment rules for U.S. implementation in the coming months. In line with this effort, the Federal Reserve expects that a BHC will demonstrate that it can achieve readily and without difficulty the ratios required by the Basel III framework as they would come into effect in the United States. These projections should include any planned capital actions including dividends and other distributions.

This instructions document provides 1) general logistics for BHCs' capital plan submissions, 2) guidelines surrounding the mandatory elements of a comprehensive capital plan 3) information on what the Federal Reserve will assess during CapPR 2012 and a description of how the Federal Reserve will assess the planned capital distributions, 4) information on the Federal Reserve's response, and 5) information for BHCs requesting incremental capital requests following CapPR 2012. In addition, Appendix I provides supervisory expectations for BHCs' capital policies, Appendix II outlines expectations for effective capital adequacy processes, and Appendix III describes the macroeconomic scenarios used in CapPR 2012.

Instructions for those BHCs subject to the capital plans rule that are participating in CCAR are being provided under separate cover to the relevant institutions.

## **1. Summary Instructions**

### **1.1. Submission Timeline, Format and Questions**

Each BHC must submit its comprehensive capital plan and any supporting information to the Federal Reserve through the BHC CCAR 2012 IntraLinks collaboration site that has been established to facilitate exchanges of information. The IntraLinks site allows documents to be managed in a secure environment. Registered members of each BHC will have access to only their BHC's folder and documents. The site also contains folders with general information available to all project participants.

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<sup>6</sup> See section 225.8(e)(1)(i) of the capital plans rule.

All correspondence and questions regarding this request and related issues should be directed to the BHC's responsible Reserve Bank. Conference calls may be scheduled to discuss and better understand submitted questions; however, **all official responses to questions will come from the responsible Reserve Bank.**

## **1.2. Coverage of the Submission**

CapPR 2012 is a comprehensive assessment and will take into account all relevant risks to the BHC, including any estimates of potential losses that are not explicitly requested in the documentation request. In other words, it is the responsibility of each BHC to capture all potential losses from all on- and off-balance sheet positions, as well as any other events that have the potential to impact capital and capital needs in both baseline and stress environments. The completeness of each BHC's comprehensive capital plan will be a key evaluation point for supervisors during CapPR 2012.<sup>8</sup>

BHC submissions of pro forma, post-stress capital estimates in their comprehensive capital plans, inclusive of planned capital actions, must begin with position information as of September 30, 2011, unless otherwise directed by the Federal Reserve, and span the period beginning in the fourth quarter of 2011 and concluding at the end of the fourth quarter of 2013 (December 31, 2013, unless otherwise directed by the Federal Reserve).

For the purposes of this exercise, BHCs must submit comprehensive capital plans supported by their internal capital adequacy assessment and capital planning processes. Each BHC must include pro forma capital analyses, including supporting projections, based on at least four scenarios:

- i. *BHC Baseline* – a BHC-defined baseline scenario
- ii. *Supervisory Baseline* – a baseline scenario provided by the Federal Reserve
- iii. *BHC Stress* – at least one BHC-defined adverse scenario
- iv. *Supervisory Stress* – an adverse scenario provided by the Federal Reserve

## **1.3. Supervisory Scenarios**

BHCs are receiving the Supervisory Baseline and Supervisory Stress scenarios as part of this instructions package. (Summary statistics and a brief description of the Supervisory Baseline and Supervisory Stress scenarios are provided in Appendix III.) The scenarios show quarterly trajectories for key macroeconomic and financial variables. Broadly speaking, the Supervisory Baseline scenario follows the consensus outlook from the Blue Chip Economic Indicators and other sources as of mid-November. The supervisory stress scenario features a deep recession that begins in the fourth quarter of 2011, in which the unemployment rate increases by an amount similar to that experienced, on average, in severe recessions such as those in 1973-

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<sup>8</sup> See section 225.8(e)(1)(i)(A) of the capital plans rule.

1975, 1981-82, and 2007-2009, with a sizable shortfall in U.S. economic activity and employment, accompanied by a notable decline in global economic activity. The scenario also includes hypothetical asset price declines and risk premia increases that are designed, for the purposes of this exercise, to start in the fourth quarter of 2011.

**It is important to note that the scenarios provided by the Federal Reserve are not forecasts, but rather hypothetical scenarios to be used to assess the strength and resilience of BHC capital in a baseline economic environment and in a particularly adverse one. An outcome like the supervisory stress scenario, while unlikely, may prevail if the U.S economy were to experience a recession while at the same time economic activity in other major economies were also to contract significantly.**

While the Federal Reserve will provide a set of hypothetical shocks to the risk factors most relevant to the trading and counterparty positions, the BHCs included in the CapPR exercise are not expected to use these shocks in their assessments. However, as previously discussed, firms are expected to apply the respective scenarios (e.g. BHC Stress, Supervisory Stress) to all exposures and activities of the firm including its trading and counterparty positions.

#### **1.4. Incomplete Data**

Under the capital plans rule, failure to submit complete data to the Federal Reserve in a timely manner may be a basis for objection to a capital plan.<sup>9</sup> A BHC's inability to provide a complete submission by the due date will influence the Federal Reserve's qualitative assessment of the internal risk measurement and management practices supporting a BHC's capital adequacy processes (see section 3.1).

## **2. Mandatory Elements of a Capital Plan**

The capital plans rule defines a capital plan as "a written presentation of a company's capital planning strategies and capital adequacy process that includes certain mandatory elements." These mandatory elements are organized into five main components:

- 1) An assessment of the expected uses and sources of capital over the planning horizon (see section 2.1);
- 2) a description of all planned capital actions over the planning horizon (see section 2.2);
- 3) a discussion of any expected changes to the BHC's business plan that are likely to have a material impact on the BHC's capital adequacy or liquidity (see section 2.3);
- 4) a detailed description of the BHC's process for assessing capital adequacy (see section 2.4);  
and
- 5) a BHC's capital policy (see Appendix I).<sup>10</sup>

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<sup>9</sup> See section 225.8(e)(2)(ii) of the capital plans rule.

<sup>10</sup> See section 225.8(d)(2) of the capital plans rule.

The remainder of this document provides additional detail for each of the mandatory elements of a capital plan for CapPR 2012.

## **2.1. Assessment of Uses and Sources of Capital over Planning Horizon**

A company is required to conduct an assessment of the expected uses and sources of capital over the planning horizon assuming both expected and stressful conditions.

This assessment must contain the following elements:

- Estimates of projected revenues, losses, reserves, and pro forma capital levels, including any minimum regulatory capital ratios (e.g., leverage, tier 1 risk-based, and total risk-based capital ratios) and any additional capital measures deemed relevant by the BHC, over the planning horizon under expected and stressed conditions as specified by the Federal Reserve and by the BHC's internal scenarios. This should include any scenarios provided by the Federal Reserve and at least one stressed scenario developed by the BHC appropriate to its business model and portfolios;
- A calculation of the pro forma tier 1 common ratio over the planning horizon under expected and stressful conditions and discussion of how the company will maintain a pro forma tier 1 common ratio above 5 percent under the stressed scenarios required by the capital plans rule;
- A discussion of the results of any stress test required by law or regulation, and an explanation of how the capital plan takes these results into account; and
- A description of all planned capital actions over the planning horizon.

The remainder of section 2.1 provides additional detail on these elements.

### **2.1.1. Estimates of Projected Revenues, Losses, Reserves, and Pro Forma Capital Levels**

As noted above, for the purposes of CapPR 2012, BHCs are to submit capital plans supported by their internal capital adequacy assessment and capital planning processes and include pro forma analyses based on at least four scenarios including the BHC Baseline, Supervisory Baseline, (at least) one BHC Stress, and a Supervisory Stress scenario. Supervisors will be assessing the processes and practices the BHCs have in place to carry out this analysis, including the risk capture, measurement and management practices supporting the analysis.

**Please note that the documentation requested by the Federal Reserve does not imply that any specific methodology should be used by BHCs in their loss and revenue estimation practices or any other internal analysis used to support their capital plans; rather, a BHC's submissions for each scenario should be based on its own processes and analyses. The Federal Reserve's assessment will focus on the robustness of a BHC's internal processes.**

In all cases, BHCs should substantiate that their results are consistent with the specified macroeconomic and financial environment, and that the various components of their results are internally consistent. For example, it might be inconsistent to project a shrinking balance sheet while also projecting large increases in net income in a stress or baseline environment. BHCs should submit background information on the methodologies supporting their estimates. This material should include discussion of key approaches and assumptions used to measure BHC-wide exposures and to arrive at stress loss estimates, along with relevant background on positions or business lines that could have a material influence on outcomes.

In general, BHCs should incorporate the following into their pro forma estimates:

Definition of Losses for Loans: The losses to be estimated for loans held in accrual portfolios in this exercise are generally credit losses due to failure to pay obligations (cash flow losses), rather than discounts related to mark-to-market values. In some cases, BHCs may have loans that are being held for sale or which are subject to purchase accounting adjustments. In these cases, the analysis should anticipate the change in value of the underlying asset, apply the appropriate accounting treatment, and determine the incremental losses.

Commitments and Contingent Obligations: The analysis should reflect expectations of customer draw-downs on unused credit commitments under each scenario, as well as any assets and exposures that might be taken back on the balance sheet or otherwise generate losses under stressful economic conditions (e.g., assets held in ABCP conduits and other off-balance sheet funding vehicles to which the BHC provides support). Unconsolidated entities to which the BHC has potential exposure are also within the scope of this exercise and should be considered. If it is envisioned that non-contractual support may be provided during a stressful environment for certain obligations of sponsored or third-party entities, these should be included in a BHC's analysis of contingent obligations.

Loan Loss Estimates: BHCs should describe the underlying models and methods used in their loss estimate calculations for loans, and provide background on their derivation. Factors that could be cited as supporting evidence for loss estimates include (but are not limited to) composition of the loan portfolios within a broad category (e.g., distribution among Prime, Alt-A, and subprime loans within first lien residential mortgages) and specific characteristics of the portfolio within categories and/or sub-categories (e.g., vintage, FICO, LTVs, regional distribution, industry mix, ratings distribution, or collateral type). Hypothetical behavioral responses by BHC management should not be considered as mitigating factors for the purposes of this analysis. For example, hedges already in place should be accounted for as potential mitigating factors, but not assumptions about potential future hedging activities.

Losses on AFS and HTM Securities: Each BHC should provide projected other-than-temporary impairments (OTTI) for available-for-sale (AFS) and held-to-maturity (HTM) securities. OTTI projections should be based on September 30, 2011, positions and should be consistent with specified macroeconomic assumptions and standard accounting treatment. The method for



deriving the bifurcation of credit losses from other losses should be provided in supporting documentation. BHCs should also provide estimated fair values of AFS and HTM securities based on a re-pricing of September 30, 2011 positions to reflect changes in market pricing variables that are the same as those used for the global market shock scenario, as described earlier and which will be provided to each BHC.

Non-U.S. Exposures: Loss, revenue, and loan loss reserve projections should cover positions and businesses for the BHC on a global consolidated basis. To the extent that loss experience on foreign positions is projected to differ from that on U.S. positions, institutions should provide supporting information to explain those differences. For example, if the institution is using different loss rates for foreign positions, those foreign positions should be explicitly identified and reported separately, by position/loan type, in the BHC's supporting documentation.

Trading Account/MTM Positions and Counterparty Credit Exposures: All BHCs with trading activities and private equity investments should estimate any potential losses that their positions might experience under the specified scenarios, including those stemming from potential defaults on credit sensitive positions held in the trading account and from counterparty credit exposures. Loss estimates should include those taken through valuation declines on loans, securities and other trading or mark-to-market (MTM) positions, as well as on private equity investments (regardless of the portfolio in which a private equity position is booked). Private equity-related loss estimates should be broken out from other trading/MTM loss.

Under each scenario, potential losses from counterparty credit exposures deriving from trading or financing transactions should also be included in the analysis. Losses associated with credit valuation adjustments related to these exposures and any additional losses stemming from potential defaults should be included. The analysis should be based on estimates of the potential size of these exposures in each scenario.

Pre-Provision Net Revenue: For purposes of this exercise, pre-provision net revenue (PPNR) is defined as net interest income plus non-interest income minus non-interest expense, excluding certain items. Excluded items include valuation adjustments for a BHC's own debt under the fair value option (DVA), goodwill impairment, one-time item exclusions, and operational risk expense adjustments required for PPNR purposes.

Assumptions underlying PPNR estimates should be clearly explained, especially those regarding business or market share growth. These should be consistent with the economic environment specified in the relevant scenario. Especially in the more adverse scenario(s), PPNR estimates materially exceeding recently realized values should include substantial supporting evidence. Additionally, BHCs should provide sufficient detail and transparency regarding how changing asset and liability balances and composition, and associated interest rate assumptions, impacted net interest income projections. BHCs should ensure that PPNR forecasts are explicitly based on, and directly tie to, balance sheet and other exposure assumptions used for related loss forecasting. In addition, BHCs should apply assumptions consistent with the

scenario and resulting business strategy when forecasting PPNR for fee-based lines of business (e.g., asset management), while ensuring that expenses are appropriately taking into account projected revenues.

BHCs will be expected to estimate losses associated with requests by mortgage investors, including both GSEs and private-label securities holders, to repurchase loans deemed to have breached representations and warranties, or with investor litigation that broadly seeks compensation from BHCs for losses. Firms should consider not only how the macro scenarios could impact repurchase losses, but also how a range of legal process outcomes, including worse than expected resolutions of the various contract claims or threatened or pending litigation against the BHC and against various industry participants. Firms should provide appropriate support of the adverse outcomes considered in their analysis.

Mortgage Servicing Rights: All revenue and expenses related to mortgage servicing rights (MSRs) and the associated non-interest income and non-interest expense line items should be included in pro forma estimates.

BHCs should provide detailed assumptions regarding cost of service and the resulting impact on servicing income. BHCs should provide period-by-period size, composition, delinquencies, defaults, and foreclosures in the serviced for others portfolio, as well as how these translate into the servicing cost assumption (e.g., assumptions surrounding baseline cost to service, delinquency costs, foreclosure costs, foreclosure timelines, etc.). This would include not only the cost-to-service assumption embedded in the MSR valuation, but also any liability or costs the BHC incurs from servicing loans not owned related to unreimbursed foreclosure costs, which typically relates to VA no-bids; first 60 days interest on GNMA's; FNMA/FHLMC attorney fees, property preservation costs, and property inspection fees; FNMA/FHLMC fines for untimely foreclosures; etc.

BHCs should provide sufficient detail regarding MSR valuation and hedging assumptions for each of the nine-quarters in the planning horizon. Such detail should include macro-economic and financial market factors, such as yield curve level and slope, interest rate volatility, primary-to-secondary spreads, and other pertinent factors not explicitly supplied. Such detail should also include key assumptions for material servicing stratum, including but not limited to, servicing fee rates, prepayment rates, ancillary income, and discount/OAS rates. BHCs should also document their hedge re-balancing rules, hedge roll-over assumptions, and how such hedging rules are consistent with current limits/risk tolerance.

Allowance for Loan Losses: BHCs should estimate the portion of the current allowance for loan losses available to absorb credit losses on the loan portfolio for each quarter under each scenario, while maintaining an adequate allowance along the scenario path and at the end of the scenario horizon. Loan loss reserve adequacy should be assessed against the likely size, composition, and risk characteristics of the loan portfolio throughout the planning horizon in a manner that is consistent with the BHC's projections of losses over that scenario.

For the period ending December 31, 2013 (unless otherwise directed by the Federal Reserve), BHCs should include estimates of adequate reserves to cover expected losses for the year 2014 in manner that is consistent with each scenario.

Basel III: BHCs should include estimates of capital levels and composition, risk-weighted assets, exposures used to calculate minimum ratios and buffers that may be required by the Basel III framework agreed to by the BCBS, under both the BHC Baseline and the Supervisory Baseline scenarios. The BHC's submission documentation should include all material planned actions, including, but not limited to, the roll-off or sale of existing portfolio(s), the issuance of regulatory capital instruments and other strategic corporate actions to meet the proposed Basel III target ratios as they would come into effect in the United States.

Regulatory Capital: BHCs should supply quarterly estimates of regulatory capital under current U.S. capital adequacy guidelines (as well as tier 1 common as it is defined in the capital plans rule) over the planning horizon that reflects estimated losses and resources available to absorb those losses.<sup>11</sup> Institutions should also supply a quarterly estimate of risk-weighted assets for each scenario and average assets appropriate for the calculation of the tier I leverage ratio.

BHC Scenarios: BHCs are expected to develop their own baseline and stress scenarios, and provide details of those scenarios to the Federal Reserve. The BHC Baseline scenario should reflect the BHC's view of the most likely path of the economy over the forecast horizon. The BHC Stress scenario should be based on a coherent, logical narrative of a stressful economic environment. BHC stress scenarios should reflect the BHC's unique vulnerabilities to factors that affect its exposures, activities, and risks.

### **2.1.2. Supporting Documentation for Analyses used in Capital Plans**

Documentation of Risk Measurement Practices: Capital plan submissions should include documentation of key risk identification and measurement practices supporting the BHC-wide stress testing required in the capital plans. As noted above, an assessment of the robustness of these practices is a critical aspect of the supervisory assessment of capital adequacy processes.

Documentation of Internal Stress Testing Methodologies: BHCs should include in their capital plan submissions thorough documentation that describes key methodologies and assumptions for performing stress testing on their portfolios. Documentation should clearly describe the modeling development process, the derivation of outcomes, and validation procedures, as well as assumptions concerning new growth and changes to credit policy. Supporting documentation should transparently describe internal governance around the development of comprehensive capital plans. Senior management should provide boards of directors with sufficient information to facilitate the board's full understanding of the stress testing used by the firm for capital planning purposes.

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<sup>11</sup> See 12 CFR part 225, Appendices A, D, E, and G; see also section 225.8(c) of the capital plans rule.

Assumptions and Approaches: BHCs should provide credible support for BHC-specific assumptions, including any known weaknesses in the translation of assumptions into loss and resource estimates. An overreliance on past patterns of credit migration (the basis for roll rate and ratings transition models) may be a weakness when considering stress scenarios. BHCs should demonstrate that their approaches are clearly conditioned on the scenario under study. While judgment is an essential part of risk measurement and risk management, including for loss forecasting, BHCs should not be over-reliant on judgment to prepare their loss estimations without providing documentation or evidence of transparency and discipline around the process. BHCs should be transparent about the use of judgment and be adequately supported and in line with scenario conditions. They should be consistently conservative in the assumptions they make to arrive at loss rates. In addition, there should be appropriate challenge of assumptions by senior management and the board of directors.

Validation and Independent Review: In addition to being properly documented, models employed by BHCs should be independently validated or otherwise reviewed in line with model risk management expectations presented in existing supervisory guidance.

While use of existing risk measurement models and processes provides a useful reference point for considering stress scenario potential loss estimates, BHCs should consider whether these processes generate outputs that are relevant in a stressful scenario. Use of models may need to be supplemented with other data elements and alternative methodologies. It is critical that BHCs assess the vulnerability of their models to error, understand any of their other limitations, and consider the risk to the BHC should estimates based on those models prove materially inaccurate.

## **2.2. A Description of All Planned Capital Actions over the Planning Horizon**

In its assessment of the uses and sources of capital, a BHC's capital plan must describe all planned capital actions over the planning horizon. As described in the capital plans rule, a capital action is any issuance of a debt or equity capital instrument, capital distribution, and any similar action that the Federal Reserve determines could impact a BHC's consolidated capital. A capital distribution is a redemption or repurchase of any debt or equity capital instrument, a payment of common or preferred stock dividends, a payment that may be temporarily or permanently suspended by the issuer on any instrument that is eligible for inclusion in the numerator of any minimum regulatory capital ratio, and any similar transaction that the Federal Reserve determines to be in substance a distribution of capital. As described below, the planned capital actions under consideration by the Federal Reserve will be those proposed in the BHC Baseline scenario.

## **2.3. Expected Changes to Business Plan Affecting Capital Adequacy or Liquidity:**

Each BHC should include in its comprehensive capital plan a discussion of any expected changes to the BHC's business plan that are likely to have a material impact on the BHC's capital

adequacy or liquidity. Examples of changes to a business plan that may have a material impact could include a proposed merger or divestiture, changes in key business strategies, or significant investments. In this discussion, the company should consider, in particular, potential adverse consequences from the activities described above, such as a failed merger, aborted business strategy, or loss on a significant investment.

#### **2.4. Supervisory Expectations for a BHC's Capital Adequacy Process**

An important component of any BHC's capital plan is a description of the BHC's process for assessing capital adequacy (CAP). (See Appendix II for a detailed description of supervisory expectations for CAP.) An organization's CAP should reflect a full understanding of its risks and ensure that it holds capital corresponding to those risks to maintain overall capital adequacy. The detailed description of a company's CAP should include a discussion of how, under stressful conditions, the BHC will maintain capital commensurate with its risks, maintain capital above the minimum regulatory capital ratios, and serve as a source of strength to its depository institution subsidiaries. The description should also contain a discussion of how, under stressful conditions, the BHC will continue its operations by maintaining ready access to funding, meeting its obligations to creditors and other counterparties, and continuing to serve as a credit intermediary.

NOTE: An internal capital adequacy assessment process (ICAAP) under the Federal Reserve's advanced approaches capital guidelines for BHCs constitutes an internal capital adequacy process for purposes of the capital plans rule.<sup>12</sup> BHCs that have a satisfactory capital adequacy process as assessed in CapPR generally would be considered to have a satisfactory internal capital adequacy process for purposes of the rule. The seven principles articulated in Appendix II to this document are consistent with the U.S. Federal banking agencies' supervisory guidance relating to the ICAAP.<sup>13</sup>

### **3. Assessment of Planned Capital Distributions**

CapPR 2012 will use planned capital actions developed by the BHC and embedded in the BHC Baseline scenario as the planned actions that are subject to supervisory evaluation in both baseline scenarios and in the Supervisory Stress scenario. An assessment of the appropriateness of these actions will be evaluated, in part, by the implications for the BHC's pro forma, post-stress capital ratios under the BHC and Supervisory Stress scenarios, its common dividend payout ratio (common dividends relative to net income available to common shareholders) in the baseline scenarios, and its best assessment of the impact of prospective regulatory and legal changes (e. g., Basel III, the Collins Amendment, and the Volcker Rule) and how it intends to achieve and remain in compliance with those changes.

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<sup>12</sup> See 12 CFR part 225, Appendix G.

<sup>13</sup> 73 Fed.Reg. 44620 (July 31, 2008).

Any change to proposed capital distributions after January 9, 2012, may require submission of a revised plan in a subsequent quarter.<sup>14</sup> The Federal Reserve will rely on the dollar amount of distributions contained in a BHC's submission when assessing comprehensive capital plans. The Federal Reserve's decision to object, or issue a notice of non-objection, to a comprehensive capital plan will be specific to the BHC's proposed distributions.

### **3.1. Supervisory Assessment of Proposed Capital Actions**

The capital actions proposed by each BHC that participates in CapPR 2012 should be consistent with the BHC's capital policies and the baseline macroeconomic scenario that it develops for internal capital planning purposes (i.e., the BHC Baseline scenario). The participating BHCs will be evaluated against the factors described in the capital plans rule. This will include a BHC's ability to maintain capital above each minimum regulatory capital ratio (leverage, tier 1 risk-based, and total risk-based) and above a tier 1 common ratio of 5 percent on a pro forma basis under baseline and stress conditions throughout the planning horizon. To support this assessment, the Federal Reserve will review the supporting analyses in a BHC's comprehensive capital plan, including its stress test results.

### **3.2. Robustness of Proposed Capital Distributions**

In CapPR 2012, the Federal Reserve will assess the robustness of the BHC's capital adequacy inclusive of its planned capital actions in a variety of ways. In particular, the supervisory assessment will evaluate the combination of stress performance measures (revenues, losses, and reserves) with planned capital actions (e.g., dividends, issuance, and repurchases from the BHC Baseline scenario) against each minimum regulatory capital ratio and a 5 percent tier 1 common ratio. This conservative approach asks if a BHC would be capable of continuing to meet supervisory expectations for capital ratios even if stress conditions emerged and the BHC did not reduce distributions.

#### **3.2.1. Common Dividend Payouts**

The Federal Reserve expects that capital plans will reflect conservative common dividend payout ratios. In particular, requests that imply common dividend payout ratios above 30 percent of projected after-tax net income available to common shareholders will receive particularly close scrutiny.

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<sup>14</sup> See sections 225.8(d)(4) and (f) of the capital plans rule.

#### 4. Federal Reserve Responses to Proposed Capital Actions

After performing appropriate analysis, the Federal Reserve will by March 15, 2012, either object or provide a notice of non-objection to the submitted comprehensive capital plan based on an assessment of the comprehensiveness and quality of the plan, pro forma, post-stress capital ratios under the scenarios, and object in whole or in part to the proposed capital actions as submitted. BHCs wishing to amend their submission during the process (e.g., request a smaller dividend increase) may resubmit a revised capital plan, but the supervisory review of the revised request may be not completed until the subsequent calendar quarter.

Submissions that are late, incomplete, or otherwise unclear could result in an objection to the plan and a mandatory resubmission of a new plan, which may not be reviewed until the following quarter. Upon the Federal Reserve's objection to a comprehensive capital plan, the BHC may not make any capital distribution, other than those capital distributions with respect to which the Federal Reserve has indicated in writing its non-objection.<sup>15</sup>

Some BHCs may desire to announce or take capital actions prior to March 15, 2012. BHCs should inform the Federal Reserve no later than December 9, 2011, of their intent to carry over certain capital actions that were previously not objected to during 2011 by their responsible Reserve Bank. This carryover applies to actions such as share repurchases and redemptions of trust preferred securities. In addition, BHCs wishing to make a common dividend declaration prior to the March 15, 2012 decision may retain the same per share dividends as in the fourth quarter of 2011, unless the Federal Reserve explicitly informs the BHC otherwise. A response to such requests will be provided no later than December 31, 2011. After CapPR 2012, the period of non-objection will include the second quarter of the current year through the first quarter of the subsequent year. Consequently, and as explained in the preamble to the capital plans rule, this treatment of the carryover of capital actions into the first quarter 2012 is unique to CapPR 2012 and will not exist in future years.

Based on a review of a BHC's capital plan, supporting information, and data submissions, the Federal Reserve may require additional supporting information or analysis from a BHC, or require it to revise and resubmit its plan. Any of these may also result in the delay of evaluation of capital actions until a subsequent calendar quarter.

The Federal Reserve will provide feedback on its broader assessments of the BHCs' comprehensive capital plans and capital adequacy processes by April 30, 2012.

**The Federal Reserve at all times retains the ability to ultimately object to payments in future quarters if a BHC exhibits a material decline in performance or a deteriorating outlook materially increases BHC-specific risks.**

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<sup>15</sup> See section 225.8(e)(2)(iv) of the capital plans rule.

As detailed in the capital plans rule, a BHC must update and resubmit its capital plan if it determines there has been or will be a material change in the BHC's risk profile (including a material change in its business strategy or any material risk exposures), financial condition, or corporate structure since the BHC adopted the capital plan. Further, the Federal Reserve may direct a BHC to revise and resubmit its capital plan for a number of reasons, including if a stress scenario developed by a BHC is not appropriate to its business model and portfolios, or changes in financial markets or the macro-economic outlook that could have a material impact on a BHC's risk profile and financial condition requires the use of updated scenarios.

## **5. Incremental Capital Requests**

The capital plans rule provides that a BHC must request prior approval of a capital distribution if the "dollar amount of the capital distribution will exceed the amount described in the capital plan for which a non-objection was issued" unless an exception (i.e., 1 percent of tier 1 capital) is met.<sup>16</sup> Supervisors will examine performance relative to the initial projections and the rationale for the request. Any such request for prior approval should incorporate a fully updated capital plan, including relevant any updated baseline and supervisory stress scenarios provided by the Federal Reserve, unless otherwise directed by the Federal Reserve.

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<sup>16</sup> See section 225.8(f) of the capital plans rule.



## Appendix I: Supervisory Expectations for Capital Policies

In the capital plans rule a capital policy is defined as a BHC's written assessment of the principles and guidelines used for capital planning, capital issuance, usage and distributions, including internal capital goals; the quantitative or qualitative guidelines for dividend and stock repurchases; the strategies for addressing potential capital shortfalls; and the internal governance procedures around capital policy principles and guidelines. The firm's capital policy establishes the capital planning framework in place to address expectations under principles 4 and 5 of the overall capital adequacy process (CAP) as laid out in the 'Supervisory Expectations for a Capital Adequacy Process' section (Appendix II) of the CapPR 2012 instructions.

A BHC's internal capital goals should apply throughout the planning horizon in the form of capital levels and ratios. A BHC should be able to demonstrate that achieving its stated internal capital goals will allow it to continue its operations during and after the impact of the stressed scenarios included in its comprehensive capital plan. The policy should also include a detailed explanation of the circumstances in which it will not consider a dividend or repurchase, or will not execute a previously planned capital action.

As part of the continuation of a BHC's operations, the Federal Reserve expects the BHC to maintain ready access to funding, meet its obligations to creditors and other counterparties, and continue to serve as a credit intermediary, including under an adverse stress environment. Similarly, a BHC's capital policy should reflect strategies for addressing potential capital shortfalls, such as by reducing or eliminating capital distributions, raising additional capital, or preserving its existing capital, to support circumstances where the BHC has underestimated its risks or where its performance has not met its expectations.

The Federal Reserve expects that a BHC's capital policy will lead to an understanding of how the BHC manages, monitors and makes decisions regarding all aspects of capital, including capital planning, issuance, usage and distributions. The Federal Reserve will evaluate the BHC's capital policy using the following standards:

**Capital policy objectives:** The BHC's capital policy should clearly articulate the BHC's principles with respect to capital planning, capital issuance, usage and distributions (i.e., provide clarity about the BHC's objectives in managing its capital position). The policy should explain how the BHC's principles align with the imperative of maintaining a strong capital position.

**Capital goals:** The policy should lay out the BHC's capital goals over time, providing specific targets for the level and quality of capital. The capital goals should reflect forward-looking elements related to the economic outlook, exposures to losses under adverse economic scenarios, future regulatory requirements, as well as the expectations of stakeholders (e.g., shareholders, rating agencies, counterparties and regulators). Each BHC should ensure that its internal capital goals reflect any relevant minimum regulatory capital ratio levels, any higher levels of regulatory capital ratios (above regulatory minimums), and any additional capital measures that, when maintained, will allow the BHC to continue its operations.

Proposed capital actions: The policy should describe the governance and processes surrounding how common stock dividend and repurchase decisions are made, including an explanation of the roles and responsibilities of key decision-makers. The policy should describe the process the BHC follows to arrive at its planned capital distribution amount (both dividends and repurchases). Specifically, the policy should lead to a clear understanding of the following:

- The main factors/key metrics that influence both the size and format of the BHC's distribution;
- The analytical materials used in making capital distribution decisions (e.g., key metrics, reports, earnings, ratios, stress test results);
- Who has responsibility for producing the analytical material referenced above; and
- Who the analysis is presented to and the required approvals up to and including the board of directors.

Frequency of policy re-evaluation: The policy should include a minimum frequency with which the capital plan is re-evaluated. The Federal Reserve expects that BHCs will review their capital policies at least annually.

Quantitative metrics: The policy should include quantitative metrics such as common stock dividend (and other) payout ratios as maximums/targets for capital distributions (dividend/repurchase). The policy should include an explanation of how management concluded that these ratios are appropriate, sustainable, and consistent with its capital objectives, business model and capital plan.

Capital preservation scenarios: The policy should include a set of economic conditions that would cause the BHC to take action to preserve capital. Specifically, the policy should enumerate any triggers or circumstances that would call for the BHC to review or consider reducing, deferring, or eliminating dividends or repurchases.

Capital accretion: An important aspect of any comprehensive capital plan is the careful consideration of how retention of earnings will support and respond to the varied capital needs of the BHC in achieving its capital targets. In establishing dividend and repurchase levels, institutions should consider the strength, volatility and sustainability of their earnings relative to short and longer term demands to build the BHC's capital base over time. The setting of capital distribution levels should be consistent with a degree of capital accretion that support achieving the BHC's capital targets in its capital policy noted above.

Accordingly, in setting the levels of capital distributions, BHCs should explicitly take into account general economic conditions and their plans to grow their on- and off-balance-sheet size and risk organically or through acquisitions. In addition, the results of the BHC's capital

adequacy analysis, including internal stress tests and those run for the Federal Reserve, should influence the level of capital distributions the BHC believes are prudent. Further, BHCs should explicitly take into account short, intermediate and longer term capital demands due to expected changes in regulatory capital standards (e.g., changes arising from Basel III or Dodd-Frank), including recognition of the uncertainty of the precise details of those future standards.

A BHC's capital distribution framework should be sufficiently flexible to promptly respond to adverse changes in the environment and earnings. Institutions should be mindful to set capital dividend payout levels as a share of earnings that is believed to be sustainable through general fluctuations in the BHC's earnings, consistent with the degree to which the BHC seeks to address investor sensitivity to the reliability and sustainability of dividends.

As noted in the capital policy section above, policy triggers should be set that prompt management to reconsider, reduce or suspend capital actions. Triggers could include factors such as an actual or expected decline in earnings or changes in forward looking analysis, including stress tests that suggest a growing risk to the BHC achieving the targets of its capital plan.

## Appendix II: Supervisory Expectations for a Capital Adequacy Process

A BHC's capital adequacy process (CAP) should adhere to the following principles:

**Principle 1:** The BHC has a sound risk management infrastructure that supports the identification, measurement, and assessment of all material risks arising from its exposures and business activities.

- A satisfactory CAP requires (1) a comprehensive risk identification process, and (2) complete and accurate measurement and assessment of all material risks.
- A BHC should measure or assess the full spectrum of risks that face the organization, using both quantitative and qualitative methods, where applicable.
- Quantitative processes for measuring risks should meet supervisory expectations for model effectiveness and be supported by robust model development, documentation, and validation practices. Both qualitative and quantitative processes for assessing risk should be transparent, repeatable, and reviewable by an independent party.
- Any identified weaknesses in risk measures used as inputs to the capital adequacy process should be reported to and discussed with senior management and the board of directors. The potential implications of risk measurement weaknesses should also be reported and addressed.

**Principle 2:** The BHC has effective processes for translating risk measures into estimates of potential losses over a range of adverse scenarios and environments and for aggregating those estimated losses across the BHC.

- A CAP should include loss forecasting methodologies that generate estimates of potential losses, one of which should be an enterprise-wide stress test using scenario analysis. Methodologies utilized should be complementary in that they do not suffer from common limitations and do not all rely on common assumptions.
- Using its various measures, a BHC should develop consistent and repeatable processes to aggregate estimates of stress losses on a firm-wide basis across the BHC.
- A BHC should recognize that its loss forecasts are estimates and document uncertainty around those estimates, including an analysis of the impact of changes in assumptions.
- A BHC should demonstrate that its loss forecasting tools are appropriate for the manner in which they are being employed, and that the most relevant limitations are clearly identified, documented, and communicated to senior management and the board of directors.

**Principle 3:** The BHC has a clear definition of available capital resources and an effective process for forecasting available capital resources (including any forecasted revenues) over the same range of adverse scenarios and environments used for loss forecasting.

- Management and the board of directors should understand the loss absorption capabilities of the components of the BHC's capital base.
- In forecasting available capital resources, a BHC will need to consider not only its current positions and mix of capital instruments, but also how its capital resources may evolve over time under varying circumstances under stress scenarios.
- As is the case in considering the path of capital resources over time, PPNR forecasts should be consistent with balance sheet and other exposure assumptions used for related loss forecasting. This is critical for measuring the impact of earning assets and interest bearing liabilities (in addition to rate assumptions) on net interest income.

**Principle 4:** The BHC has processes for considering the impact of loss and resource estimates on capital adequacy, in line with the BHC's stated goals for the level and composition of capital, and taking into account any limitations of the BHC's capital adequacy process.

- A BHC should have a well-established and consistently executed process for aggregating loss and resource estimates to assess the post-stress impact of those estimates on capital. A BHC should use a variety of capital measures that represent both leverage and risk at specified time horizons.
- The board of directors is responsible for establishing capital goals commensurate with the risk profile, financial condition, and economic and market circumstances of the BHC. Such decisions should also include an assessment of limitations of underlying risk measurement and management practices supporting risk evaluation and loss and revenue forecasting.
- Additional detail on expectations for establishing appropriate capital targets can be found in the "Supervisory Expectations for Capital Policies" section (Appendix II) of the CapPR 2012 instructions.

**Principle 5:** The BHC has a process, supported by its capital policy, to use its assessments of the impact of loss and resource estimates on capital adequacy to make key decisions regarding the current level and composition of capital, specific capital actions, and capital contingency plans.

- A BHC's processes for making key decisions about capital adequacy involve: (1) the establishment of a policy framework that includes specified triggers for when certain decisions need to be considered or reconsidered, (2) an assessment of the adequacy of the BHC's capital which incorporates a variety of BHC-wide analytics, and (3) contingency plans that inform management actions when specified triggers are breached.

- Additional detail on expectations for establishing appropriate capital targets can be found in the “Supervisory Expectations for Capital Policies” section (Appendix I) of the CCAR 2012 instructions.

**Principle 6:** The BHC has robust internal controls governing capital adequacy process components, including: sufficient documentation; change control; model validation and independent review; and audit testing.

- Consistent with general safety and soundness supervisory expectations, the internal control environment governing the CAP should be comprised of effective board and senior management oversight, policies and procedures, management information systems, and independent validation or verification.
- The internal control framework should encompass the entire CAP, including the risk management systems used to produce input data, the models and other techniques used to project loss and resource estimates, the process for making capital adequacy decisions, and the aggregation and reporting framework used to produce management and board reporting.
- Policies and procedures should ensure a consistent and repeatable process and provide transparency to third parties for their understanding of a BHC’s CAP processes and practices. Policies and procedures should be comprehensive, relevant to their use in the CAP, be periodically updated, and cover the entire process and all of its components.
- Specific to the CAP, a BHC should have internal controls that ensure the integrity of reported results and that all material changes to the process and its components are appropriately reviewed and approved.
- A BHC should have controls to ensure that management information systems are robust enough to support models, stress tests, and other quantitative tools used for the CAP, with sufficient flexibility to run ad hoc analysis as needed. Ensuring the quality and integrity of data and other inputs is of vital importance.
- Expectations for validation and independent review for components of the CAP are consistent with existing supervisory guidance on model risk management. A BHC’s internal audit should play a strong role in evaluating the CAP and its components. A full review of the CAP should be done periodically to ensure that as a whole it is functioning as expected.

**Principle 7:** The BHC has effective board and senior management oversight of the CAP, including periodic review of capital goals, assessment of the appropriateness of adverse scenarios considered in capital planning, regular review of any limitations and uncertainties in the process, and approval of planned capital actions.

- The board of directors should make informed decisions on capital adequacy for its BHC by receiving sufficient information detailing the risks the BHC faces, and the impact that loss and resource estimates may have on the capital position of the organization. This information should be framed against the capital goals established by the BHC and obligations to external stakeholders, and consider capital adequacy for the BHC with respect to the current circumstances as well as on a pro forma, post stress basis.
- Additionally, the information the board reviews should include a representation of weaknesses and uncertainties within the capital adequacy process, enabling the board to have the perspective to effectively understand and challenge reported results. Supervisors expect the board to act appropriately when weaknesses in the process are identified, giving full consideration to the impact of those weaknesses in their capital decisions.
- Using appropriate information, senior management should make informed recommendations to the board about the BHC's capital, including capital goals and distribution decisions.
- A BHC should appropriately document the key decisions made by the board of directors and senior management and the information used to make those decisions.

### Appendix III: The Federal Reserve CapPR-2012 Macroeconomic Scenarios

As part of the 2012 Capital Plan Review (CapPR-12), BHCs are being asked to project their revenues, losses, and pro forma capital positions through the end of 2013 under four scenarios:

- i. *BHC Baseline* – a BHC-defined baseline scenario
- ii. *Supervisory Baseline* – a baseline scenario provided by the Federal Reserve
- iii. *BHC Stress* – at least one BHC-defined adverse scenario
- iv. *Supervisory Stress* – an adverse scenario provided by the Federal Reserve

**It is important to note that the scenarios provided by the Federal Reserve are not forecasts, but rather hypothetical scenarios to be used to assess the strength and resilience of BHC capital in a baseline economic environment and in a particularly adverse one. An outcome like the supervisory stress scenario, while unlikely, may prevail if the U.S economy were to experience a recession while at the same time economic activity in other major economies were also to contract significantly.**

This Appendix provides a description of the two scenarios provided by the Federal Reserve.

All scenarios start in the fourth quarter of 2011 and extend through the fourth quarter of 2014, which permits the calculation of loan-loss reserves at the end of 2013. The two Federal Reserve scenarios are defined over 25 variables. For the domestic U.S. variables, each Federal Reserve scenario includes:

- Five measures of economic activity and prices: Real and nominal Gross Domestic Product (GDP), the unemployment rate of the civilian non-institutional population aged 16 and over, nominal disposable personal income, and the Consumer Price Index(CPI);
- Four aggregate measures of asset prices or financial conditions: The Core Logic National House Price Index, the National Council for Real Estate Investment Fiduciaries Commercial Real Estate Price Index, the Dow Jones Total Stock Market Index, and the Chicago Board Options Exchange Market Volatility Index; and,
- Four measures of interest rates: the rate on the three-month Treasury bill, the yield on the 10-year Treasury bond, the yield on a 10-year BBB corporate security, and the interest rate associated with a conforming, conventional, fixed-rate, 30-year mortgage.

For the international variables, each Federal Reserve scenario includes three variables in four countries/country blocks.

- The three variables for each country/country block are the percent change in real GDP, the percent change in the Consumer Price Index or local equivalent, and the U.S./foreign currency exchange rate.
- The four countries/country blocks included are the euro area, the United Kingdom, developing Asia, and Japan. The euro area is defined as the seventeen European Union member states that have adopted the euro as their common currency and developing Asia is defined as the aggregate of China, India, Hong Kong, and Taiwan.



**Attachments**

The preceding discussion describes the broad contours of the baseline and adverse scenario over the 2012 to 2014. The specific values for all the variables included in the scenarios are provided on the following pages to BHCs in an accompanying spreadsheet.

Supervisory Stress Scenario (US projections)

| OBS     | Real GDP growth | Nominal GDP growth | Real disposable income growth | Nominal disposable income growth | Unemployment rate | CPI inflation rate | 3-month Treasury yield | 10-year Treasury yield | BBB corporate yield | Mortgage rate | Dow Jones Total Stock Market Index | Market Volatility Index (VIX) | House Price Index | Commercial Real Estate Price Index |
|---------|-----------------|--------------------|-------------------------------|----------------------------------|-------------------|--------------------|------------------------|------------------------|---------------------|---------------|------------------------------------|-------------------------------|-------------------|------------------------------------|
| Q1 2001 | -1.31           | 1.40               | 3.05                          | 5.96                             | 4.23              | 3.88               | 4.82                   | 5.30                   | 7.44                | 7.24          | 10,645.85                          | 32.84                         | 113.46            | 130.98                             |
| Q2 2001 | 2.65            | 5.47               | -1.08                         | 0.82                             | 4.41              | 2.86               | 3.66                   | 5.50                   | 7.49                | 7.37          | 11,407.15                          | 34.72                         | 115.20            | 130.12                             |
| Q3 2001 | -1.10           | 0.15               | 10.58                         | 10.66                            | 4.81              | 1.08               | 3.19                   | 5.26                   | 7.26                | 7.19          | 9,562.95                           | 43.74                         | 117.58            | 129.20                             |
| Q4 2001 | 1.41            | 2.66               | -4.59                         | -4.38                            | 5.53              | -0.25              | 1.91                   | 5.06                   | 7.19                | 7.00          | 10,707.68                          | 35.31                         | 119.99            | 127.36                             |
| Q1 2002 | 3.46            | 4.93               | 11.23                         | 12.25                            | 5.70              | 1.25               | 1.72                   | 5.39                   | 7.58                | 7.20          | 10,775.74                          | 26.09                         | 122.44            | 129.05                             |
| Q2 2002 | 2.14            | 3.99               | 2.21                          | 5.44                             | 5.84              | 3.20               | 1.72                   | 5.35                   | 7.61                | 7.03          | 9,384.03                           | 28.42                         | 125.74            | 129.24                             |
| Q3 2002 | 2.04            | 3.82               | -1.37                         | 0.64                             | 5.72              | 2.15               | 1.64                   | 4.55                   | 7.28                | 6.48          | 7,773.63                           | 45.08                         | 129.10            | 130.49                             |
| Q4 2002 | 0.14            | 2.46               | 0.95                          | 2.86                             | 5.84              | 2.40               | 1.34                   | 4.29                   | 7.04                | 6.25          | 8,343.19                           | 42.64                         | 131.56            | 131.77                             |
| Q1 2003 | 1.68            | 4.55               | 1.48                          | 4.43                             | 5.87              | 4.13               | 1.16                   | 4.16                   | 6.47                | 5.99          | 8,051.86                           | 34.69                         | 134.59            | 134.63                             |
| Q2 2003 | 3.43            | 4.64               | 6.19                          | 6.50                             | 6.15              | -0.59              | 1.04                   | 3.80                   | 5.65                | 5.65          | 9,342.42                           | 29.13                         | 137.48            | 135.93                             |
| Q3 2003 | 6.75            | 9.14               | 5.71                          | 8.47                             | 6.10              | 2.99               | 0.93                   | 4.40                   | 6.02                | 6.18          | 9,649.68                           | 22.72                         | 141.68            | 137.10                             |
| Q4 2003 | 3.67            | 5.80               | 2.32                          | 4.22                             | 5.81              | 1.57               | 0.92                   | 4.44                   | 5.84                | 6.09          | 10,799.63                          | 21.07                         | 146.32            | 139.04                             |
| Q1 2004 | 2.66            | 6.28               | 1.79                          | 5.19                             | 5.68              | 3.43               | 0.92                   | 4.14                   | 5.45                | 5.75          | 11,039.42                          | 21.58                         | 152.67            | 141.22                             |
| Q2 2004 | 2.60            | 6.11               | 4.01                          | 7.11                             | 5.58              | 3.16               | 1.08                   | 4.75                   | 6.08                | 6.31          | 11,138.91                          | 19.96                         | 159.10            | 143.52                             |
| Q3 2004 | 3.01            | 6.03               | 2.70                          | 5.25                             | 5.43              | 2.58               | 1.49                   | 4.45                   | 5.77                | 6.06          | 10,895.48                          | 19.34                         | 164.33            | 146.53                             |
| Q4 2004 | 3.31            | 6.43               | 5.71                          | 9.15                             | 5.38              | 4.39               | 2.01                   | 4.30                   | 5.44                | 5.89          | 11,971.14                          | 16.58                         | 170.25            | 147.61                             |
| Q1 2005 | 4.19            | 8.09               | -4.79                         | -2.51                            | 5.27              | 2.05               | 2.54                   | 4.39                   | 5.43                | 5.91          | 11,638.27                          | 14.65                         | 180.11            | 148.12                             |
| Q2 2005 | 1.79            | 4.55               | 2.85                          | 5.40                             | 5.10              | 2.68               | 2.86                   | 4.24                   | 5.46                | 5.87          | 11,876.74                          | 17.74                         | 186.45            | 174.64                             |
| Q3 2005 | 3.21            | 7.52               | 2.41                          | 7.10                             | 4.95              | 6.24               | 3.36                   | 4.29                   | 5.48                | 5.92          | 12,289.26                          | 14.17                         | 192.51            | 175.76                             |
| Q4 2005 | 2.07            | 5.54               | 2.21                          | 5.84                             | 4.94              | 3.72               | 3.83                   | 4.60                   | 5.88                | 6.40          | 12,517.69                          | 16.47                         | 197.07            | 186.38                             |
| Q1 2006 | 5.15            | 8.31               | 7.71                          | 9.52                             | 4.71              | 2.13               | 4.39                   | 4.67                   | 5.97                | 6.42          | 13,155.44                          | 14.56                         | 201.82            | 195.50                             |
| Q2 2006 | 1.63            | 5.24               | 3.60                          | 6.70                             | 4.64              | 3.68               | 4.71                   | 5.15                   | 6.48                | 6.80          | 12,849.29                          | 23.81                         | 199.55            | 198.00                             |
| Q3 2006 | 0.05            | 3.11               | 1.94                          | 4.90                             | 4.63              | 3.83               | 4.91                   | 4.96                   | 6.43                | 6.77          | 13,345.97                          | 18.64                         | 198.29            | 199.43                             |
| Q4 2006 | 2.75            | 4.59               | 5.35                          | 5.26                             | 4.44              | -1.69              | 4.90                   | 4.70                   | 6.12                | 6.43          | 14,257.55                          | 12.67                         | 198.93            | 215.76                             |
| Q1 2007 | 0.54            | 5.23               | 1.82                          | 5.83                             | 4.49              | 3.92               | 4.98                   | 4.76                   | 6.11                | 6.40          | 14,409.27                          | 19.63                         | 196.43            | 222.91                             |
| Q2 2007 | 3.65            | 6.50               | 0.60                          | 4.08                             | 4.47              | 4.76               | 4.74                   | 4.92                   | 6.30                | 6.55          | 15,210.65                          | 18.89                         | 191.35            | 229.81                             |
| Q3 2007 | 2.96            | 4.34               | 1.59                          | 3.85                             | 4.65              | 2.44               | 4.31                   | 4.84                   | 6.54                | 6.75          | 15,362.02                          | 30.83                         | 185.77            | 221.46                             |
| Q4 2007 | 1.70            | 3.64               | 2.23                          | 6.52                             | 4.80              | 4.92               | 3.40                   | 4.41                   | 6.37                | 6.41          | 14,819.58                          | 31.09                         | 179.99            | 222.88                             |
| Q1 2008 | -1.76           | 0.58               | 5.90                          | 10.00                            | 4.95              | 4.51               | 2.07                   | 3.87                   | 6.54                | 6.04          | 13,332.01                          | 32.24                         | 173.04            | 223.71                             |
| Q2 2008 | 1.32            | 4.03               | 8.22                          | 13.11                            | 5.31              | 5.31               | 1.62                   | 4.09                   | 6.84                | 6.26          | 13,073.54                          | 31.01                         | 165.31            | 217.79                             |
| Q3 2008 | -3.66           | -0.57              | -8.82                         | -4.86                            | 6.03              | 6.46               | 1.49                   | 4.05                   | 7.19                | 6.50          | 11,875.41                          | 46.72                         | 158.25            | 217.11                             |
| Q4 2008 | -8.89           | -8.43              | -0.23                         | -5.79                            | 6.91              | -9.07              | 0.30                   | 3.72                   | 9.39                | 6.03          | 9,087.17                           | 80.86                         | 149.51            | 189.54                             |
| Q1 2009 | -6.67           | -5.23              | -3.81                         | -5.42                            | 8.22              | -2.50              | 0.21                   | 3.23                   | 8.96                | 5.18          | 8,113.14                           | 56.65                         | 142.77            | 186.93                             |
| Q2 2009 | -0.69           | -1.14              | 0.25                          | 2.15                             | 9.29              | 1.97               | 0.17                   | 3.65                   | 8.15                | 5.14          | 9,424.92                           | 42.28                         | 143.51            | 154.64                             |
| Q3 2009 | 1.70            | 1.93               | -5.42                         | -2.57                            | 9.69              | 3.67               | 0.16                   | 3.81                   | 6.76                | 5.28          | 10,911.69                          | 31.30                         | 144.81            | 157.50                             |
| Q4 2009 | 3.80            | 4.88               | -0.58                         | 2.18                             | 10.01             | 2.72               | 0.06                   | 3.69                   | 6.13                | 5.03          | 11,497.41                          | 30.69                         | 145.34            | 152.24                             |
| Q1 2010 | 3.94            | 5.52               | 4.86                          | 6.81                             | 9.70              | 1.28               | 0.11                   | 3.87                   | 5.78                | 5.11          | 12,160.97                          | 27.31                         | 146.66            | 157.50                             |
| Q2 2010 | 3.79            | 5.43               | 5.57                          | 5.91                             | 9.66              | -0.51              | 0.15                   | 3.62                   | 5.55                | 5.02          | 10,750.01                          | 45.79                         | 146.10            | 171.27                             |
| Q3 2010 | 2.51            | 3.86               | 2.27                          | 3.27                             | 9.59              | 1.42               | 0.16                   | 2.90                   | 5.07                | 4.54          | 11,947.14                          | 32.86                         | 141.78            | 160.45                             |
| Q4 2010 | 2.35            | 4.16               | 1.50                          | 3.47                             | 9.63              | 2.68               | 0.14                   | 2.97                   | 5.04                | 4.50          | 13,290.03                          | 23.54                         | 139.61            | 178.95                             |
| Q1 2011 | 0.36            | 3.09               | 1.24                          | 5.19                             | 8.93              | 5.25               | 0.13                   | 3.53                   | 5.40                | 4.95          | 14,036.43                          | 29.40                         | 137.93            | 177.17                             |
| Q2 2011 | 1.34            | 3.96               | 0.59                          | 3.91                             | 9.06              | 4.02               | 0.05                   | 3.28                   | 5.15                | 4.76          | 13,968.11                          | 22.73                         | 137.56            | 173.82                             |
| Q3 2011 | 2.46            | 5.04               | -1.73                         | 0.59                             | 9.09              | 3.09               | 0.02                   | 2.48                   | 4.87                | 4.40          | 11,771.86                          | 48.00                         | 136.86            | 174.08                             |
| Q4 2011 | -4.84           | -1.70              | -6.02                         | -3.37                            | 9.68              | 1.90               | 0.10                   | 2.07                   | 5.65                | 4.65          | 9,501.48                           | 75.86                         | 135.13            | 168.40                             |
| Q1 2012 | -7.98           | -5.39              | -6.81                         | -5.30                            | 10.58             | 2.00               | 0.10                   | 1.94                   | 6.83                | 5.12          | 7,576.38                           | 90.50                         | 131.61            | 161.04                             |
| Q2 2012 | -4.23           | -2.54              | -4.29                         | -3.46                            | 11.40             | 1.90               | 0.10                   | 1.76                   | 6.81                | 5.16          | 7,089.87                           | 80.00                         | 127.50            | 153.42                             |
| Q3 2012 | -3.51           | -2.24              | -3.16                         | -2.44                            | 12.16             | 2.20               | 0.10                   | 1.67                   | 6.75                | 5.17          | 5,705.55                           | 81.23                         | 123.12            | 146.53                             |
| Q4 2012 | 0.00            | 0.09               | -0.57                         | -0.36                            | 12.76             | 2.10               | 0.10                   | 1.76                   | 6.45                | 5.08          | 5,668.34                           | 69.82                         | 119.08            | 139.36                             |
| Q1 2013 | 0.72            | 0.58               | 0.74                          | 0.84                             | 13.00             | 2.11               | 0.10                   | 1.74                   | 6.07                | 4.93          | 6,082.47                           | 62.75                         | 115.15            | 136.75                             |
| Q2 2013 | 2.21            | 2.01               | 1.66                          | 1.74                             | 13.05             | 2.27               | 0.10                   | 1.84                   | 5.83                | 4.82          | 6,384.32                           | 57.76                         | 111.92            | 135.20                             |
| Q3 2013 | 2.32            | 2.14               | 2.69                          | 2.88                             | 12.96             | 2.38               | 0.10                   | 1.98                   | 5.74                | 4.77          | 7,084.65                           | 53.82                         | 109.77            | 134.02                             |
| Q4 2013 | 3.45            | 3.26               | 2.27                          | 2.48                             | 12.76             | 2.44               | 0.10                   | 1.98                   | 5.51                | 4.66          | 7,618.89                           | 49.84                         | 108.48            | 134.36                             |
| Q1 2014 | 3.36            | 2.94               | 2.77                          | 2.62                             | 12.61             | 2.40               | 0.10                   | 1.97                   | 5.28                | 4.54          | 8,014.71                           | 45.87                         | 108.08            | 134.45                             |
| Q2 2014 | 3.71            | 3.18               | 3.53                          | 3.25                             | 12.36             | 2.40               | 0.10                   | 1.88                   | 4.94                | 4.38          | 9,925.73                           | 34.96                         | 108.40            | 135.91                             |
| Q3 2014 | 4.64            | 4.09               | 2.82                          | 2.53                             | 12.04             | 2.40               | 0.10                   | 1.86                   | 4.72                | 4.26          | 10,874.38                          | 24.22                         | 109.24            | 139.53                             |
| Q4 2014 | 4.64            | 4.09               | 4.48                          | 4.01                             | 11.66             | 2.41               | 0.10                   | 1.89                   | 4.58                | 4.17          | 12,005.11                          | 17.51                         | 110.29            | 143.35                             |

Notes:

Sources for data through 2011: Q3 (as released through 11/08/2010). 2011:Q3 international GDP data based on staff calculations. Values after that date equal assumptions for the supervisory stress scenario. Variables reported as growth rates are expressed as percent changes at an annual rate.

**Real GDP growth:** Gross Domestic Product, billions of chain-weighted 2005 dollars, Bureau of Economic Analysis  
**Nominal GDP growth:** Gross Domestic Product, billions of dollars, Bureau of Economic Analysis  
**CPI inflation rate:** Bureau of Labor Statistics  
**Real Disposable Personal Income growth:** Billions of chain-weighted 2002 dollars, equals nominal disposable personal income divided by the price index for personal consumption expenditures, Bureau of Economic Analysis  
**Nominal Disposable Personal Income growth:** Billions of dollars, Bureau of Economic Analysis  
**Unemployment Rate:** Bureau of Labor Statistics (quarterly average of monthly data)  
**3-Month T-Bill Rate:** Quarterly average of 3-month Treasury bill secondary market rate discount basis, Federal Reserve Board  
**10-yr Treasury Bond Rate:** Quarterly average of yield on 10-yr U.S. Treasury bond, constructed for FRB/US model by Federal Reserve staff  
**BBB Corporate Bond Rate:** Yield on 10-yr BBB-rated corporate bond, constructed for FRB/US model by Federal Reserve staff  
**Mortgage Rate:** Freddie Mac  
**Dow Jones Total Stock Market Index:** End of quarter value, Dow Jones  
**National House Price Index:** CoreLogic (seasonally adjusted by Federal Reserve staff)  
**CRE Price Index:** CoStar (seasonally adjusted by Federal Reserve staff)  
**VIX:** Chicago Board Options Exchange  
**Euro Area Real GDP Growth:** staff calculations based on Statistical Office of the European Communities via Haver  
**Euro Area Inflation:** staff calculations based on Statistical Office of the European Community via Haver  
**Developing Asia Real GDP Growth:** 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:** staff calculations based on Bank of Korea via CEIC, Chinese Statistical Information and Consultancy Service via CEIC, and IMF Recent Economic Developments, Labour Bureau of India via CEIC and IMF, Census and Statistics Department of Hong Kong via CEIC, Census and Statistics Department of Hong Kong via CEIC, and Taiwan Directorate-General of Budget, Accounting and Statistics via CEIC.  
**Japan Real GDP Growth:** Cabinet Office via Haver  
**Japan Inflation:** Ministry of Internal Affairs and Communications via Haver  
**UK Real GDP Growth:** Office of National Statistics via Haver  
**UK Inflation:** Office of National Statistics (uses Retail Price Index to extend series back to 1960) via Haver  
**Exchange Rates:** Bloomberg

Supervisory Stress Scenario (International projections)

| OBS     | Euro Area Real GDP Growth | Euro Area Inflation | Euro Area Bilateral Dollar Exchange Rate (\$/Euro) | Developing Asia Real GDP Growth | Developing Asia Inflation | Developing Asia Bilateral Dollar Exchange Rate (F/USD, Index Base = 2000 Q1) | Japan Real GDP Growth | Japan Inflation | Japan Bilateral Dollar Exchange Rate (Yen/USD) | UK Real GDP Growth | UK Inflation | UK Bilateral Dollar Exchange Rate (USD/Pound) |
|---------|---------------------------|---------------------|--|---------------------------------|---------------------------|--|-----------------------|-----------------|--|--------------------|--------------|---|
| Q1 2001 | 3.70                      | 1.06                | 0.88   | 3.82                            | 1.59                      | 105.90   | 1.79                  | 0.55            | 125.54   | 5.38               | 0.09         | 1.43  |
| Q2 2001 | 0.32                      | 4.03                | 0.85   | 5.69                            | 1.98                      | 105.99   | -2.36                 | -2.00           | 124.73   | 1.68               | 3.02         | 1.41  |
| Q3 2001 | 0.16                      | 1.44                | 0.91   | 4.45                            | 1.20                      | 106.29   | -4.63                 | -0.59           | 119.23   | 2.66               | 1.02         | 1.47  |
| Q4 2001 | 0.50                      | 1.69                | 0.89   | 6.50                            | -0.25                     | 106.74   | -1.75                 | -1.85           | 131.04   | 1.60               | 0.04         | 1.45  |
| Q1 2002 | 0.91                      | 2.97                | 0.87   | 7.16                            | 0.32                      | 107.20   | 1.19                  | -1.11           | 132.70   | 3.31               | 1.90         | 1.43  |
| Q2 2002 | 2.01                      | 2.01                | 0.99   | 8.73                            | 0.65                      | 104.67   | 3.24                  | 0.08            | 119.85   | 2.60               | 0.88         | 1.52  |
| Q3 2002 | 1.34                      | 1.62                | 0.99   | 4.71                            | 1.44                      | 105.41   | 3.09                  | -0.44           | 121.74   | 3.17               | 1.34         | 1.56  |
| Q4 2002 | 0.20                      | 2.38                | 1.05   | 6.06                            | 0.71                      | 104.39   | 0.36                  | -0.59           | 118.75   | 2.75               | 1.92         | 1.61  |
| Q1 2003 | -0.11                     | 3.24                | 1.09   | 6.63                            | 3.14                      | 105.40   | -1.57                 | -0.04           | 118.07   | 2.73               | 1.58         | 1.59  |
| Q2 2003 | 0.06                      | 0.34                | 1.15   | 2.59                            | 1.16                      | 103.93   | 2.54                  | 0.24            | 119.87   | 4.77               | 0.29         | 1.67  |
| Q3 2003 | 2.03                      | 2.17                | 1.16   | 12.51                           | -0.01                     | 102.59   | 2.95                  | -0.64           | 111.43   | 4.07               | 1.70         | 1.67  |
| Q4 2003 | 2.48                      | 2.16                | 1.27   | 11.00                           | 5.38                      | 103.31   | 5.47                  | -0.72           | 107.13   | 4.79               | 1.65         | 1.79  |
| Q1 2004 | 2.27                      | 2.32                | 1.23   | 4.57                            | 4.11                      | 101.39   | 4.55                  | 0.60            | 104.18   | 3.06               | 1.31         | 1.85  |
| Q2 2004 | 2.12                      | 2.34                | 1.22   | 5.98                            | 3.92                      | 102.73   | -1.05                 | -0.36           | 109.43   | 1.40               | 0.98         | 1.82  |
| Q3 2004 | 1.65                      | 2.00                | 1.23   | 8.32                            | 3.84                      | 102.67   | 2.47                  | -0.04           | 110.20   | 0.53               | 1.02         | 1.82  |
| Q4 2004 | 1.30                      | 2.40                | 1.35   | 7.44                            | 0.71                      | 98.97  | -1.79                 | 1.75            | 102.68   | 1.92               | 2.36         | 1.92  |
| Q1 2005 | 0.67                      | 1.50                | 1.30   | 7.81                            | 2.80                      | 98.66  | 2.92                  | -0.91           | 107.22   | 1.27               | 2.55         | 1.89  |
| Q2 2005 | 3.02                      | 2.13                | 1.20   | 6.90                            | 1.68                      | 99.00  | 4.55                  | -1.19           | 110.91   | 3.19               | 1.85         | 1.79  |
| Q3 2005 | 2.41                      | 3.12                | 1.20   | 9.31                            | 2.44                      | 98.55  | 2.79                  | -1.36           | 113.29   | 3.38               | 2.68         | 1.75  |
| Q4 2005 | 2.38                      | 2.46                | 1.19   | 9.92                            | 1.77                      | 98.12  | 1.15                  | 0.68            | 117.88   | 3.32               | 1.35         | 1.72  |
| Q1 2006 | 3.86                      | 1.62                | 1.22   | 11.60                           | 2.37                      | 96.84  | 0.01                  | 1.31            | 117.48   | 3.08               | 1.90         | 1.75  |
| Q2 2006 | 4.27                      | 2.44                | 1.28   | 7.53                            | 2.96                      | 96.73  | 4.51                  | 0.00            | 114.51   | 1.50               | 2.95         | 1.85  |
| Q3 2006 | 2.67                      | 1.99                | 1.27   | 8.36                            | 1.77                      | 96.32  | 1.30                  | 0.40            | 117.99   | 0.90               | 3.21         | 1.89  |
| Q4 2006 | 3.95                      | 0.94                | 1.32   | 9.89                            | 3.96                      | 94.58  | 2.50                  | -0.40           | 119.02   | 2.72               | 2.60         | 1.96  |
| Q1 2007 | 3.53                      | 2.21                | 1.33   | 13.97                           | 3.75                      | 93.97  | 4.60                  | -0.24           | 117.56   | 4.23               | 2.70         | 1.96  |
| Q2 2007 | 1.91                      | 2.24                | 1.35   | 9.72                            | 4.63                      | 91.93  | 1.10                  | 0.00            | 123.39   | 4.65               | 1.53         | 2.00  |
| Q3 2007 | 2.42                      | 2.07                | 1.43   | 8.50                            | 7.22                      | 90.62  | -1.18                 | 0.12            | 114.97   | 4.79               | 0.19         | 2.04  |
| Q4 2007 | 1.51                      | 4.87                | 1.47   | 9.25                            | 6.17                      | 89.38  | 2.50                  | 2.26            | 111.71   | 2.56               | 3.92         | 2.00  |
| Q1 2008 | 2.36                      | 4.14                | 1.59   | 8.73                            | 7.65                      | 87.94  | 2.79                  | 1.30            | 99.85  | 0.10               | 3.81         | 2.00  |
| Q2 2008 | -1.54                     | 3.10                | 1.56   | 6.50                            | 5.99                      | 88.55  | -4.66                 | 1.69            | 106.17   | -5.09              | 5.33         | 2.00  |
| Q3 2008 | -2.10                     | 3.04                | 1.41   | 4.21                            | 2.72                      | 91.24  | -5.38                 | 3.28            | 105.94   | -7.92              | 5.59         | 1.79  |
| Q4 2008 | -7.21                     | -1.26               | 1.39   | -0.53                           | -1.27                     | 91.95  | -11.81                | -2.34           | 90.79  | -9.12              | 0.51         | 1.47  |
| Q1 2009 | -10.81                    | -1.07               | 1.33   | 5.33                            | -1.25                     | 94.02  | -19.91                | -3.14           | 99.15  | -6.32              | 0.33         | 1.43  |
| Q2 2009 | -0.85                     | -0.11               | 1.41   | 12.71                           | 2.16                      | 92.05  | 7.79                  | -1.74           | 96.42  | -0.81              | 1.82         | 1.64  |
| Q3 2009 | 1.77                      | 0.96                | 1.47   | 12.11                           | 4.46                      | 91.12  | -1.75                 | -1.83           | 89.49  | 0.93               | 3.29         | 1.61  |
| Q4 2009 | 1.54                      | 1.92                | 1.43   | 7.26                            | 5.25                      | 90.55  | 6.54                  | -1.36           | 93.08  | 2.94               | 3.08         | 1.61  |
| Q1 2010 | 1.32                      | 1.76                | 1.35   | 10.74                           | 4.71                      | 89.79  | 8.91                  | 1.36            | 93.40  | 0.64               | 4.58         | 1.52  |
| Q2 2010 | 3.69                      | 1.68                | 1.23   | 7.10                            | 3.09                      | 90.89  | -0.66                 | -1.20           | 88.49  | 4.20               | 2.57         | 1.49  |
| Q3 2010 | 1.62                      | 1.53                | 1.35   | 8.78                            | 3.97                      | 88.27  | 3.96                  | -2.68           | 83.53  | 2.47               | 1.96         | 1.56  |
| Q4 2010 | 1.07                      | 3.01                | 1.33   | 6.36                            | 7.98                      | 87.19  | -2.41                 | 1.32            | 81.67  | -2.05              | 4.27         | 1.54  |
| Q1 2011 | 3.10                      | 3.59                | 1.41   | 9.05                            | 6.18                      | 86.44  | -3.77                 | 0.40            | 82.76  | 1.58               | 7.22         | 1.61  |
| Q2 2011 | 0.65                      | 2.75                | 1.45   | 7.54                            | 4.75                      | 85.25  | -2.17                 | -0.80           | 80.64  | 0.41               | 3.68         | 1.61  |
| Q3 2011 | 1.33                      | 1.24                | 1.35   | 7.52                            | 5.38                      | 87.66  | 1.01                  | 0.08            | 77.04  | 0.70               | 3.28         | 1.56  |
| Q4 2011 | -1.03                     | 2.53                | 1.32   | 5.76                            | 6.12                      | 89.53  | 1.63                  | -0.76           | 77.20  | -0.29              | 2.64         | 1.56  |
| Q1 2012 | -3.49                     | 1.69                | 1.30   | 4.93                            | 4.75                      | 91.49  | 0.48                  | -1.53           | 77.94  | -1.60              | 1.50         | 1.56  |
| Q2 2012 | -5.40                     | 0.29                | 1.25   | 4.69                            | 3.18                      | 94.91  | -1.29                 | -2.43           | 78.25  | -2.93              | 0.26         | 1.55  |
| Q3 2012 | -6.91                     | -0.99               | 1.19   | 4.67                            | 2.07                      | 100.27   | -3.94                 | -3.85           | 78.95  | -4.25              | -0.90        | 1.53  |
| Q4 2012 | -4.92                     | -0.92               | 1.18   | 6.86                            | 1.22                      | 98.96  | -4.23                 | -3.44           | 79.14  | -3.61              | -0.70        | 1.54  |
| Q1 2013 | -2.64                     | -0.49               | 1.18   | 7.91                            | 1.08                      | 97.48  | -3.51                 | -3.19           | 79.25  | -2.41              | -0.35        | 1.53  |
| Q2 2013 | -0.88                     | 0.02                | 1.18   | 8.23                            | 1.12                      | 95.89  | -2.66                 | -2.78           | 79.32  | -1.19              | 0.12         | 1.53  |
| Q3 2013 | 0.35                      | 0.43                | 1.19   | 8.25                            | 1.21                      | 94.26  | -1.77                 | -2.34           | 79.38  | -0.10              | 0.57         | 1.53  |
| Q4 2013 | 1.11                      | 0.71                | 1.19   | 8.18                            | 1.32                      | 92.66  | -0.92                 | -1.93           | 79.43  | 0.76               | 0.95         | 1.52  |
| Q1 2014 | 1.50                      | 0.87                | 1.20   | 8.15                            | 1.44                      | 91.15  | -0.14                 | -1.56           | 79.51  | 1.39               | 1.25         | 1.52  |
| Q2 2014 | 1.68                      | 0.99                | 1.20   | 8.16                            | 1.57                      | 89.75  | 0.44                  | -1.25           | 79.58  | 1.83               | 1.49         | 1.52  |
| Q3 2014 | 1.74                      | 1.11                | 1.20   | 8.21                            | 1.73                      | 88.45  | 0.83                  | -0.99           | 79.63  | 2.12               | 1.69         | 1.52  |
| Q4 2014 | 1.72                      | 1.23                | 1.21   | 8.28                            | 1.89                      | 87.25  | 1.05                  | -0.76           | 79.62  | 2.30               | 1.84         | 1.52  |

Notes:

Sources for data through 2011: Q3 (as released through 11/08/2010). 2011:Q3 international GDP data based on staff calculations.

Values after that date equal assumptions for the supervisory stress scenario.

Variables reported as growth rates are expressed as percent changes at an annual rate.

Real GDP growth: Gross Domestic Product, billions of chain-weighted 2005 dollars, Bureau of Economic Analysis

Nominal GDP growth: Gross Domestic Product, billions of dollars, Bureau of Economic Analysis

CPI inflation rate: Bureau of Labor Statistics

Real Disposable Personal Income growth: Billions of chain-weighted 2002 dollars, equals nominal disposable personal income divided by the price index for personal consumption expenditures, Bureau of Economic Analysis

Nominal Disposable Personal Income growth: Billions of dollars, Bureau of Economic Analysis

Unemployment Rate: Bureau of Labor Statistics (quarterly average of monthly data)

3-Month T-Bill Rate: Quarterly average of 3-month Treasury bill secondary market rate discount basis, Federal Reserve Board

10-yr Treasury Bond Rate: Quarterly average of yield on 10-yr U.S. Treasury bond, constructed for FRB/US model by Federal Reserve staff

BBB Corporate Bond Rate: Yield on 10-yr BBB-rated corporate bond, constructed for FRB/US model by Federal Reserve staff

Mortgage Rate: Freddie Mac

Dow Jones Total Stock Market Index: End of quarter value, Dow Jones

National House Price Index: CoreLogic (seasonally adjusted by Federal Reserve staff)

CRE Price Index: CoStar (seasonally adjusted by Federal Reserve staff)

VIX: Chicago Board Options Exchange

Euro Area Real GDP Growth: staff calculations based on Statistical Office of the European Communities via Haver

Euro Area Inflation: staff calculations based on Statistical Office of the European Community via Haver

Developing Asia Real GDP Growth: 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: staff calculations based on Bank of Korea via CEIC, Chinese Statistical Information and Consultancy Service via CEIC, and IMF Recent Economic Developments, Labour Bureau of India via CEIC and IMF, Census and Statistics Department of Hong Kong via CEIC, Census and Statistics Department of Hong Kong via CEIC, and Taiwan Directorate-General of Budget, Accounting and Statistics via CEIC.

Japan Real GDP Growth: Cabinet Office via Haver

Japan Inflation: Ministry of Internal Affairs and Communications via Haver

UK Real GDP Growth: Office of National Statistics via Haver

UK Inflation: Office of National Statistics (uses Retail Price Index to extend series back to 1960) via Haver

Exchange Rates: Bloomberg

## Supervisory Baseline Scenario (US projections)

| OBS     | Real GDP growth | Nominal GDP growth | Real disposable income growth | Nominal disposable income growth | Unemployment rate | CPI inflation rate | 3-month Treasury yield | 10-year Treasury yield | BBB corporate yield | Mortgage rate | Dow Jones Total Stock Market Index | Market Volatility Index (VIX) | House Price Index | Commercial Real Estate Price Index |
|---------|-----------------|--------------------|-------------------------------|----------------------------------|-------------------|--------------------|------------------------|------------------------|---------------------|---------------|------------------------------------|-------------------------------|-------------------|------------------------------------|
| Q1 2001 | -1.31           | 1.40               | 3.05                          | 5.96                             | 4.23              | 3.88               | 4.82                   | 5.30                   | 7.44                | 7.24          | 10,645.85                          | 32.84                         | 113.46            | 130.98                             |
| Q2 2001 | 2.65            | 5.47               | -1.08                         | 0.82                             | 4.41              | 2.86               | 3.66                   | 5.50                   | 7.49                | 7.37          | 11,407.15                          | 34.72                         | 115.20            | 130.12                             |
| Q3 2001 | -1.10           | 0.15               | 10.58                         | 10.66                            | 4.81              | 1.08               | 3.19                   | 5.26                   | 7.26                | 7.19          | 9,562.95                           | 43.74                         | 117.58            | 129.20                             |
| Q4 2001 | 1.41            | 2.66               | -4.59                         | -4.38                            | 5.53              | -0.25              | 1.91                   | 5.06                   | 7.19                | 7.00          | 10,707.68                          | 35.31                         | 119.99            | 127.36                             |
| Q1 2002 | 3.46            | 4.93               | 11.23                         | 12.25                            | 5.70              | 1.25               | 1.72                   | 5.39                   | 7.58                | 7.20          | 10,775.74                          | 26.09                         | 122.44            | 129.05                             |
| Q2 2002 | 2.14            | 3.99               | 2.21                          | 5.44                             | 5.84              | 3.20               | 1.72                   | 5.35                   | 7.61                | 7.03          | 9,384.03                           | 28.42                         | 125.74            | 129.24                             |
| Q3 2002 | 2.04            | 3.82               | -1.37                         | 0.64                             | 5.72              | 2.15               | 1.64                   | 4.55                   | 7.28                | 6.48          | 7,773.63                           | 45.08                         | 129.10            | 130.49                             |
| Q4 2002 | 0.14            | 2.46               | 0.95                          | 2.86                             | 5.84              | 2.40               | 1.34                   | 4.29                   | 7.04                | 6.25          | 8,343.19                           | 42.64                         | 131.56            | 131.77                             |
| Q1 2003 | 1.68            | 4.55               | 1.48                          | 4.43                             | 5.87              | 4.13               | 1.16                   | 4.16                   | 6.47                | 5.99          | 8,051.86                           | 34.69                         | 134.59            | 134.63                             |
| Q2 2003 | 3.43            | 4.64               | 6.19                          | 6.50                             | 6.15              | -0.59              | 1.04                   | 3.80                   | 5.65                | 5.65          | 9,342.42                           | 29.13                         | 137.48            | 135.93                             |
| Q3 2003 | 6.75            | 9.14               | 5.71                          | 8.47                             | 6.10              | 2.99               | 0.93                   | 4.40                   | 6.02                | 6.18          | 9,649.68                           | 22.72                         | 141.68            | 137.10                             |
| Q4 2003 | 3.67            | 5.80               | 2.32                          | 4.22                             | 5.81              | 1.57               | 0.92                   | 4.44                   | 5.84                | 6.09          | 10,799.63                          | 21.07                         | 146.32            | 139.04                             |
| Q1 2004 | 2.66            | 6.28               | 1.79                          | 5.19                             | 5.68              | 3.43               | 0.92                   | 4.14                   | 5.45                | 5.75          | 11,039.42                          | 21.58                         | 152.67            | 141.22                             |
| Q2 2004 | 2.60            | 6.11               | 4.01                          | 7.11                             | 5.58              | 3.16               | 1.08                   | 4.75                   | 6.08                | 6.31          | 11,138.91                          | 19.96                         | 159.10            | 143.52                             |
| Q3 2004 | 3.01            | 6.03               | 2.70                          | 5.25                             | 5.43              | 2.58               | 1.49                   | 4.45                   | 5.77                | 6.06          | 10,895.48                          | 19.34                         | 164.33            | 146.53                             |
| Q4 2004 | 3.31            | 6.43               | 5.71                          | 9.15                             | 5.38              | 4.39               | 2.01                   | 4.30                   | 5.44                | 5.89          | 11,971.14                          | 16.58                         | 170.25            | 147.61                             |
| Q1 2005 | 4.19            | 8.09               | -4.79                         | -2.51                            | 5.27              | 2.05               | 2.54                   | 4.39                   | 5.43                | 5.91          | 11,638.27                          | 14.65                         | 180.11            | 148.12                             |
| Q2 2005 | 1.79            | 4.55               | 2.85                          | 5.40                             | 5.10              | 2.68               | 2.86                   | 4.24                   | 5.46                | 5.87          | 11,876.74                          | 17.74                         | 186.45            | 174.64                             |
| Q3 2005 | 3.21            | 7.52               | 2.41                          | 7.10                             | 4.95              | 6.24               | 3.36                   | 4.29                   | 5.48                | 5.92          | 12,289.26                          | 14.17                         | 192.51            | 175.76                             |
| Q4 2005 | 2.07            | 5.54               | 2.21                          | 5.84                             | 4.94              | 3.72               | 3.83                   | 4.60                   | 5.88                | 6.40          | 12,517.69                          | 16.47                         | 197.07            | 186.38                             |
| Q1 2006 | 5.15            | 8.31               | 7.71                          | 9.52                             | 4.71              | 2.13               | 4.39                   | 4.67                   | 5.97                | 6.42          | 13,155.44                          | 14.56                         | 201.82            | 195.50                             |
| Q2 2006 | 1.63            | 5.24               | 3.60                          | 6.70                             | 4.64              | 3.68               | 4.71                   | 5.15                   | 6.48                | 6.80          | 12,849.29                          | 23.81                         | 199.55            | 198.00                             |
| Q3 2006 | 0.05            | 3.11               | 1.94                          | 4.90                             | 4.63              | 3.83               | 4.91                   | 4.96                   | 6.43                | 6.77          | 13,345.97                          | 18.64                         | 198.29            | 199.43                             |
| Q4 2006 | 2.75            | 4.59               | 5.35                          | 5.26                             | 4.44              | -1.69              | 4.90                   | 4.70                   | 6.12                | 6.43          | 14,257.55                          | 12.67                         | 198.93            | 215.76                             |
| Q1 2007 | 0.54            | 5.23               | 1.82                          | 5.83                             | 4.49              | 3.92               | 4.98                   | 4.76                   | 6.11                | 6.40          | 14,409.27                          | 19.63                         | 196.43            | 222.91                             |
| Q2 2007 | 3.65            | 6.50               | 0.60                          | 4.08                             | 4.47              | 4.76               | 4.74                   | 4.92                   | 6.30                | 6.55          | 15,210.65                          | 18.89                         | 191.35            | 229.81                             |
| Q3 2007 | 2.96            | 4.34               | 1.59                          | 3.85                             | 4.65              | 2.44               | 4.31                   | 4.84                   | 6.54                | 6.75          | 15,362.02                          | 30.83                         | 185.77            | 221.46                             |
| Q4 2007 | 1.70            | 3.64               | 2.23                          | 6.52                             | 4.80              | 4.92               | 3.40                   | 4.41                   | 6.37                | 6.41          | 14,819.58                          | 31.09                         | 179.99            | 222.88                             |
| Q1 2008 | -1.76           | 0.58               | 5.90                          | 10.00                            | 4.95              | 4.51               | 2.07                   | 3.87                   | 6.54                | 6.04          | 13,332.01                          | 32.24                         | 173.04            | 223.71                             |
| Q2 2008 | 1.32            | 4.03               | 8.22                          | 13.11                            | 5.31              | 5.31               | 1.62                   | 4.09                   | 6.84                | 6.26          | 13,073.54                          | 31.01                         | 165.31            | 217.79                             |
| Q3 2008 | -3.66           | -0.57              | -8.82                         | -4.86                            | 6.03              | 6.46               | 1.49                   | 4.05                   | 7.19                | 6.50          | 11,875.41                          | 46.72                         | 158.25            | 217.11                             |
| Q4 2008 | -8.89           | -8.43              | -0.23                         | -5.79                            | 6.91              | -9.07              | 0.30                   | 3.72                   | 9.39                | 6.03          | 9,087.17                           | 80.86                         | 149.51            | 189.54                             |
| Q1 2009 | -6.67           | -5.23              | -3.81                         | -5.42                            | 8.22              | -2.50              | 0.21                   | 3.23                   | 8.96                | 5.18          | 8,113.14                           | 56.65                         | 142.77            | 186.93                             |
| Q2 2009 | -0.69           | -1.14              | 0.25                          | 2.15                             | 9.29              | 1.97               | 0.17                   | 3.65                   | 8.15                | 5.14          | 9,424.92                           | 42.28                         | 143.51            | 154.64                             |
| Q3 2009 | 1.70            | 1.93               | -5.42                         | -2.57                            | 9.69              | 3.67               | 0.16                   | 3.81                   | 6.76                | 5.28          | 10,911.69                          | 31.30                         | 144.81            | 157.50                             |
| Q4 2009 | 3.80            | 4.88               | -0.58                         | 2.18                             | 10.01             | 2.72               | 0.06                   | 3.69                   | 6.13                | 5.03          | 11,497.41                          | 30.69                         | 145.34            | 152.24                             |
| Q1 2010 | 3.94            | 5.52               | 4.86                          | 6.81                             | 9.70              | 1.28               | 0.11                   | 3.87                   | 5.78                | 5.11          | 12,160.97                          | 27.31                         | 146.66            | 157.50                             |
| Q2 2010 | 3.79            | 5.43               | 5.57                          | 5.91                             | 9.66              | -0.51              | 0.15                   | 3.62                   | 5.55                | 5.02          | 10,750.01                          | 45.79                         | 146.10            | 171.27                             |
| Q3 2010 | 2.51            | 3.86               | 2.27                          | 3.27                             | 9.59              | 1.42               | 0.16                   | 2.90                   | 5.07                | 4.54          | 11,947.14                          | 32.86                         | 141.78            | 160.45                             |
| Q4 2010 | 2.35            | 4.16               | 1.50                          | 3.47                             | 9.63              | 2.68               | 0.14                   | 2.97                   | 5.04                | 4.50          | 13,290.03                          | 23.54                         | 139.61            | 178.95                             |
| Q1 2011 | 0.36            | 3.09               | 1.24                          | 5.19                             | 8.93              | 5.25               | 0.13                   | 3.53                   | 5.40                | 4.95          | 14,036.43                          | 29.40                         | 137.93            | 177.17                             |
| Q2 2011 | 1.34            | 3.96               | 0.59                          | 3.91                             | 9.06              | 4.02               | 0.05                   | 3.28                   | 5.15                | 4.76          | 13,968.11                          | 22.73                         | 137.56            | 173.82                             |
| Q3 2011 | 2.46            | 5.04               | -1.73                         | 0.59                             | 9.09              | 3.09               | 0.02                   | 2.48                   | 4.87                | 4.40          | 11,771.86                          | 48.00                         | 136.86            | 174.08                             |
| Q4 2011 | 2.33            | 5.22               | -0.48                         | 2.01                             | 9.10              | 1.90               | 0.10                   | 2.20                   | 4.52                | 4.21          | 11,936.09                          | 35.97                         | 137.21            | 172.17                             |
| Q1 2012 | 1.92            | 4.76               | 1.62                          | 3.50                             | 9.10              | 2.00               | 0.10                   | 2.30                   | 4.55                | 4.17          | 12,090.22                          | 35.08                         | 137.55            | 173.29                             |
| Q2 2012 | 2.22            | 4.60               | 2.09                          | 3.88                             | 9.00              | 1.90               | 0.10                   | 2.40                   | 4.59                | 4.15          | 12,242.03                          | 31.83                         | 137.89            | 175.43                             |
| Q3 2012 | 2.43            | 4.82               | 1.99                          | 4.09                             | 8.90              | 2.20               | 0.10                   | 2.60                   | 4.74                | 4.19          | 12,401.69                          | 31.35                         | 138.24            | 177.65                             |
| Q4 2012 | 2.63            | 4.77               | 2.39                          | 4.40                             | 8.90              | 2.10               | 0.10                   | 2.80                   | 4.89                | 4.24          | 12,562.14                          | 29.59                         | 138.58            | 178.87                             |
| Q1 2013 | 2.69            | 4.80               | 2.77                          | 4.80                             | 8.69              | 2.11               | 0.10                   | 3.10                   | 5.15                | 4.34          | 12,725.49                          | 28.43                         | 138.93            | 182.28                             |
| Q2 2013 | 2.81            | 5.09               | 2.89                          | 5.09                             | 8.48              | 2.27               | 0.10                   | 3.31                   | 5.32                | 4.41          | 12,899.23                          | 30.74                         | 139.28            | 185.64                             |
| Q3 2013 | 2.90            | 5.28               | 2.96                          | 5.28                             | 8.27              | 2.38               | 0.10                   | 3.50                   | 5.48                | 4.49          | 13,080.73                          | 30.48                         | 139.63            | 189.10                             |
| Q4 2013 | 2.96            | 5.39               | 3.01                          | 5.39                             | 8.06              | 2.44               | 0.55                   | 3.69                   | 5.65                | 4.63          | 13,268.17                          | 30.10                         | 139.97            | 192.64                             |
| Q1 2014 | 2.94            | 5.38               | 3.04                          | 5.38                             | 7.93              | 2.40               | 0.99                   | 3.88                   | 5.83                | 4.82          | 13,458.04                          | 27.47                         | 140.32            | 195.52                             |
| Q2 2014 | 2.95            | 5.42               | 3.08                          | 5.42                             | 7.78              | 2.40               | 1.44                   | 4.04                   | 5.96                | 5.03          | 13,651.75                          | 24.68                         | 140.68            | 198.63                             |
| Q3 2014 | 2.95            | 5.46               | 3.11                          | 5.46                             | 7.63              | 2.40               | 1.88                   | 4.18                   | 6.08                | 5.25          | 13,849.28                          | 20.84                         | 141.03            | 201.80                             |
| Q4 2014 | 2.94            | 5.48               | 3.12                          | 5.48                             | 7.48              | 2.41               | 2.33                   | 4.30                   | 6.18                | 5.48          | 14,050.55                          | 18.55                         | 141.38            | 205.03                             |

**Notes:**

Sources for data through 2011: Q3 (as released through 11/08/2010). 2011:Q3 international GDP data based on staff calculations.

Values after that date equal assumptions for the supervisory stress scenario.

Variables reported as growth rates are expressed as percent changes at an annual rate.

**Real GDP growth:** Gross Domestic Product, billions of chain-weighted 2005 dollars, Bureau of Economic Analysis**Nominal GDP growth:** Gross Domestic Product, billions of dollars, Bureau of Economic Analysis**CPI inflation rate:** Bureau of Labor Statistics**Real Disposable Personal Income growth:** Billions of chain-weighted 2002 dollars, equals nominal disposable personal income divided by the price index for personal consumption expenditures, Bureau of Economic Analysis**Nominal Disposable Personal Income growth:** Billions of dollars, Bureau of Economic Analysis**Unemployment Rate:** Bureau of Labor Statistics (quarterly average of monthly data)**3-Month T-Bill Rate:** Quarterly average of 3-month Treasury bill secondary market rate discount basis, Federal Reserve Board**10-yr Treasury Bond Rate:** Quarterly average of yield on 10-yr U.S. Treasury bond, constructed for FRB/US model by Federal Reserve staff**BBB Corporate Bond Rate:** Yield on 10-yr BBB-rated corporate bond, constructed for FRB/US model by Federal Reserve staff**Mortgage Rate:** Freddie Mac**Dow Jones Total Stock Market Index:** End of quarter value, Dow Jones**National House Price Index:** CoreLogic (seasonally adjusted by Federal Reserve staff)**CRE Price Index:** CoStar (seasonally adjusted by Federal Reserve staff)**VIX:** Chicago Board Options Exchange**Euro Area Real GDP Growth:** staff calculations based on Statistical Office of the European Communities via Haver**Euro Area Inflation:** staff calculations based on Statistical Office of the European Community via Haver**Developing Asia Real GDP Growth:** 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:** staff calculations based on Bank of Korea via CEIC, Chinese Statistical Information and Consultancy Service

via CEIC, and IMF Recent Economic Developments, Labour Bureau of India via CEIC and IMF, Census and Statistic Department of Hong

Kong via CEIC, Census and Statistics Department of Hong Kong via CEIC, and Taiwan Directorate-General of Budget, Accounting and

Statistics via CEIC.

**Japan Real GDP Growth:** Cabinet Office via Haver**Japan Inflation:** Ministry of Internal Affairs and Communications via Haver**UK Real GDP Growth:** Office of National Statistics via Haver**UK Inflation:** Office of National Statistics (uses Retail Price Index to extend series back to 1960) via Haver**Exchange Rates:** Bloomberg

Supervisory Baseline Scenario (international projections)

| OBS     | Euro Area Real GDP Growth | Euro Area Inflation | Euro Area Bilateral Dollar Exchange Rate (USD/Euro) | Asia ex-Japan Real GDP Growth | Asia ex-Japan Inflation | Developing Asia Bilateral Dollar Exchange Rate (F/USD, Index Base = 2000 Q1) | Japan Real GDP Growth | Japan Inflation | Japan Bilateral Dollar Exchange Rate (Yen/USD) | UK Real GDP Growth | UK Inflation | UK Bilateral Dollar Exchange Rate (USD/Pound) |
|---------|---------------------------|---------------------|---|-------------------------------|-------------------------|--|-----------------------|-----------------|--|--------------------|--------------|---|
| Q1 2001 | 3.70                      | 1.06                | 0.88  | 3.82                          | 1.59                    | 105.90   | 1.79                  | 0.55            | 125.54   | 5.38               | 0.09         | 1.43  |
| Q2 2001 | 0.32                      | 4.03                | 0.85  | 5.69                          | 1.98                    | 105.99   | -2.36                 | -2.00           | 124.73   | 1.68               | 3.02         | 1.41  |
| Q3 2001 | 0.16                      | 1.44                | 0.91  | 4.45                          | 1.20                    | 106.29   | -4.63                 | -0.59           | 119.23   | 2.66               | 1.02         | 1.47  |
| Q4 2001 | 0.50                      | 1.69                | 0.89  | 6.50                          | -0.25                   | 106.74   | -1.75                 | -1.85           | 131.04   | 1.60               | 0.04         | 1.45  |
| Q1 2002 | 0.91                      | 2.97                | 0.87  | 7.16                          | 0.32                    | 107.20   | 1.19                  | -1.11           | 132.70   | 3.31               | 1.90         | 1.43  |
| Q2 2002 | 2.01                      | 2.01                | 0.99  | 8.73                          | 0.65                    | 104.67   | 3.24                  | 0.08            | 119.85   | 2.60               | 0.88         | 1.52  |
| Q3 2002 | 1.34                      | 1.62                | 0.99  | 4.71                          | 1.44                    | 105.41   | 3.09                  | -0.44           | 121.74   | 3.17               | 1.34         | 1.56  |
| Q4 2002 | 0.20                      | 2.38                | 1.05  | 6.06                          | 0.71                    | 104.39   | 0.36                  | -0.59           | 118.75   | 2.75               | 1.92         | 1.61  |
| Q1 2003 | -0.11                     | 3.24                | 1.09  | 6.63                          | 3.14                    | 105.40   | -1.57                 | -0.04           | 118.07   | 2.73               | 1.58         | 1.59  |
| Q2 2003 | 0.06                      | 0.34                | 1.15  | 2.59                          | 1.16                    | 103.93   | 2.54                  | 0.24            | 119.87   | 4.77               | 0.29         | 1.67  |
| Q3 2003 | 2.03                      | 2.17                | 1.16  | 12.51                         | -0.01                   | 102.59   | 2.95                  | -0.64           | 111.43   | 4.07               | 1.70         | 1.67  |
| Q4 2003 | 2.48                      | 2.16                | 1.27  | 11.00                         | 5.38                    | 103.31   | 5.47                  | -0.72           | 107.13   | 4.79               | 1.65         | 1.79  |
| Q1 2004 | 2.27                      | 2.32                | 1.23  | 4.57                          | 4.11                    | 101.39   | 4.55                  | 0.60            | 104.18   | 3.06               | 1.31         | 1.85  |
| Q2 2004 | 2.12                      | 2.34                | 1.22  | 5.98                          | 3.92                    | 102.73   | -1.05                 | -0.36           | 109.43   | 1.40               | 0.98         | 1.82  |
| Q3 2004 | 1.65                      | 2.00                | 1.23  | 8.32                          | 3.84                    | 102.67   | 2.47                  | -0.04           | 110.20   | 0.53               | 1.02         | 1.82  |
| Q4 2004 | 1.30                      | 2.40                | 1.35  | 7.44                          | 0.71                    | 98.97  | -1.79                 | 1.75            | 102.68   | 1.92               | 2.36         | 1.92  |
| Q1 2005 | 0.67                      | 1.50                | 1.30  | 7.81                          | 2.80                    | 98.66  | 2.92                  | -0.91           | 107.22   | 1.27               | 2.55         | 1.89  |
| Q2 2005 | 3.02                      | 2.13                | 1.20  | 6.90                          | 1.68                    | 99.00  | 4.55                  | -1.19           | 110.91   | 3.19               | 1.85         | 1.79  |
| Q3 2005 | 2.41                      | 3.12                | 1.20  | 9.31                          | 2.44                    | 98.55  | 2.79                  | -1.36           | 113.29   | 3.38               | 2.68         | 1.75  |
| Q4 2005 | 2.38                      | 2.46                | 1.19  | 9.92                          | 1.77                    | 98.12  | 1.15                  | 0.68            | 117.88   | 3.32               | 1.35         | 1.72  |
| Q1 2006 | 3.86                      | 1.62                | 1.22  | 11.60                         | 2.37                    | 96.84  | 0.01                  | 1.31            | 117.48   | 3.08               | 1.90         | 1.75  |
| Q2 2006 | 4.27                      | 2.44                | 1.28  | 7.53                          | 2.96                    | 96.73  | 4.51                  | 0.00            | 114.51   | 1.50               | 2.95         | 1.85  |
| Q3 2006 | 2.67                      | 1.99                | 1.27  | 8.36                          | 1.77                    | 96.32  | 1.30                  | 0.40            | 117.99   | 0.90               | 3.21         | 1.89  |
| Q4 2006 | 3.95                      | 0.94                | 1.32  | 9.89                          | 3.96                    | 94.58  | 2.50                  | -0.40           | 119.02   | 2.72               | 2.60         | 1.96  |
| Q1 2007 | 3.53                      | 2.21                | 1.33  | 13.97                         | 3.75                    | 93.97  | 4.60                  | -0.24           | 117.56   | 4.23               | 2.70         | 1.96  |
| Q2 2007 | 1.91                      | 2.24                | 1.35  | 9.72                          | 4.63                    | 91.93  | 1.10                  | 0.00            | 123.39   | 4.65               | 1.53         | 2.00  |
| Q3 2007 | 2.42                      | 2.07                | 1.43  | 8.50                          | 7.22                    | 90.62  | -1.18                 | 0.12            | 114.97   | 4.79               | 0.19         | 2.04  |
| Q4 2007 | 1.51                      | 4.87                | 1.47  | 9.25                          | 6.17                    | 89.38  | 2.50                  | 2.26            | 111.71   | 2.56               | 3.92         | 2.00  |
| Q1 2008 | 2.36                      | 4.14                | 1.59  | 8.73                          | 7.65                    | 87.94  | 2.79                  | 1.30            | 99.85  | 0.10               | 3.81         | 2.00  |
| Q2 2008 | -1.54                     | 3.10                | 1.56  | 6.50                          | 5.99                    | 88.55  | -4.66                 | 1.69            | 106.17   | -5.09              | 5.33         | 2.00  |
| Q3 2008 | -2.10                     | 3.04                | 1.41  | 4.21                          | 2.72                    | 91.24  | -5.38                 | 3.28            | 105.94   | -7.92              | 5.59         | 1.79  |
| Q4 2008 | -7.21                     | -1.26               | 1.39  | -0.53                         | -1.27                   | 91.95  | -11.81                | -2.34           | 90.79  | -9.12              | 0.51         | 1.47  |
| Q1 2009 | -10.81                    | -1.07               | 1.33  | 5.33                          | -1.25                   | 94.02  | -19.91                | -3.14           | 99.15  | -6.32              | 0.33         | 1.43  |
| Q2 2009 | -0.85                     | -0.11               | 1.41  | 12.71                         | 2.16                    | 92.05  | 7.79                  | -1.74           | 96.42  | -0.81              | 1.82         | 1.64  |
| Q3 2009 | 1.77                      | 0.96                | 1.47  | 12.11                         | 4.46                    | 91.12  | -1.75                 | -1.83           | 89.49  | 0.93               | 3.29         | 1.61  |
| Q4 2009 | 1.54                      | 1.92                | 1.43  | 7.26                          | 5.25                    | 90.55  | 6.54                  | -1.36           | 93.08  | 2.94               | 3.08         | 1.61  |
| Q1 2010 | 1.32                      | 1.76                | 1.35  | 10.74                         | 4.71                    | 89.79  | 8.91                  | 1.36            | 93.40  | 0.64               | 4.58         | 1.52  |
| Q2 2010 | 3.69                      | 1.68                | 1.23  | 7.10                          | 3.09                    | 90.89  | -0.66                 | -1.20           | 88.49  | 4.20               | 2.57         | 1.49  |
| Q3 2010 | 1.62                      | 1.53                | 1.35  | 8.78                          | 3.97                    | 88.27  | 3.96                  | -2.68           | 83.53  | 2.47               | 1.96         | 1.56  |
| Q4 2010 | 1.07                      | 3.01                | 1.33  | 6.36                          | 7.98                    | 87.19  | -2.41                 | 1.32            | 81.67  | -2.05              | 4.27         | 1.54  |
| Q1 2011 | 3.10                      | 3.59                | 1.41  | 9.05                          | 6.18                    | 86.44  | -3.77                 | 0.40            | 82.76  | 1.58               | 7.22         | 1.61  |
| Q2 2011 | 0.65                      | 2.75                | 1.45  | 7.54                          | 4.75                    | 85.25  | -2.17                 | -0.80           | 80.64  | 0.41               | 3.68         | 1.61  |
| Q3 2011 | 1.33                      | 1.24                | 1.35  | 7.52                          | 5.38                    | 87.66  | 1.01                  | 0.08            | 77.04  | 0.70               | 3.28         | 1.56  |
| Q4 2011 | 1.32                      | 2.82                | 1.36  | 7.48                          | 6.32                    | 86.34  | 2.53                  | -0.08           | 77.70  | 0.91               | 3.42         | 1.56  |
| Q1 2012 | 0.81                      | 2.49                | 1.38  | 7.43                          | 5.42                    | 84.68  | 2.65                  | -0.15           | 78.97  | 1.03               | 3.11         | 1.57  |
| Q2 2012 | 0.41                      | 1.80                | 1.37  | 7.41                          | 4.34                    | 83.71  | 2.42                  | -0.13           | 79.71  | 1.14               | 2.75         | 1.58  |
| Q3 2012 | 0.30                      | 1.45                | 1.35  | 7.43                          | 3.65                    | 83.12  | 2.08                  | -0.09           | 80.06  | 1.26               | 2.52         | 1.58  |
| Q4 2012 | 0.48                      | 1.45                | 1.33  | 7.47                          | 3.32                    | 82.64  | 1.65                  | -0.03           | 80.20  | 1.37               | 2.42         | 1.58  |
| Q1 2013 | 0.86                      | 1.72                | 1.32  | 7.54                          | 3.28                    | 82.08  | 1.17                  | 0.04            | 80.26  | 1.48               | 2.43         | 1.58  |
| Q2 2013 | 1.17                      | 1.96                | 1.32  | 7.59                          | 3.28                    | 81.43  | 0.80                  | 0.11            | 80.30  | 1.55               | 2.45         | 1.58  |
| Q3 2013 | 1.34                      | 2.09                | 1.32  | 7.62                          | 3.26                    | 80.75  | 0.57                  | 0.17            | 80.32  | 1.59               | 2.46         | 1.57  |
| Q4 2013 | 1.38                      | 2.11                | 1.32  | 7.63                          | 3.22                    | 80.07  | 0.50                  | 0.22            | 80.34  | 1.59               | 2.46         | 1.57  |
| Q1 2014 | 1.30                      | 2.06                | 1.32  | 7.62                          | 3.17                    | 79.45  | 0.55                  | 0.26            | 80.39  | 1.56               | 2.46         | 1.57  |
| Q2 2014 | 1.22                      | 2.01                | 1.31  | 7.61                          | 3.13                    | 78.86  | 0.59                  | 0.30            | 80.43  | 1.54               | 2.45         | 1.56  |
| Q3 2014 | 1.16                      | 1.99                | 1.31  | 7.60                          | 3.10                    | 78.31  | 0.60                  | 0.33            | 80.44  | 1.53               | 2.45         | 1.56  |
| Q4 2014 | 1.12                      | 1.99                | 1.30  | 7.58                          | 3.09                    | 77.77  | 0.57                  | 0.35            | 80.39  | 1.54               | 2.45         | 1.57  |

Notes:

Sources for data through 2011: Q3 (as released through 11/08/2010). 2011:Q3 international GDP data based on staff calculations.

Values after that date equal assumptions for the supervisory stress scenario.

Variables reported as growth rates are expressed as percent changes at an annual rate.

**Real GDP growth:** Gross Domestic Product, billions of chain-weighted 2005 dollars, Bureau of Economic Analysis

**Nominal GDP growth:** Gross Domestic Product, billions of dollars, Bureau of Economic Analysis

**CPI inflation rate:** Bureau of Labor Statistics

**Real Disposable Personal Income growth:** Billions of chain-weighted 2002 dollars, equals nominal disposable personal income divided by the price index for personal consumption expenditures, Bureau of Economic Analysis

**Nominal Disposable Personal Income growth:** Billions of dollars, Bureau of Economic Analysis

**Unemployment Rate:** Bureau of Labor Statistics (quarterly average of monthly data)

**3-Month T-Bill Rate:** Quarterly average of 3-month Treasury bill secondary market rate discount basis, Federal Reserve Board

**10-yr Treasury Bond Rate:** Quarterly average of yield on 10-yr U.S. Treasury bond, constructed for FRB/US model by Federal Reserve staff

**BBB Corporate Bond Rate:** Yield on 10-yr BBB-rated corporate bond, constructed for FRB/US model by Federal Reserve staff

**Mortgage Rate:** Freddie Mac

**Dow Jones Total Stock Market Index:** End of quarter value, Dow Jones

**National House Price Index:** CoreLogic (seasonally adjusted by Federal Reserve staff)

**CRE Price Index:** CoStar (seasonally adjusted by Federal Reserve staff)

**VIX:** Chicago Board Options Exchange

**Euro Area Real GDP Growth:** staff calculations based on Statistical Office of the European Communities via Haver

**Euro Area Inflation:** staff calculations based on Statistical Office of the European Community via Haver

**Developing Asia Real GDP Growth:** 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:** staff calculations based on Bank of Korea via CEIC, Chinese Statistical Information and Consultancy Service via CEIC, and IMF

**Recent Economic Developments, Labour Bureau of India via CEIC and IMF, Census and Statistics Department of Hong Kong via CEIC, Census and Statistics Department of Hong Kong via CEIC, and Taiwan Directorate-General of Budget, Accounting and Statistics via CEIC.**

**Japan Real GDP Growth:** Cabinet Office via Haver

**Japan Inflation:** Ministry of Internal Affairs and Communications via Haver

**UK Real GDP Growth:** Office of National Statistics via Haver

**UK Inflation:** Office of National Statistics (uses Retail Price Index to extend series back to 1960) via Haver

**Exchange Rates:** Bloomberg