Comprehensive Capital Analysis and Review 2015 Summary Instructions and Guidance

October 2014

Board of Governors of the Federal Reserve System

Comprehensive Capital Analysis and Review 2015 Summary Instructions and Guidance

October 2014

Board of Governors of the Federal Reserve System

Errata

The Federal Reserve revised this publication on October 17, 2014, (p. 22, right column, the two paragraphs in the "Trading and counterparty RWAs" section) to clarify the size threshold of trading assets and liabilities that trigger specific expectations for projecting market risk-weighted assets.

This and other Federal Reserve Board reports and publications are available online at
www.federalreserve.gov/publications/default.htm.

To order copies of Federal Reserve Board publications offered in print,
see the Board's Publication Order Form (www.federalreserve.gov/pubs/orderform.pdf)
or contact:

Publications Fulfillment
Mail Stop N-127
Board of Governors of the Federal Reserve System
Washington, DC 20551
(ph) 202-452-3245
(fax) 202-728-5886
(e-mail) Publications-BOG@frb.gov

Contents

Introduction

The Federal Reserve's annual Comprehensive Capital Analysis and Review (CCAR) is an intensive assessment of the capital adequacy of large, complex U.S. bank holding companies (BHCs) and of the practices these BHCs use to assess their capital needs. The Federal Reserve expects these BHCs to have sufficient capital to withstand a highly stressful operating environment and be able to continue operations, maintain ready access to funding, meet obligations to creditors and counterparties, and serve as credit intermediaries.

About This Publication

These instructions set forth guidance and expectations for the stress testing and capital planning cycle that begins on October 1, 2014, and the related CCAR exercise (CCAR 2015). Similar to the instructions in previous years, the instructions for CCAR 2015 provide information regarding the

- logistics for a BHC's capital plan submissions;
- expectations regarding the mandatory elements of a capital plan;
- qualitative assessment of a BHC's capital plan;
- quantitative assessment of a BHC's post-stress capital adequacy;
- response to capital plans and planned actions;
- limited adjustments a BHC may make to its planned capital distributions;
- planned supervisory disclosures at the end of the CCAR exercise; and
- common themes from CCAR 2014.

New Elements in CCAR 2015

The CCAR 2015 instructions include some new elements to enhance the CCAR program, mainly in order to provide further guidance on supervisory expectations around BHCs' capital adequacy process and capital plan submissions. Specifically, they include:

- **Supervisory expectations for reviews of BHCs' regulatory reporting:** A BHC is expected to have a strong internal control framework that helps govern its internal capital planning processes, including stress testing performed under the CCAR program, and that framework should include comprehensive documentation of the BHC's policies and procedures. To ensure that the BHC's processes are sufficiently robust, the Federal Reserve has requested each BHC make documentation available through the supervisory process that outlines the BHC's procedures used to ensure the accuracy of the regulatory reports affecting CCAR, including the FR Y-9C and FR Y-14. This documentation should include any identified weaknesses in the BHC's internal controls around regulatory reporting and any plans to enhance the control structure around regulatory reporting. (See "Data Supporting a Capital Plan Submission" on page 9.)
- **Organization of the capital plan submission:** The instructions provide examples of formats that BHCs may use to organize their capital plan submission to help ensure that the submission contains all required information and to facilitate review by the Federal Reserve. (See "Organizing Capital Plan Submissions" on page 5 and "Description of All Capital Actions Assumed over the Planning Horizon" on page 24.)
- **Model inventory and risk-identification program documentation:** Pursuant to the recent revisions to the capital plan rule (capital plan rule amendment),[1] BHCs must provide a comprehensive inventory of the models used in their capital plan projections. The instructions clarify that the list of

---

1 See Board of Governors of the Federal Reserve System (2014), "Amendments to the Capital Plan and Stress Test Rules," press release, October 17, www.federalreserve.gov/newsevents/press/bcreg/20141017a.htm.

models should be organized around the FR Y-14A line items. In addition, a BHC is expected to provide documentation outlining the risk-identification process the BHC uses to support the BHC-wide stress testing required in the capital plans. (See "Supporting Documentation for Analyses Used in Capital Plans" on page 23.)

- **Incorporation of amendments to the capital plan and stress test rules:** The instructions provide additional details about how BHCs should implement the capital plan rule amendment, including (1) information on the transition to the new timeline for submitting capital plans beginning in CCAR 2016 (see "Federal Reserve Responses to Planned Capital Actions" on page 30); (2) clarification of how BHCs that are subsidiaries of foreign banking organizations should incorporate compliance with the intermediate holding company rule[2] into their capital plan projections (see "Expected Changes to Business Plans Affecting Capital Adequacy or Funding" on page 26); (3) discussion of the evaluation of planned capital actions in the "out-quarters" of the planning horizon—projected 2016:Q3 and 2016:Q4 in CCAR 2015 (see "Description of All Capital Actions Assumed over the Planning Horizon" on page 24); and (4) the requirement that BHCs do not exceed the capital distributions included in their capital plans on a gross or net basis (see "Execution of Capital Plan and Requests for Additional Distributions" on page 31).

Overview of CCAR Process

In November 2011, the Board of Governors of the Federal Reserve System (Board) adopted the capital plan rule, which requires BHCs with consolidated assets of $50 billion or more to submit annual capital plans to the Federal Reserve for review.[3] Under the rule, a BHC's capital plan must include detailed descriptions of the BHC's internal processes for assessing capital adequacy; the policies governing capital actions; and the BHC's planned capital actions over a nine-quarter planning horizon. Further, a BHC must also report to the Federal Reserve the results of stress tests conducted by the BHC under scenarios provided by the Federal Reserve and under a stress scenario designed by the BHC (BHC stress scenario). These stress tests assess the sources and uses of capital under baseline and stressed economic and financial market conditions.

Before a BHC submits its capital plan to the Federal Reserve, the capital plan must be approved by the BHC's board of directors, or a committee thereof.[4] For CCAR 2015, capital plans should be submitted to the Federal Reserve by no later than **January 5, 2015**.[5]

Under the capital plan rule, the Federal Reserve assesses the overall financial condition, risk profile, and capital adequacy on a forward-looking basis and also assesses the strength of the BHC's capital adequacy process, including its capital policy (qualitative assessment).[6] In particular, the Federal Reserve seeks to ensure that large BHCs have thorough and robust processes for managing their capital resources, and that the processes are supported by effective firm-wide risk-identification, risk-measurement, and risk-management practices. The Federal Reserve expects that a BHC's capital planning adequately accounts for the potential for stressful outcomes and is supported by strong internal control practices and close and effective oversight by the board of directors and senior management.

The Federal Reserve's quantitative assessment of capital plans is based on supervisory and company-run stress tests, conducted in part under the Board's rules implementing sections 165(i)(1) and (2) of the

2 See 12 CFR 252, subpart O.

3 The capital plan rule is codified at 12 CFR 225.8. Asset size is measured over the previous four calendar quarters as reported on the FR Y-9C regulatory report. If a BHC has not filed the FR Y-9C for each of the four most-recent consecutive quarters, "average total consolidated assets" means the average of the company's total consolidated assets, as reported on the company's FR Y-9C, for the most recent quarter or consecutive quarters.

4 The BHCs required to participate in CCAR 2015 are Ally Financial Inc.; American Express Company; Bank of America Corporation; The Bank of New York Mellon Corporation; BB&T Corporation; BBVA Compass Bancshares, Inc.; BMO Financial Corp.; Capital One Financial Corporation; Citigroup Inc.; Comerica Incorporated; Deutsche Bank Trust Corporation; Discover Financial Services; Fifth Third Bancorp.; The Goldman Sachs Group, Inc.; HSBC North America Holdings Inc.; Huntington Bancshares Incorporated; JPMorgan Chase & Co.; KeyCorp; M&T Bank Corporation; Morgan Stanley; MUFG Americas Holdings Corporation; Northern Trust Corporation; The PNC Financial Services Group, Inc.; RBS Citizens Financial Group, Inc.; Regions Financial Corporation; Santander Holdings USA, Inc.; State Street Corporation; SunTrust Banks, Inc.; U.S. Bancorp.; Wells Fargo & Co.; and Zions Bancorporation. CCAR 2015 is the first CCAR exercise for Deutsche Bank Trust Corporation.

5 A BHC that meets the threshold must submit a capital plan, even if it does not intend to undertake any capital distributions over the planning horizon.

6 See 12 CFR 225.8(e)(1)(i).

Table 1. Minimum regulatory ratios and tier 1 common ratio for CCAR 2015

Regulatory ratio	Minimum ratio	
	2014:Q4	2015–16
Advanced approaches BHCs		
Tier 1 common ratio	5 percent	5 percent
Common equity tier 1 capital ratio	4 percent	4.5 percent
Tier 1 risk-based capital ratio	5.5 percent	6 percent
Total risk-based capital ratio	8 percent	8 percent
Tier 1 leverage ratio	4 percent	4 percent
Other BHCs		
Tier 1 common ratio	5 percent	5 percent
Common equity tier 1 capital ratio	n/a	4.5 percent
Tier 1 risk-based capital ratio	4 percent	6 percent
Total risk-based capital ratio	8 percent	8 percent
Tier 1 leverage ratio	3 or 4 percent	4 percent

Note: The tier 1 common ratio is to be calculated for each planning horizon quarter using the definition of tier 1 capital and total risk-weighted assets in 12 CFR 225, appendix A. All other ratios are to be calculated using the definitions of tier 1 capital and approaches to risk-weighting assets that are in effect during a particular planning horizon quarter. See 79 *Fed. Reg.* 13498 (March 11, 2014).

For purposes of CCAR 2015, an advanced approaches BHC includes any BHC that has consolidated assets greater than or equal to $250 billion or total consolidated on-balance sheet foreign exposure of at least $10 billion as of December 31, 2013. See 12 CFR 217.100(b)(1); 12 CFR part 225, appendix G, section 1(b). Other BHCs include any BHC that is subject to 12 CFR 225.8 and is not an advanced approaches BHC.

n/a Not applicable.

Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act stress test rules). (See "Stress Tests Conducted by BHCs" on page 11 and "Supervisory Post-Stress Capital Analysis" on page 28.) The supervisory review of a BHC's capital plan includes an assessment of the BHC's ability to maintain capital levels above each minimum regulatory capital ratio and above a tier 1 common ratio of 5 percent, after making all capital actions included in their capital plans, under baseline and stressful conditions throughout the nine-quarter planning horizon. See table 1 for a list of the ratios that are applicable to all BHCs participating in CCAR over the planning horizon.

Both quantitative and qualitative supervisory assessments are key inputs to the Federal Reserve's decision to object or not object to a BHC's capital plan. The decisions for all 31 BHCs participating in CCAR 2015, including the reasons for any objections to BHC capital plans will be published on or before March 31, 2015. In addition, the Federal Reserve will separately publish the results of its supervisory stress test under both the supervisory severely adverse and adverse scenarios.

Correspondence Related to CCAR

All questions from BHCs and communications from the Federal Reserve concerning CCAR are handled through the secure CCAR Communications mailbox. BHCs will receive program updates via e-mail from the CCAR Communications mailbox. These updates include notifications about CCAR industry conference calls hosted by the Federal Reserve and responses to frequently asked questions (FAQ) submitted by participating BHCs about the CCAR process and instructions.

The CCAR Communications mailbox serves as a BHC's primary point of contact for specific questions about the capital plan and stress test rule requirements. If a BHC seeks clarifications on CCAR and Dodd-Frank Act stress test program elements, the BHC should submit its questions to the mailbox. All questions and responses, other than BHC-specific questions, will be made available to all CCAR BHCs through an FAQ document on a regular basis. BHC-specific questions will receive a direct response. If needed, meetings may be scheduled to discuss submitted questions in more detail; however, only those responses that come through the secure mailbox will be considered official.

Instructions for Submission of Capital Plans

Mandatory Elements of a Capital Plan

As noted earlier, a BHC must submit its capital plan and supporting documentation to the Federal Reserve by **January 5, 2015**. The capital plan rule specifies the four mandatory elements of a capital plan:[7]

1. An assessment of the expected uses and sources of capital over the planning horizon that reflects the BHC's size, complexity, risk profile, and scope of operations, assuming both expected and stressful conditions, including

   a. Estimates of projected revenues, losses, reserves, and pro forma capital levels—including any regulatory capital ratios (e.g., tier 1 leverage, common equity tier 1 capital, tier 1 risk-based capital, and total risk-based capital ratios) and any additional capital measures deemed relevant by the BHC—over the planning horizon under baseline conditions and under a range of stressed scenarios; these must include any scenarios provided by the Federal Reserve and at least one stress scenario developed by the BHC appropriate to its business model and portfolios.

   b. The calculation of pro forma tier 1 common ratio over the planning horizon under baseline conditions and under a range of stressed scenarios, inclusive of a discussion of how the company will maintain all minimum regulatory capital ratios and a pro forma tier 1 common ratio above 5 percent under expected conditions and the stressed scenarios required.

   c. A discussion of the results of the stress tests required by law or regulation, and an explanation of how the capital plan takes these results into account.

   d. A description of all planned capital actions over the planning horizon.

2. A detailed description of the BHC's process for assessing capital adequacy.

3. A BHC's capital policy.

4. A discussion of any baseline changes to the BHC's business plan that are likely to have a material impact on the BHC's capital adequacy or liquidity.

In addition to these mandatory elements, the Federal Reserve also requires a BHC to submit supporting information necessary to facilitate review of the BHC's capital plans under the Board's capital plan rule and in accordance with the FR Y-14 instructions.[8] The capital plan elements described in the CCAR 2015 instructions do not replace the elements BHCs are required to provide in connection with the FR Y-14, including appendix A to the FR Y-14A describing supporting documentation. The mandatory elements, particularly the first element, overlap with some of the supporting documentation requirements. Some information submitted by BHCs may satisfy both the capital plan rule and the FR Y-14 requirements.

Organizing Capital Plan Submissions

The capital plan and any supporting information, including certain FR Y-14 schedules, must be submitted to the Federal Reserve through a secure collaboration site. In response to previous requests from BHCs for guidance on how to organize a capital plan when submitting it via the collaboration site, the Federal Reserve is providing in this year's instructions a suggested outline for submissions. The sections below provide greater detail regarding the suggested outline for both the capital plan narrative and supporting documentation, as well as define the submission components and map them to the mandatory ele-

[7] See 12 CFR 225.8(d)(2).

[8] See 12 CFR 225.8(d)(3).

Table 2. Capital plan submission categorization scheme

Submission type (REQUIRED)	Submission subtype (REQUIRED)	Supporting materials only	
		Comment (OPTIONAL)[1]	Topic (REQUIRED)
Capital plan narrative	Complete narrative Capital plan Capital policy Planned capital actions Capital adequacy process Risk-identification program overview BHC scenario design process overview Material business plan changes Assumptions - limitations - weaknesses Governance framework Summary of audit findings Other (please define)[2]		
Supporting documents (capital plan & FR Y-14)	Policies and procedures Methodology inventory mapped to Y-14A Methodology and process overview Model technical document Model validation Audit report Results finalize & challenge materials Cons pro forma financials methodology Contact list Other (please define)[2]		General Wholesale Retail Operational risk Securities Trading Counterparty PPNR - balance sheet - RWA Regulatory capital
FR Y-14 schedule (OFFICIAL TEMPLATES)[3]	Y-14A - Sch A - Summary Y-14A - Sch B - Scenario Y-14A - Sch C - Reg cap instruments Y-14A - Sch D - Reg cap transitions Y-14A - Sch E - Ops risk Y-14A - Sch F - Counterparty credit Y-14Q - Sch A - Retail Y-14Q - Sch B - Securities Y-14Q - Sch C - Reg cap instruments Y-14Q - Sch D - Reg cap transitions Y-14Q - Sch E - Ops risk Y-14Q - Sch F - Trading Y-14Q - Sch G - PPNR Y-14Q - Sch H - Wholesale Y-14Q - Sch I - MSR valuation Y-14Q - Sch J - FVO/HFS Y-14Q - Sch K - Supplemental		

1 See FR Y-14A Instructions, Appendix A: Supporting Documentation.
2 If BHC selects “Other,” it will be prompted to provide a description of the submission.
3 There will be additional submission categories for any special collections in CCAR 2015.

ments in the capital plan rule and the FR Y-14A instructions.

When submitting materials to the secure collaboration site, BHCs will be able to categorize each component in order to ensure that supervisors can easily identify and review relevant documentation. Table 2 shows the categorization system that may be used for submissions to the secure collaboration site.

Capital Plan Narrative

This section outlines a potential organizational structure for a BHC’s capital plan narrative.

- **Capital plan:** Provides a summary of the BHC’s capital plan and the pro forma financial results under the different scenarios evaluated as part of the capital adequacy process. The document should summarize the BHC’s proposed capital actions, the various scenarios, the key risks and drivers of financial performance under each scenario, key assumptions, any process weaknesses or other uncertainties that could affect results, and any mitigating controls. The document should also summarize how certain risks that are not captured in the stress scenario analysis are addressed in the capital adequacy process.
- **Capital policy:** Provides the BHC’s standalone, written policy outlining the principles and guidelines used for capital planning, capital issuance, usage, and distributions *(mandatory element 3)*.
- **Planned capital actions:** Provides (1) a description of all planned capital actions over the planning

horizon and (2) a summary of all capital actions by instrument in each quarter of the nine-quarter planning horizon, which should align with the capital actions included in the FR Y-14A Summary and Regulatory Capital Instruments schedules *(mandatory element 1(d))*. (See "Description of All Capital Actions Assumed over the Planning Horizon" on page 24.)

- **Capital adequacy process:** Provides a detailed description of the BHC's process for assessing capital adequacy, including all assumptions, limitations, weaknesses, and uncertainties that could potentially have a material impact on consolidated results *(mandatory element 2)*.
- **Risk-identification program overview:** Describes the risk-identification process the BHC uses to support the BHC-wide stress testing required in the capital plans and how and where these risks are captured in the BHC's capital adequacy process. (See "Supporting Documentation for Analyses Used in Capital Plans" on page 23.)
- **BHC scenario design process overview:** Describes the BHC's process and approach to developing the BHC baseline and stress scenarios, including all methodologies, variables, and key assumptions and how the BHC stress scenarios address the BHC's particular vulnerabilities. (See "BHC Scenarios" on page 12 and "Supporting Documentation for Analyses Used in Capital Plans" on page 23.)
- **Material business plan changes:** Provides 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 and funding profile (e.g., a proposed merger or divestiture, changes in key business strategies, or significant investments) *(mandatory element 4)*.
- **Summary of assumptions, limitations, and weaknesses:** Describes all assumptions, limitations, weaknesses, and uncertainties that could potentially have a material impact on consolidated results or material loss or revenue estimates.
- **Governance framework:** Describes internal governance around the development of the BHC's comprehensive capital plan. Documentation should demonstrate that senior management has provided the board of directors with sufficient information to facilitate the board's understanding of the stress testing used by the firm for capital planning purposes.
- **Summary of audit findings:** Provides a summary of the most recent findings and conclusions from a review of the BHC's capital adequacy process carried out by internal audit or an independent party. In the discussion, the BHC should describe the scope of the audit work and specifically identify any areas of the end-to-end capital adequacy process that have not been independently reviewed by a third party.

If the BHC chooses to organize its capital plan narrative in the format set forth above, the capital plan narrative elements may be submitted as one large file, as individual files, or as several files that combine various elements. When uploading these documents to the secure collaboration site, a BHC should follow these instructions:

1. For submission type, categorize all documents as "Capital plan narrative."
2. For submission subtype, please choose the appropriate category from the list below based on the descriptions above.

- *Submission subtype categories:* (1) Complete narrative, (2) Capital plan, (3) Capital policy, (4) Planned capital actions, (5) Capital adequacy process, (6) Risk-identification program overview, (7) BHC scenario design process overview, (8) Material business plan changes, (9) Assumptions – limitations – weaknesses, (10) Governance framework, (11) Summary of audit findings, and (12) Other
- If the entire capital plan narrative (i.e., all elements above) is in one file, please choose "Complete narrative."
- If combining some of the elements above into one file, please choose "Other" and provide a description of the document in the "Other – define" field.
- If documentation does not fit one of the defined elements above, please choose "Other" and provide a description of the document in the "Other – define" field.

Capital Plan and FR Y-14A Supporting Documentation

This section outlines a potential organizational structure for the required documentation that each BHC must submit through the collaboration site to support the capital plan and the FR Y-14A schedules. The model and methodology documentation described below should be organized by the following topics: retail, wholesale, fair value option and held-for-sale loans, securities, trading, counterparty, operational risk, pre-provision net revenue (PPNR), mortgage-servicing rights (MSR), and regulatory capital transitions. This supporting documentation also addresses *mandatory element 1* under the capital plan rule.

- **Policies and procedures:** All policies and procedures related to the capital adequacy process, including the BHC's model risk-management policy. (See the FR Y-14A instructions for specific supervisory expectations for a model risk management policy.)
- **Methodology and model inventory mapping to FR Y-14A:** Provides an inventory of all models and methodologies used to estimate losses, revenues, expenses, balances, and risk-weighted assets (RWAs) and the status of validation/independent review for each. As required by the FR Y-14A instructions, documentation should also include mapping that clearly conveys the methodology used for each FR Y-14A product line under each stress scenario. (See "Supporting Documentation for Analyses Used in Capital Plans" on page 23.)
- **Methodology documentation:** Methodology documentation should include, at a minimum, the following documents:
  - —**Methodology and process overview:** Describes key methodologies and assumptions for performing stress testing on the BHC's portfolios, business, and exposures. Documentation should clearly describe the model-development process, the derivation of outcomes, validation procedures, and key assumptions. Supporting documentation should clearly describe any known model weaknesses and how such information is factored into the capital plan.
  - —**Model technical documents:** Includes thorough documentation of key methodologies and assumptions for performing stress testing. The documentation should include the design, theory, and logic underlying the methodology and any available empirical support. (See appendix A of the FR Y-14A instructions.)
  - —**Model validation:** Includes model validation documentation on the following elements: conceptual soundness, model robustness and limitations, use of qualitative adjustments or other expert judgment, exception reports, and outcomes analysis. (See appendix A of the FR Y-14A instructions.)

In past CCAR exercises, many BHCs have provided audit reports and documentation on results finalization and the challenge process as part of their capital plan submissions. BHCs submitting documentation similar to that described below should use the following categories.

- **Audit reports:** Includes audit reports from a BHC's audit of the capital adequacy process, including reviews of the models and methodologies used in the process. (See *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Current Range of Practice.*)
- **Results finalization and challenge materials:** Provides any documentation relating to the review, challenge, and aggregation processes and the finalization of results used in a BHC's capital planning processes to ensure transparency and repeatability.

Methodology documentation should be provided in accordance with the supporting documentation requirements outlined in the appendix of the FR Y-14A instructions as follows:

- **Retail** – See A.2 in the appendix.
- **Wholesale** – See A.3 in the appendix.
- **Fair value option and held-for-sale loans** – See A.4 in the appendix.
- **AFS/HTM Securities** – See A.5 in the appendix.
- **Trading** – See A.6 in the appendix.
- **Counterparty credit risk** – See A.7 in the appendix.
- **Operational risk** – See A.8 in the appendix.
- **PPNR** – See A.9 in the appendix.
- **MSR** – See A.10 in the appendix.
- **Regulatory capital transitions** – See Schedule D in the appendix.
- **Consolidated pro forma financials methodology** – Describes (1) how the various balance sheet and income statement line items were developed and reported; (2) the specific assumptions used to calculate regulatory capital, including a discussion of any proposed capital distributions; and (3) any other information necessary to understand the BHC's capital calculations (e.g., calculations related to the projections of the deferred tax asset or servicing assets that may be disallowed for regulatory capital purposes). Methodology documentation should be provided in accordance with the supporting documentation requirements outlined in A.1 of the appendix of the FR Y-14A instructions for the

Income Statement, Balance Sheet, and Capital worksheets.

If a BHC chooses to organize its capital plan and FR Y-14A supporting documentation in the format set forth above, the BHC should follow these instructions:

1. For submission type, categorize all supporting documents as "Supporting document."
   - Do **not** categorize any FR Y-14 supporting documentation as "FR Y-14 Schedule." That category is for FR Y-14 schedules only—that is, Excel or XML files only.
2. For submission subtype, please choose the appropriate category from the list below based on the descriptions above.
   - *Submission subtype categories:* (1) Policies and procedures, (2) Methodology inventory mapped to FR Y-14A, (3) Methodology and process overview, (4) Model technical documents, (5) Model validation, (6) Audit report, (7) Results finalization & challenge, (8) Cons pro forma financials methodology, and (9) Other
   - If you have combined some of the elements above into one file, please choose "Other" and provide a description of the supporting document in the "Other – define" field.
   - If you have supporting documentation that does not fit one of the defined elements above, please choose "Other" and provide a description of the supporting document in the "Other – define" field.
3. In the "Comment" field, please provide the information described in the appendix of the FR Y-14A instructions for each supporting document.
4. For the topic, please choose the appropriate category from the list below.
   - *Topic categories:* (1) General, (2) Wholesale, (3) Retail, (4) Operational risk, (5) Securities, (6) Trading, (7) Counterparty, (8) PPNR – balance sheet – RWA, and (9) Regulatory capital
   - All supporting documentation should be categorized by one of the specific topic categories above. The "General" category should only be used for (1) policies and procedures that are not related to a specific topic, (2) the methodology inventory, (3) consolidated pro forma financials methodology, and (4) any documentation on results finalization and the challenge process that are not topic specific.

Data Supporting a Capital Plan Submission

In conducting its assessment of a BHC's capital plan, the Federal Reserve relies on the completeness and accuracy of information provided by the BHC. As such, the BHC's internal controls around data integrity are critical to the Federal Reserve's ability to conduct CCAR. The Federal Reserve notes that CCAR BHCs are currently subject to requirements relating to the accuracy of the "Capital Assessments and Stress Testing" (FR Y-14A) and "Consolidated Financial Statements for Holding Companies" (FR Y-9C) reporting forms.[9] Further, in *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Current Range of Practice,* the Federal Reserve clarifies that a BHC should have a strong internal control framework that helps govern its internal capital planning processes, including stress testing performed under the CCAR program, and that framework should include comprehensive documentation of the BHC's policies and procedures.[10]

A BHC is expected to have documentation outlining its procedures for meeting the accuracy requirements of these reporting forms and its evaluation of the results of such procedures. As a best practice, these procedures would take into consideration the points in the data compilation and regulatory reporting systems and processes where a material misstatement could occur, as well as controls in place to mitigate those risks. In addition, a BHC should have information about any identified weaknesses in its controls around regulatory reporting and any plans to enhance the control structure around regulatory reporting.

FR Y-14 Data Submission

In general, all BHCs are required to report all data elements asked for in the FR Y-14 schedules; however, certain schedules, worksheets, or data elements

---

9 See www.federalreserve.gov/apps/reportforms/default.aspx.

10 See Board of Governors of the Federal Reserve System (2013), *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Current Range of Practice* (Washington: Board of Governors, August), www.federalreserve.gov/bankinforeg/bcreg20130819a1.pdf.

may be optional for a BHC. The instructions for the FR Y-14A, FR Y-14Q, and FR Y-14M schedules provide details on how to determine whether a BHC must submit a specific schedule, worksheet, or data element.

BHCs may be asked to resubmit FR Y-14 data—either in whole or in part—after the initial due date as specified in the associated report instructions should errors or omissions be found.[11] All resubmissions of FR Y-14Q and FR Y-14M data as of September 30 will be due on or before December 31, 2014. All resubmissions of FR Y-14A schedules will be due on or before January 23, 2015. (See "Quantitative Assessments" on page 28 for the treatment of unresolved data issues.)

Under the capital plan rule, failure to submit complete data to the Federal Reserve in a timely manner may be a basis for objection to a capital plan.[12] A BHC's inability to provide required data by the due dates may affect supervisory estimates of losses and PPNR for the BHC, and bears on the Federal Reserve's qualitative assessment of the internal risk-measurement and risk-management practices supporting a BHC's capital adequacy process.

---

[11] Due dates are specified in the FR Y-14Q and FR Y-14M General Instructions, which are available on the Board's website at www.federalreserve.gov/apps/reportforms/default.aspx. FR Y-14A schedules are due by January 5, 2015.

[12] See 12 CFR 225.8(e)(2)(ii).

Stress Tests Conducted by BHCs

As noted previously, for the purposes of CCAR, each BHC is required to submit the results of its stress tests based on three supervisory scenarios, at least one stress scenario developed by the BHC, and a BHC baseline scenario. Specifically, a BHC must conduct its stress test for purposes of CCAR using the following five scenarios:

- **Supervisory baseline:** a baseline scenario provided by the Board under the Dodd-Frank Act stress test rules
- **Supervisory adverse:** an adverse scenario provided by the Board under the Dodd-Frank Act stress test rules
- **Supervisory severely adverse:** a severely adverse scenario provided by the Board under the Dodd-Frank Act stress test rules
- **BHC baseline:** a BHC-defined baseline scenario
- **BHC stress:** at least one BHC-defined stress scenario

A BHC's estimates of its projected revenues, losses, reserves, and pro forma capital levels must use data as of September 30, 2014; begin in the fourth quarter of 2014; and conclude at the end of the fourth quarter of 2016. The only exception to this planning horizon is with respect to the Regulatory Capital Transitions schedule submission required under the FR Y-14A. The FR Y-14A Regulatory Capital Transitions schedule should be reported as of September 30, 2014, with projections through December 31, 2019, under the supervisory baseline scenario.

In conducting its stress tests, a BHC must reflect the revised capital framework that the Board adopted in connection with implementation of the Basel III accord (revised regulatory capital framework),[13] including the framework's minimum regulatory capital ratios and transition arrangements, with one exception: a BHC that is subject to advanced approaches and has exited parallel run is not required to incorporate the advanced approach for calculating RWAs in CCAR 2015.[14] A BHC's stress tests must also reflect the BHC's tier 1 common ratio for each quarter of the planning horizon.[15]

Supervisory Scenarios

The supervisory scenarios in CCAR are also used in the Dodd-Frank Act stress tests. Under the Board's Dodd-Frank Act stress test rules, the Board is required to provide BHCs with a description of the supervisory macroeconomic scenarios no later than November 15 of each calendar year.[16]

This year, the Federal Reserve intends to provide the supervisory scenarios, including the macroeconomic scenarios and the global market shock, as soon as it is possible to incorporate the relevant data on economic and financial conditions as of the end of the third quarter, but no later than November 15, 2014.[17] It is important to note that the scenarios provided by the Federal Reserve are not forecasts, but rather are hypothetical scenarios to be used to assess the strength and resilience of BHC capital in baseline and stressed economic and financial market environments.

While supervisory scenarios are generally applied to all BHCs that are part of CCAR, the Federal Reserve can apply additional scenarios or scenario components to a subset of BHCs. One component, a global market shock, will be applied to six BHCs with large trading operations in CCAR 2015, as required under the Dodd-Frank Act stress test rules. In addition, the Federal Reserve expects to require certain BHCs to apply a closely related scenario component focusing on the default of a large counterparty.

[13] 78 *Fed. Reg*. 62018 (October 11, 2013).

[14] 79 *Fed Reg.* 13498 (March 11, 2014).

[15] See 12 CFR 225.8(e)(2)(i)(B) and 12 CFR 252.56(a)(2).

[16] See 12 CFR 252.54(b).

[17] See 12 CFR part 252, appendix A.

Global Market Shock

BHCs with large trading operations will be required to include the global market shock as part of their supervisory adverse and severely adverse scenarios, and to conduct a stress test of their trading books, private-equity positions, and counterparty exposures.[18] The global market shock will be applied to BHCs' trading book and private-equity positions, as of a point in time, resulting in instantaneous loss and reduction of capital. The as-of date for the global market shock is October 6, 2014.[19]

The global market shock is an add-on component that is exogenous to the macroeconomic and financial market environment specified in the supervisory stress scenarios, and as a result, losses from the global market shock should be viewed as an addition to the estimates of PPNR and losses under the macroeconomic scenario.[20] BHCs should not assume a related decline in portfolio positions or RWAs due to losses from the global market shock except in the case noted below.

If a BHC can demonstrate that its loss-estimation methodology stresses identical positions under both the global market shock and the macro scenario, the BHC may assume that the combined losses from such positions do not exceed losses resulting from the higher of either the losses stemming from the global market shock or those estimated under the macro scenario. However, the full effect of the global market shock must be taken through net income in the first quarter of the planning horizon, which will include the as-of date for the shock.

If a BHC makes any adjustment to account for identical positions, the BHC must provide documentation demonstrating that the losses generated under the macro scenario are on identical positions to those subject to the global market shock, break out each of the adjustments as a separate component of PPNR, and describe the rationale behind any such adjustments.

[18] The six BHCs participating in the global market shock are Bank of America Corporation; Citigroup Inc.; The Goldman Sachs Group, Inc.; JPMorgan Chase & Co.; Morgan Stanley; and Wells Fargo & Co. See 12 CFR 252.54(b)(2)(i).

[19] BHCs may use data as of the date that corresponds to their weekly internal risk reporting cycle as long as it falls during the business week of the as-of date for the global market shock (i.e., October 6, 2014, to October 10, 2014).

[20] Trading BHCs should not report changes in value of the MSR asset or hedges as trading losses resulting from the global market shock. Therefore, if derivative or other MSR hedges are placed in the trading book for FR Y-9C purposes and in alignment with Generally Accepted Accounting Principles, these hedges should not be stressed with the global market shock.

Counterparty Default Scenario Component

Eight BHCs with substantial trading or custodial operations will be required to incorporate a counterparty default scenario component into their supervisory adverse and severely adverse stress scenarios.[21] Like the global market shock, this component will only be applied to the largest and most complex BHCs, in line with the Federal Reserve's higher expectations for those BHCs relative to the other BHCs participating in CCAR.

In connection with the counterparty default scenario component, these BHCs will be required to estimate and report the potential losses and related effects on capital associated with the instantaneous and unexpected default of the counterparty that would generate the largest losses across their derivatives and securities financing activities, including securities lending and repurchase or reverse repurchase agreement activities. Each BHC's largest counterparty will be determined by net stressed losses, estimated by revaluing exposures and collateral using the global market shock. The as-of date for the counterparty default scenario component is October 6, 2014—the same date as the global market shock.

Similar to the global market shock, the counterparty default scenario component is an add-on component to the macroeconomic and financial market scenarios specified in the Board's supervisory adverse and severely adverse scenarios, and therefore, losses associated with this component should be viewed as an addition to the estimates of PPNR and losses under the macroeconomic scenario (see the description of global market shock).

BHC Scenarios

A central goal of the capital plan rule is to ensure that large BHCs have robust internal practices and policies to determine the appropriate amount and composition of their capital, given the BHC's risk

[21] The eight BHCs participating in the counterparty default component are Bank of America Corporation; The Bank of New York Mellon Corporation; Citigroup Inc.; The Goldman Sachs Group, Inc.; JPMorgan Chase & Co.; Morgan Stanley; State Street Corporation; and Wells Fargo & Co. All but State Street Corporation and The Bank of New York Mellon Corporation also participate in the global market shock. See 12 CFR 252.54(b)(2)(ii).

exposures and corporate strategies and in line with supervisory expectations and regulatory standards.

To gain a deeper understanding of a BHC's unique vulnerabilities, the capital plan rule requires each large BHC to design its own stress scenario that is appropriate to the BHC's business model and portfolios.[22] For purposes of CCAR, each BHC will be required to submit the results of its stress tests based on at least one stress scenario developed by the BHC, and a BHC baseline scenario.

The BHC baseline scenario should reflect the BHC's view of the expected path of the economy over the planning horizon. A BHC may use the same baseline scenario as the supervisory baseline scenario if that BHC believes the supervisory baseline scenario appropriately represents its view of the most likely outlook for the risk factors salient to the BHC.

The BHC stress scenario must reflect the specific vulnerabilities of BHC's risk profile and operations, including those related to the company's capital adequacy and financial condition. Specifically, the BHC stress scenario should be designed to significantly stress factors that affect firm-wide material-risk exposures and activities in a coherent and consistent manner, including potential exposures from both on- and off-balance sheet positions. In addition, the forward-looking analysis required in the BHC stress scenario should be relevant to and reflect the direction and strategy of the firm as set by the BHC's board of directors.[23]

The BHC stress scenario should be designed to capture potential risks stemming from a BHC's idiosyncratic positions and activities and should be severe enough to result in a substantial negative effect on capital. A BHC should develop a BHC scenario of severity generally comparable to the usual severity in the Board's supervisory severely adverse scenario.[24] A BHC should demonstrate that the combined effect of its BHC stress scenario on net income and other elements that affect capital results (i.e., other comprehensive income) in a BHC stress scenario are of severity comparable to the severely adverse scenario. A BHC stress scenario that produced regulatory capital and tier 1 common capital ratios that were lower than those produced in company-run stress tests under the Board's severely adverse scenario, but that does not reflect the BHC's idiosyncratic positions and activities, would not be an appropriate BHC stress scenario.

Capital Action Assumptions

BHCs must incorporate assumptions about capital actions over the planning horizon into their company-run stress tests. The types of capital actions that BHCs must incorporate into their projections under various scenarios are defined as follows:

- *Planned capital actions:* a BHC's planned capital actions under the BHC baseline scenario
- *Alternative capital actions:* a BHC's assumed capital actions under the BHC stress scenario
- *Dodd-Frank Act stress test capital actions:* capital action assumptions as required under the Dodd-Frank Act stress test rules[25]

Planned Capital Actions

As part of the CCAR capital plan submission, for all scenarios except the BHC stress scenario, BHCs should calculate post-stress capital ratios using their planned capital actions over the planning horizon under the BHC baseline scenario.

With respect to the planned capital actions under the BHC baseline scenario:

- For the initial quarter of the planning horizon, the BHC must take into account the actual capital actions taken during that quarter.
- For the second quarter of the planning horizon (i.e., the first quarter of 2015), a BHC that received a non-objection to its 2014 capital plan should include capital distributions consistent with those included in its 2014 capital plan. If a BHC received an objection to its 2014 capital plan, its capital distributions for the second quarter should be consis-

[22] Although a BHC is required to submit only one BHC stress scenario for CCAR, each BHC should develop a suite of scenarios that collectively capture its material risks and vulnerabilities under a variety of stressful circumstances and should incorporate them into its overall capital adequacy process.

[23] Additional guidance related to scenario development as part of stress testing can be found in SR letter 12-7, "Supervisory Guidance on Stress Testing for Banking Organizations with More Than $10 Billion in Total Consolidated Assets," (May 14, 2012), www.federalreserve.gov/bankinforeg/srletters/sr1207.htm.

[24] For guidance on the usual severity of the supervisory severely adverse scenario, a firm should review the Board's "Policy Statement on the Scenario Design Framework for Stress Testing," which sets forth the Board's approach to designing the supervisory severely adverse scenario. See 12 CFR 252, appendix A.

[25] See 12 CFR 252.56(b).

tent with those approved by the Federal Reserve for that quarter.

- For each of the third through ninth quarters of the planning horizon, the BHC must include any capital actions proposed in its capital plan.[26]

The Federal Reserve will also conduct its post-stress capital analysis using the BHC's planned capital actions proposed in the BHC baseline scenario. (See "Description of All Capital Actions Assumed over the Planning Horizon" on page 24.)

Alternative Capital Actions

In calculating post-stress capital ratios under the BHC stress scenario, a BHC should use the capital actions it would expect to take if the stress scenario were realized. These alternative capital actions should be consistent with the BHC's established capital policy.

Dodd-Frank Act Stress Test Capital Action Assumptions

For stressed projections under the Dodd-Frank Act stress test rule, a BHC must use the following assumptions regarding its capital actions over the planning horizon for the supervisory baseline scenario, the supervisory adverse scenario, and the supervisory severely adverse scenario:

- For the first quarter of the planning horizon, the BHC must take into account its actual capital actions taken throughout the quarter.
- For each of the second through ninth quarters of the planning horizon, the BHC must include in the projections of capital
  - —common stock dividends equal to the quarterly average dollar amount of common stock dividends that the company paid in the previous year (that is, the first quarter of the planning horizon and the preceding three calendar quarters);
  - —payments on any other instrument that is eligible for inclusion in the numerator of a regulatory capital ratio equal to the stated dividend, interest, or principal due on such instrument during the quarter;
  - —an assumption of no redemption or repurchase of any capital instrument that is eligible for inclusion in the numerator of a regulatory capital ratio; and
  - —an assumption of no issuances of common stock or preferred stock, except for issuances related to expensed employee compensation.[27]

FR Y-14A Summary Schedule Capital Worksheets

BHCs must complete capital worksheets on the FR Y-14A Summary Schedule to report their projections of capital components, RWAs, and capital ratios under each of the five scenarios.

With respect to a BHC's projections under the supervisory scenarios, the BHC must calculate two sets of pro forma capital ratios and complete (1) the CCAR capital worksheet using the BHC's planned capital actions in the BHC baseline scenario, and (2) the

Table 3. Capital worksheet requirements

Scenario	CCAR capital worksheet	DFAST capital worksheet
BHC baseline	Planned capital actions	n/a
Supervisory baseline*	Planned capital actions	DFA stress test capital actions
BHC stress	Alternative capital actions	n/a
Supervisory adverse	Planned capital actions	DFA stress test capital actions
Supervisory severely adverse	Planned capital actions	DFA stress test capital actions

* If a BHC determines the supervisory baseline scenario to be appropriate for its own BHC baseline, the BHC may submit identical FR Y-14A Summary schedules with the exception of the capital worksheets noted above. All BHCs must complete two capital worksheets for the supervisory baseline, supervisory adverse, and supervisory severely adverse scenarios.

n/a Not applicable.

[26] The last four quarters of the planning horizon of CCAR 2015 will coincide with the initial portion of the risk-based framework's capital conservation buffer. See 12 CFR 217.11. For CCAR 2015, the effects of the capital conservation buffer distribution limitations are likely to be limited given the small portion of the buffer that will be effective during the planning horizon (0.625 percent, only one quarter the size of the fully-phased in buffer). Therefore, the Federal Reserve will not consider the limitation effects of the capital conservation buffer in the last four quarters of the CCAR 2015 planning horizon when performing its post-stress capital analysis of BHCs' planned capital distributions. Similarly, for the purposes of CCAR 2015, a BHC should not assume the operation of distribution limitations of the capital conservation buffer when conducting its stress tests. The Board is considering the appropriate treatment of the capital conservation buffer distribution limitations in stress testing and capital planning for future CCAR exercises and intends to address this issue in due course.

[27] See 12 CFR 252.56(b).

DFAST capital worksheet using the prescribed capital actions under the Dodd-Frank Act stress test rule.

For the BHC-defined scenarios, a BHC should include only the CCAR capital worksheet, and include projections using the BHC's expected capital actions as deemed appropriate by the BHC for that scenario and in accordance with the BHC's capital policy.

Table 3 illustrates the capital actions used for each scenario's FR Y-14A schedule.

Supervisory Expectations for a Capital Adequacy Process

The description of a BHC's process for assessing capital adequacy is an important component of the BHC's capital plan. As discussed in supervisory guidance, a BHC's capital adequacy process should have as its foundation a full understanding of the risks arising from its exposures and business activities, as well as stress testing analysis, to ensure that it holds sufficient capital corresponding to those risks to maintain operations across the planning horizon.

The detailed description of a company's capital adequacy process should include a discussion of how, under stressful conditions, the BHC will maintain capital commensurate with its risks—above the minimum regulatory capital ratios and the BHC's internal capital goals—and serve as a source of strength to its depository institution subsidiaries. The full range of supervisory expectations, including governance and oversight expectations to complement the capital

Figure 1. Seven principles of an effective capital adequacy process

Principle 1: Sound foundational risk management

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

Principle 2: Effective loss-estimation methodologies

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

Principle 3: Solid resource-estimation methodologies

The BHC has a clear definition of available capital resources and an effective process for estimating available capital resources (including any projected revenues) over the same range of stressful scenarios and environments used for estimating losses.

Principle 4: Sufficient capital adequacy impact assessment

The BHC has processes for bringing together estimates of losses and capital resources to assess the combined impact on capital adequacy in relation to the BHC's stated goals for the level and composition of capital.

Principle 5: Comprehensive capital policy and capital planning

The BHC has a comprehensive capital policy and robust capital planning practices for establishing capital goals, determining appropriate capital levels and composition of capital, making decisions about capital actions, and maintaining capital contingency plans.

Principle 6: Robust internal controls

The BHC has robust internal controls governing capital adequacy process components, including policies and procedures; change control; model validation and independent review; comprehensive documentation; and review by internal audit.

Principle 7: Effective governance

The BHC has effective board and senior management oversight of the CAP, including periodic review of the BHC's risk infrastructure and loss- and resource-estimation methodologies; evaluation of capital goals; assessment of the appropriateness of stressful scenarios considered; regular review of any limitations and uncertainties in all aspects of the CAP; and approval of capital decisions.

adequacy process aspects mentioned above, are summarized in figure 1, "Seven principles of an effective capital adequacy process."

The remainder of this section provides additional detail on these elements. BHCs should also refer to existing guidance for further information about supervisory expectations for a BHC's capital adequacy process, including *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Current Range of Practice*[28] and the common themes observed across BHCs that were provided with the CCAR 2014 feedback letters. An updated version of the common themes from CCAR 2014 is provided in appendix A of this publication.

Estimates of Projected Revenues, Losses, Reserves, and Pro Forma Capital Levels

For the purposes of CCAR, each BHC is to submit its capital plan supported by its internal capital adequacy process and include post-stress results under various scenarios. The Federal Reserve will be assessing the processes and practices each BHC has in place to carry out this analysis, including the risk-identification, risk-measurement, and risk-management practices supporting its analyses, as well as the governance and internal controls around these practices.

A BHC should demonstrate that its results are consistent with the environments specified in the scenarios being used, and that the various components of its results are internally consistent. For example, it would be generally inconsistent to project a shrinking balance sheet or declining RWAs while also projecting large increases in net income in a stress or baseline environment.

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.

[28] See Board of Governors of the Federal Reserve System (2013), *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Current Range of Practice* (Washington: Board of Governors, August), www.federalreserve.gov/bankinforeg/bcreg20130819a1.pdf.

A BHC should clearly identify and document any aspects of its portfolios and exposures that are not adequately captured in the FR Y-14 schedules and that it believes are material to loss estimates for its portfolios, and explain the reason why the FR Y-14 is not accurately capturing such exposures. The BHC should also fully describe its estimate of the potential impact of such items on financial performance and loss estimates under the baseline and stress scenarios. Some examples may include portfolios with contractual loss-mitigation arrangements or contingent risks from intraday exposures.

Another example is pipeline risk associated with loan syndication, securitization, or other activities that are particularly sensitive to market conditions (such as loans to low-quality borrowers, including high-yield corporate bonds and leveraged loans) and that may become more acute during the period of stress. In this context, pipeline risk should encompass more than just losses on loans already in the pipeline at the start of the exercise and include the possibility that the pipeline may grow during stress.

A BHC's projections should reflect expectations of customer drawdowns on unused credit commitments under each scenario. The BHC should also consider in its projections the potential effect of 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 asset-backed commercial paper conduits and other off-balance sheet funding vehicles to which the BHC provides support). Similarly, the BHC should consider unconsolidated entities to which the BHC has potential exposure in its projections. If non-contractual support may be provided during a stressful environment for certain obligations or exposures of sponsored or third-party entities, these should be included in a BHC's analysis of contingent or potential obligations, and all associated impacts should be captured.

A BHC's projections must take into account all material risks to the BHC regardless of whether those risks are explicitly covered by the information requested in the FR Y-14 schedules. The BHC is responsible for identifying all potential material sources of losses from on- and off-balance sheet positions in its post-stress projections, as well as any other events that have the potential to materially affect capital in both baseline and stressful environments. The Federal Reserve's evaluation of a BHC's capital plan will focus on whether the BHC has an adequate process for identifying the full range of relevant risks, given the BHC's exposures and business mix, and whether the BHC appropriately assesses the impact of those risks on the BHC's financial results and capital. (See "Risk-identification program and mapping of material risks to capital plan" under "Supporting Documentation for Analyses Used in Capital Plans" on page 23.)

A BHC should incorporate and document any pertinent details that would affect the production of its estimates. Importantly, the BHC should discuss assumptions around accounting treatment, anticipated changes in asset values or changes in customer behavior, model or management overlays, and application of expert judgment to provide support for the reasonableness of estimated losses.

Sensitivity analysis: Having an understanding of the sensitivity of post-stress financial estimates to the various inputs and assumptions developed to support the forecasting process is an important aspect of developing sound estimates of projected losses, revenues, reserves, and capital levels. Sensitivity analysis is an important tool that tests the robustness of models and enhances reporting for BHC management, the board of directors, and the Federal Reserve. BHCs should use sensitivity analysis to understand the range of potential estimates based on changes to inputs and key assumptions as well as the uncertainties associated with those estimates. Examples of key assumptions that should be subject to sensitivity analysis include projected market share, size of the mortgage market, cost and flow of deposits, utilization rate of credit lines, discount rates, or level and composition of trading assets. Management should have a full understanding of key sensitivities in estimates and highlight those to the board so that the board understands the sensitivity of capital to alternative inputs and assumptions and can make informed capital decisions.

Model risk management: For all models used in internal capital planning, BHCs should follow existing supervisory expectations regarding model risk management, in particular the "Supervisory Guidance on Model Risk Management."[29] Such expectations cover (1) model development, implementation, and use; (2) independent review and validation; and (3) model governance. As part of validation, BHCs should conduct conceptual soundness reviews, ongoing monitoring (including benchmarking), and outcomes analysis. The Federal Reserve recognizes that BHCs may be challenged in conducting full outcomes analysis for some of their stress test models, given the lack of realized outcomes against which to test. In such cases, BHCs should use sensitivity analysis, additional benchmarks, or other means to help assess model performance. They may also need to apply compensating controls to account for additional model uncertainty that exists in such instances. It is critical that BHCs assess the vulnerability of their models to error, understand any other limitations, and consider the risk to the BHC should estimates based on those models prove materially inaccurate.

All models should be evaluated for their intended use. While use of existing risk-measurement models and processes for producing stress loss estimates may be acceptable, BHCs should consider whether these models and processes generate outputs that are relevant in stressful conditions. Use of such models may need to be supplemented with other data elements and alternative methodologies.

BHCs may use expert judgment, such as management overlays to modeled outputs, to compensate for model limitations, such as data limitations or material changes in a BHC's business. When using such judgment-based approaches, as with any estimation methodology, BHCs should have a transparent, repeatable, well-supported process that generates credible estimates that are consistent with assumed scenario conditions. Any model overrides or overlays—including those based solely on expert judgment—should also be subject to oversight and review by an internal validation group or other independent reviewers, with the recognition that the work done to evaluate overlays to model output may be different than the validation work to evaluate and test the model and model output.

BHCs should also ensure that any vendor or other third-party models are used in accordance with expectations for model risk management. Finally, the intensity and frequency of model risk management activities should be a function of model materiality.

Loss Estimation

Loans held in accrual portfolios: Estimated losses on loans held in accrual portfolios are generally credit losses due to failure to pay obligations (cash flow losses), rather than discounts related to mark-to-market (MTM) values. In some cases, BHCs may

[29] See SR letter 11-7, "Supervisory Guidance on Model Risk Management," (April 4, 2011), www.federalreserve.gov/bankinforeg/srletters/sr1107.htm.

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.

Fair value loans: BHCs may have loans that are held for sale or held for investment, for which they have adopted fair value accounting (collectively, fair value loans). Losses on fair value loans should reflect both expected changes in fair value of the loan and any losses that may result from an obligor default under a given scenario. BHCs should clearly document the method and key assumptions used to compute losses on fair value loans.[30]

Losses on available-for-sale (AFS) and held-to-maturity (HTM) securities: BHCs should provide projected other-than-temporary impairments (OTTI) for AFS and HTM securities. OTTI projections should be based on September 30, 2014, positions and should be consistent with specified macroeconomic assumptions and standard accounting treatment. If the BHC bifurcates credit losses from other losses, the method for deriving the bifurcation should be provided in supporting documentation.

Trading and counterparty losses: Any BHC with material trading and counterparty exposures should calculate potential losses from those exposures under its BHC stress scenario. The BHC should ensure that projected losses are consistent with the market environment assumed in its stress scenario and clearly document the method and key assumptions supporting the loss estimate. There is no expectation that a BHC should use approaches similar to the global market shock or counterparty default scenario components of the supervisory stress scenarios to capture market or counterparty risk in its internally constructed BHC stress scenario.

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 planning horizon. Loan-loss reserve adequacy should be assessed against the size, composition, and risk characteristics of the loan portfolio projected over the planning horizon under a given scenario in a manner that is consistent with the BHC's projections of losses in that scenario.

[30] In connection with the production of supervisory estimates of fair value loan losses, the Federal Reserve may collect supplemental data, such as information on hedges.

Pre-Provision Net Revenue Estimation

In general, BHCs are required to demonstrate that the approach used to generate PPNR estimates is consistent with the economic and financial environment specified in the relevant scenario. BHCs must ensure that PPNR projections are explicitly based on, and directly tied to, balance sheet and other exposure assumptions used for related loss estimates.

In addition, BHCs should apply assumptions consistent with the scenario when projecting PPNR for fee-based lines of business (e.g., asset management) and ensure that the assumed business strategy is feasible under the scenario. In addition, BHCs should also ensure that expenses are appropriately taking into account both the direct effects of the economic environment (e.g., foreclosure costs) and projected revenues. The models and business processes used to make projections should be sufficiently documented so as to allow for supervisory assessment.

Trading revenues: All BHCs with trading activities and private-equity investments should project the effect of various scenarios on their trading revenue over the planning horizon. In making these projections, BHCs should demonstrate that their historical data selection and general approach is credible and applicable to the assumed macroeconomic scenario. BHCs should not assume that trading-related PPNR could never fall below historical levels.

Mortgage servicing rights (MSR): All revenue and expenses related to MSRs and the associated non-interest income and non-interest expense line items must be reported on the PPNR schedules.

Residential mortgage representations and warranties: As part of PPNR, BHCs must estimate losses associated with requests by mortgage investors, including both government-sponsored enterprises 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. BHCs should consider not only how the macro scenarios could affect losses from repurchased loans, but also 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. BHCs should provide appropriate support of the adverse litigation expense-related outcomes considered in their analysis.

Operational risk losses: Projections of losses arising from inadequate or failed internal processes, people and systems, or from external events must be reported by the BHC as operational risk losses, a component of PPNR. In general, baseline projections are expected to match up reasonably with historical, realized losses, taking into account any expected outcomes of current ongoing or pending litigation or other operational events.

BHCs should use a conservative approach to project operational risk losses for the stress scenario. Specifically, operational risk losses under stress scenarios are expected to be higher than the baseline projections regardless of whether the losses can be directly linked to the stressed economic environment. The Federal Reserve expects operational risk estimates in the BHC stress scenario to capture bank-specific operational risks identified through existing risk-management tools such as risk assessments, key risk reports, and scenario analysis. BHCs should be able to demonstrate a detailed understanding of the operational risks facing the organization and provide reasonable estimates of potential operational risk losses.

The credibility of any empirical analysis relies on the relevance, accuracy, comprehensiveness, appropriate classification, and internal consistency of the underlying data. The BHC should therefore give close attention to data issues that can affect the credibility of the projected operational risk losses. For example, the BHC should include all relevant historical data, including legal reserves, in any analysis, and justify the exclusion of any historical losses. A BHC should generally use gross losses in its operational risk projections. If the BHC uses losses net of recoveries, it should provide a strong justification, as such recoveries may not occur during a stressed environment. The BHC should provide justification for the dates used in the analysis (e.g., accounting, discovery, or occurrence date) and provide analysis on how the results would be affected by the use of specific dates. When available, the BHC should consider relevant external data, scenario data, and business environment and internal control factors data in the analysis, particularly when internal loss data is limited. The process for selecting the data should be internally consistent, well-reasoned, clearly documented, and understood by the banking organization personnel responsible for its use.

The BHC should consider a variety of benchmarks in assessing the reasonableness of its operational risk loss projections. Some examples of such benchmarks might include average nine-quarter cumulative operational risk losses and the most recent representative nine-quarter cumulative operational risk losses to benchmark the baseline scenario, and the worst historical nine-quarter cumulative operational risk losses to benchmark the stressed scenarios.

As with loss estimates in other areas, the Federal Reserve expects BHCs to estimate legal costs (including expenses, judgments, fines, and settlements) that could occur under baseline and stressful environments. When projecting legal costs in stress scenarios, a BHC should assume unfavorable, stressed outcomes on current, pending, threatened, or otherwise possible claims of all types. Estimates of stressed legal losses and other costs and expenses should be well supported by detailed underlying analysis.

Balance Sheet and Risk-Weighted Assets Projections

Balance sheet projections: Balances should be driven by the dynamic interaction of various flows through the planning horizon and should reconcile to projections for originations, pay-downs, drawdowns, and losses under each scenario. In stress scenarios, care should be taken to justify major changes in portfolio composition based, for example, on assumptions about a BHC's strategic direction, including events such as material sales or purchases. The losses used in producing balances should be the same as those produced in internal loss-estimate modeling for the stress test. Prepayment behavior should link to the relevant economic scenario and the maturity profile of the asset portfolio. Any assumed reallocation of assets into securities or cash should recognize the limits of portfolio transformation under stress due to market pressures and current portfolio characteristics, including the likely state of interbank lending markets and deposit levels.

To the extent that changes in the balance sheet are driven by a BHC's strategic direction, care should be taken to document underlying assumptions, and the BHC should provide a detailed explanation supporting the reasonableness of those assumptions in a stressed economic and financial market environment.

For example, a BHC should specifically evaluate the implications of other market participants possibly taking actions similar to its own in a stressed environment. For example, the possible positive outcomes that might be obtained if a BHC were the only market participant taking such actions in a particular market environment may not be fully realized if others are also attempting to take similar actions.

RWA projections: Given that the as-of-date RWAs calculated for regulatory reporting serves as the foundation for RWA projections in scenario analysis, a BHC should ensure point-in-time RWA processes appropriately capture all relevant on- and off-balance sheet exposures and are consistent with the various risk-weighting frameworks to which the BHC is subject.[31]

The BHC should provide detailed support for all assumptions used to derive projections of RWAs, including assumptions related to components of balance sheet projections (on- and off-balance sheet balances and composition), income statement projections, and underlying risk attributes of exposures. It should document any known weakness in the translation of assumptions into RWA estimates for each scenario and any compensating measures the BHC took in response. For example, a BHC should demonstrate how credit RWAs over the planning horizon are related to projected loan growth under the macroeconomic scenario, increased credit provisions or charge-offs for loan portfolios, and changing economic assumptions as well as how market RWAs are related to market factors (e.g., volatility levels, equity index levels, bond spreads, etc.) and projected trading revenue.

Each BHC should demonstrate that these assumptions are clearly conditioned on a given scenario and are consistent with stated internal and external business strategies. If BHC-specific assumptions are used, the BHC should also describe these assumptions and how they relate to reported RWA projections. If the BHC's models for projecting RWAs rely upon historical relationships, the BHC should provide the historical data and clearly describe why these relationships are expected to be maintained in each scenario.

[31] As noted in "Data Supporting a Capital Plan Submission" on page 9, BHCs are expected to have internal controls in place to ensure the accuracy of all regulatory reporting supporting CCAR, including RWAs.

Trading and counterparty RWAs: In general, all BHCs in the LISCC portfolio as well as any BHCs subject to the market risk rule that report (1) trading assets and liabilities of greater than $10 billion or (2) trading assets and liabilities of greater than 10 percent of total assets at the as-of date for reporting should project market risk RWAs using a quantitative methodology that captures both changes in exposures and changes in volatility implied by stress conditions over time. BHCs should document the rationale for any significant changes in risk weighting assigned to the trading book, particularly in cases where projections show the ratio of trading book RWAs-to-trading exposures and trading asset balances declining over time or under stress conditions.

Additionally, any BHC subject to the market risk rule must use standard, specific-risk charges for any positions or portfolios for which the BHC has not received any required specific-risk-model approval, incremental risk-model approval, or comprehensive risk-model approval for the position or portfolio as of January 5, 2015. In addition, if a BHC does not have an approved Stressed Value at Risk (SVaR) model as of January 5, 2015, the BHC must specify this in writing.

Regulatory Capital Projections

BHCs are to provide data on the balances of regulatory capital instruments under current U.S. capital adequacy guidelines and under the revised regulatory capital framework for quarters of the planning horizon in which they are subject to the revised regulatory capital framework, aggregated by instrument type based on actual balances as of September 30 of the current calendar year and projected balances as of each quarter end through the remaining planning horizon.[32] BHCs are to report information both on a notional basis and on the basis of the dollar amount included in regulatory capital.

Other comprehensive income (OCI): Advanced approaches BHCs should project the components of OCI, including unrealized gains and losses on their AFS securities. The accumulated components of OCI should be included in projections of regulatory capital under each scenario, accounting for any transition arrangements in the revised regulatory capital framework over the nine-quarter planning horizon as appropriate.

[32] See 12 CFR part 217; see 12 CFR 225.8(d).

Regulatory capital transitions: In the transition plan, a BHC must include estimates of the composition and levels of regulatory capital, RWAs (based on the standardized approach and advanced approaches, where applicable), and leverage ratio exposures used to calculate regulatory capital ratios under the supervisory baseline scenario. Each BHC's submission should include supporting documentation on all material planned actions that the BHC intends to pursue in order to meet the minimum regulatory capital ratios per the revised regulatory capital framework, including, but not limited to, the run-off or sale of existing portfolio(s), the issuance of regulatory capital instruments, and other strategic corporate actions.

Supporting Documentation for Analyses Used in Capital Plans

Methodology and model inventory: BHCs are required to provide the Federal Reserve with an inventory of all models and methodologies used to estimate losses, revenues, expenses, balances, and RWAs in CCAR 2015.[33] The inventory should start with the FR Y-14A line items and provide the list of models or methodologies used for each item under each scenario and note the status of the validation or independent review each model or methodology (e.g., completed, in progress). The model inventory must include the name of the model, which should then be consistently referred to in all technical documentation.

Risk-identification program and mapping of material risks to capital plan: One particular area of supervisory focus will be an assessment of the comprehensiveness of a BHC's process for identifying the full range of relevant risks, given the BHC's exposures and business mix. Each capital plan submission should include documentation outlining the risk identification process the BHC uses to support the BHC-wide stress testing required in the capital plans.[34] The documentation should describe the BHC's processes to identify all known material risks, including emerging risks that the BHC may face in a changing economic environment, given its size, activities, and risk exposures and commitments, both on- and off-balance sheet.

[33] See 12 CFR 225.8(e)(3)(vi).

[34] See 12 CFR 225.8(e)(3)(iv).

A BHC's material risk identification process should be transparent and repeatable, and translate efficiently into estimates of potential losses over a range of scenarios and environments. An assessment of the comprehensiveness of risk identification is a critical aspect of the supervisory assessment of a BHC's capital adequacy process. The BHC should assess the data, infrastructure, and technology, including the management information systems (MIS) that support the BHC's material risk identification process, for reliability and comprehensiveness.

Where weaknesses in capturing, aggregating, or measuring risk exposures exist, the BHC should describe the processes and mitigating controls employed to compensate for those deficiencies or weaknesses in the risk identification process. The board of directors should have a clear understanding of where the risk identification and measurement process may be compromised.

Each BHC should develop and maintain a comprehensive inventory of risks to which they are exposed, and refresh it as conditions warrant, such as changes in the business mix and the operating environment. The BHC should be able to demonstrate how its identified risks are accounted for in its capital adequacy process and seek to capture all applicable material risks in the enterprise-wide scenario analysis. If certain risks are not explicitly incorporated into an enterprise-wide scenario analysis, a BHC should note how all material risks are accounted for in other aspects of its capital planning process. Best practice is to develop and maintain a detailed mapping of how and where these risks are captured in the BHC's capital adequacy process.

Documentation related to the BHC scenario: A BHC's scenario design process should result in a coherent, logical narrative of economic and financial market factors and potential BHC-specific events that appropriately stress the BHC's firm-wide inventory of material risks. Assumptions should remain constant across business lines and risk areas for the chosen scenario, since the objective is to see how the BHC as a whole will be affected by a common scenario that is consistently applied.

A BHC should consider the best manner in which to capture combinations of stressful events and circumstances, including second-order and "knock-on" effects that may result from the specified economic and financial market environment or any potential BHC-specific event. The use of expert judgment or management overlays is acceptable and should be carefully explained and supported by empirical evidence. Supervisors will focus particular attention on a BHC's ability to adequately support the approach and methodologies used for its BHC scenarios and assess the impact to loss and PPNR estimates. In addition, the BHC is required to provide a comprehensive listing of the paths of all key variables used in each scenario in the FR Y-14A Scenario schedule.

Within the supporting documentation, each BHC should discuss how the BHC stress scenario stresses the specific vulnerabilities of the BHC's risk profile and operations. Best practice is to clearly map the BHC's identified material risks to the elements incorporated within the BHC stress scenario to ensure that all exposures are appropriately stressed and considered for full impact on capital and discuss how material risks that are not explicitly incorporated into the BHC scenario are considered and addressed as part of the BHC's capital adequacy process.

Documentation of internal stress testing methodologies and assumptions: A BHC should include in its capital plan submissions thorough documentation of key methodologies and assumptions used in performing stress testing. Documentation should clearly describe the model-development process, the derivation of outcomes, and validation procedures. Supporting documentation should clearly describe any known data issues or model weaknesses and how such information is factored into the capital plan.

Senior management should provide its board of directors with sufficient information to facilitate the board's understanding of the stress testing analysis used by the BHC for capital planning purposes, including any identified weaknesses that increase uncertainty in the estimation process.

The BHC must provide credible support for BHC-specific assumptions, including any known weaknesses in the translation of assumptions into loss and resource estimates. For example, 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, particularly when the available data do not contain a period of significant stress.

The BHC should demonstrate that its approaches are clearly conditioned on the scenarios being used. While judgment is an essential part of risk measurement and risk management, including for loss-estimation purposes, a BHC should not be overly reliant on judgment to prepare their loss estimates and should provide documentation or evidence of transparency and discipline around the process. Any management judgment applied should be adequately supported and in line with scenario conditions and should be consistently conservative in the assumptions made to arrive at loss rates. There should also be appropriate challenge of assumptions by senior management. Senior management should provide sufficient information to the board of directors so that the board can understand the key assumptions, challenges made by senior management, and any responses to those challenges and can effectively challenge reported results before making capital decisions.

Description of All Capital Actions Assumed over the Planning Horizon

As part of the quantitative assessment of a BHC's capital plan, the Federal Reserve considers the BHC's description of all planned capital actions over the planning horizon, including both capital issuances and capital distributions, and relies on these descriptions of the planned capital actions as a basis for its decisions about the BHC's capital plan.

As detailed in the capital plan rule, a capital action is any issuance of a debt or equity capital instrument, any 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.

Organization of description of capital actions: BHCs must provide a description of their planned capital actions.[35] BHCs are also required to report their planned capital actions on the FR Y-14A Summary schedule under the BHC baseline scenario and on the FR Y-14A Regulatory Capital Instruments schedule. BHCs should organize the description of the planned capital actions in their capital plan in a manner that

[35] See 12 CFR 225.8(e)(2)(i)(D).

Table 4. Summary of planned capital actions, CCAR 2015

	2014:Q4	2015:Q1	2015:Q2	2015:Q3	2015:Q4	2016:Q1	2016:Q2	2016:Q3	2016:Q4	9-quarter
Dividends										
Common dividends/share ($)										n/a
Common dividends										
Preferred dividends										
Repurchases and redemptions										
Common stock issuance										
Common stock repurchase (gross)										
Common stock repurchase (net)										
Preferred stock issuance										
Preferred stock repurchase (gross)										
Preferred stock repurchase (net)										
TruPS issuance										
TruPS repurchase (gross)										
TruPS repurchase (net)										
Subordinated debt issuance										
Subordinated debt repurchase (gross)										
Subordinated debt repurchase (net)										
Other capital instruments (gross)										
Other capital instruments (gross)										
Other capital instruments (net)										
Millions of dollars										

n/a Not applicable.
TruPS Trust preferred securities.

permits comparison with the schedules. One method of organization would be a table, such as table 4, that presents the capital actions by type of capital instrument over the quarterly path.

Planned capital actions in out-quarters of planning horizon: The Federal Reserve has observed a practice whereby some BHCs have included markedly reduced distributions in the final quarters of the planning horizon (i.e., the quarters that are not subject to objection in the current capital plan cycle, referred to as "out-quarters") relative to the distributions in the preceding quarters of the capital plan where the distributions are subject to possible objection in the current cycle. A BHC should project its distributions in the final quarters of its capital plan based on realistic assumptions about the future and in a manner broadly consistent with previous quarters, unless the BHC is in fact planning to reduce its distributions.

The Federal Reserve will closely monitor a BHC's planned capital actions to the extent the distribution occurring in the out-quarters of capital plans are lower than the distributions for the same quarters included in the BHC's capital plan for the next cycle. If BHCs are unable to provide sufficient explanation for increases in planned capital actions once the quarter is subject to review and possible objection, the Federal Reserve may see that as an indication of shortcomings in a BHC's capital adequacy process or that the assumptions and analyses underlying the capital plan, or the BHC's methodologies for reviewing the robustness of its capital adequacy process, are not reasonable or appropriate. Under the capital plan rule, the Federal Reserve may object to a capital plan because the assumptions and analyses underlying the BHC's capital plan are not reasonable or appropriate, and the practice of reducing planned capital distributions in the out-quarters therefore may form the basis for objection to a BHC's capital plan.[36]

Expected Changes to Business Plans Affecting Capital Adequacy or Funding

Each BHC should include in its 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 and liquidity.[37] 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. However, a BHC should not include a divestiture that has not been completed or contractually agreed prior to January 5, 2015, in its capital plan submission.

In this discussion, the company should consider not just the impacts of these expected changes, but also the potential adverse consequences should the actions not result in the planned changes—e.g., a merger plan falls through, a change in business strategy is not achieved, or there is a loss on the planned significant investment.

Subsidiaries of foreign banking organizations: For the purposes of CCAR 2015, a U.S. BHC that will be designated as the U.S. intermediate holding company for a foreign banking organization's U.S. operations will not to be required to include the transfer of subsidiaries in accordance with the U.S. intermediate holding company requirement in its capital plan projections.[38] The Federal Reserve recognizes that modeling the effects of this transfer would require BHCs to adjust their management information and accounting systems to take into account exposures across the entire U.S. operations of a foreign banking organization, which may introduce significant complexities into a BHC's capital planning and stress testing. The Federal Reserve will provide this one-time relief from including assets transferred into the U.S. BHC in capital plan projections with the expectation that, generally, the U.S. BHC subsidiary that will be designated as the U.S. intermediate holding company will have a capital plan that includes planned capital distributions (net of capital issuance) that are equal to or lower than those included in the BHC's capital plan for the previous cycle. The Federal Reserve expects that such U.S. BHCs will retain capital compared with previous capital plans in preparation for compliance with the U.S. intermediate holding company requirement.

[36] See 12 CFR 225.8(f)(2)(ii)(B).

[37] A BHC that incorporates the effect of changes to its business plan that are likely to have a material impact on the BHC's capital adequacy and funding profile may be required to submit additional data.

[38] See 12 CFR part 252, subpart O.

Federal Reserve Assessment of BHC Capital Plans

To support its assessment of the capital plans, the Federal Reserve will review the supporting analyses in a BHC's capital plan, including the BHC's own stress test results, and will generate supervisory estimates of losses; revenues; loan-loss reserves; balance sheet components and RWAs; and post-stress capital ratios using internally developed supervisory models and assumptions wherever possible.[39]

The Federal Reserve has differing expectations for BHCs of different sizes, scope of operations, activities, and systemic importance in various aspects of capital planning. In particular, the Federal Reserve has significantly heightened expectations for BHCs that are subject to the Federal Reserve's Large Institution Supervision Coordinating Committee (LISCC) framework.[40] In assessing a BHC's capital planning, capital positions, and overall capital adequacy, the Federal Reserve will have heightened expectations for the LISCC BHCs. These BHCs are expected to have the most sophisticated, comprehensive, and robust capital adequacy processes.

Qualitative Assessments

Qualitative assessments are a critical component of the CCAR review. Even if the supervisory stress test for a given BHC results in post-stress capital ratios above the minimum requirements, the Federal Reserve could nonetheless object to that BHC's capital plan for other reasons. These reasons include, but are not limited to, the following:

- There are material unresolved supervisory issues.
- The assumptions and analyses underlying the BHC's capital plan are not reasonable or appropriate.
- The BHC's methodologies for reviewing the robustness of its capital adequacy process are not reasonable or appropriate.
- The CCAR assessment results in a determination that a BHC's capital adequacy process or proposed capital distributions would otherwise constitute an unsafe or unsound practice or would violate any law, regulation, Board order, directive, or any condition imposed by, or written agreement with, the Board.[41]

As noted above, under the capital plan rule, the Federal Reserve may object to a BHC's capital plan if the assumptions and analyses underlying its capital plan, or the BHC's methodologies for reviewing the robustness of its capital adequacy process, are not reasonable or appropriate. The Federal Reserve assesses the strength of the risk-measurement and risk-management practices supporting the capital adequacy process and the governance and controls around these practices. The Federal Reserve's qualitative assessment places particular emphasis on material risk identification; the BHC stress scenario; the translation of the BHC stress scenario into projected losses, revenues, and post-stress capital ratios; and the controls and governance around the capital adequacy process.

If the Federal Reserve identifies substantial weaknesses in a BHC's capital adequacy process, that finding on its own could justify an objection to a BHC's capital plan. However, a non-objection to a BHC's capital plan does not necessarily mean that a BHC is considered to have fully satisfactory practices supporting every element of its capital adequacy process.

---

[39] See Board of Governors of the Federal Reserve System (2014), *Dodd-Frank Act Stress Test 2014: Supervisory Stress Test Methodology and Results* (Washington: Board of Governors, March), www.federalreserve.gov/newsevents/press/bcreg/bcreg20140320a1.pdf.

[40] The LISCC framework is designed to materially increase the financial and operational resiliency of systemically important financial institutions to reduce the probability of, and cost associated with, their material financial distress or failure. See www.federalreserve.gov/bankinforeg/large-institution-supervision.htm.

[41] See 12 CFR 225.8(f)(2)(ii).

Figure 2. Quantitative assessments of capital actions

Pro forma capital ratios	Common dividend payout ratio	Regulatory capital transition
BHC stress Alternative capital actions		
Supervisory adverse Planned capital actions DFA stress test capital actions	BHC baseline* Planned capital actions	
Supervisory severely adverse Planned capital actions DFA stress test capital actions	Supervisory baseline* Planned capital actions DFA stress test capital actions	

Note: Each box indicates a distinct scenario that will be submitted by each BHC. Planned capital actions are estimated by each BHC using the BHC baseline scenario, and the alternative capital actions are estimated under the BHC's stress scenario in accordance with the BHC's internal capital policies.

* If a BHC determines the supervisory baseline scenario to be appropriate for its own BHC baseline, the BHC may submit identical FR Y-14A Summary schedules with the exception of the capital worksheets noted above. All BHCs must complete two capital worksheets for the supervisory baseline and supervisory severely adverse scenario.

Quantitative Assessments

The various types of quantitative assessments that the Federal Reserve expects to consider are described in figure 2. The Federal Reserve will evaluate the BHC's post-stress capital ratios based on the combination of stress performance measures (e.g., revenues, losses, and reserves from the supervisory adverse and severely adverse scenarios) and the BHC's planned capital actions (e.g., planned dividends, issuances, and repurchases as provided in the BHC baseline scenario) against each minimum regulatory capital ratio and a 5 percent tier 1 common ratio in each quarter of the planning horizon.

Supervisory Post-Stress Capital Analysis

In conducting its supervisory stress tests of BHCs under the Dodd-Frank Act stress test rules, the Federal Reserve will use the same supervisory scenarios and assumptions as the BHCs are required to use under the Dodd-Frank Act stress test rules to project revenues, losses, net income, and post-stress capital ratios.[42] In addition, the Federal Reserve will independently project BHCs' balance sheet and RWAs over the nine-quarter planning horizon, using the same supervisory macroeconomic scenarios. Supervisory models and assumptions will be applied in a consistent manner across all BHCs.

In connection with the annual CCAR exercise, the Federal Reserve will use the data and information provided in the FR Y-14 regulatory reports as of September 30, 2014 (except for trading and counterparty data). BHCs should reference the instructions associated with each schedule to determine the appropriate submission date for each regulatory report. The Federal Reserve will apply conservative assumptions to any missing or otherwise deficient FR Y-14 data in producing supervisory estimates if such deficiencies are not remedied by December 31, 2014.

- **Missing data or data deficiency:** If a BHC's submitted data quality is deemed to be too deficient to produce a robust supervisory model estimate for a particular portfolio, the Federal Reserve may assign a high loss rate (e.g., 90th percentile) or a conservative PPNR rate (e.g., 10th percentile) based on portfolio losses or PPNR estimated for other BHCs. If data that are direct inputs to supervisory models are missing or reported erroneously but the problem is isolated in a way that the existing supervisory framework can still be used, a conservative value (e.g., 10th or 90th percentile) based on all available data will be assigned to the specific data.
- **Immaterial portfolio:** Each BHC has the option to either submit or not submit the relevant data schedule for a given portfolio that does not meet a materiality threshold (as defined in FR Y-14Q and FR Y-14M instructions). If the BHC does not submit data on its immaterial portfolio(s), the Federal Reserve will assign a conservative loss rate (e.g., 75th percentile), based on the estimates for other BHCs. Otherwise, the Federal Reserve will estimate losses using data submitted by the BHC.

As part of CCAR, the Federal Reserve will conduct its post-stress capital analysis in the supervisory

[42] See 12 CFR 252.56(b).

adverse and severely adverse scenarios using the BHCs' planned capital actions in the BHC baseline scenario. This assumption permits the Federal Reserve to assess whether a BHC would be capable of continuing to meet minimum capital requirements (the leverage, tier 1 risk-based, common equity tier 1 risk-based, and total risk-based capital ratios) and a tier 1 common capital ratio of at least 5 percent throughout the planning horizon, even if adverse or severely adverse stress conditions emerged and the BHC did not reduce planned capital distributions.[43]

Common Dividend Payouts

The appropriateness of planned capital actions will also be evaluated based on the common dividend payout ratio (common dividends relative to net income available to common shareholders) in the baseline scenario, and on the BHC's projected path to compliance with the revised regulatory capital framework under the supervisory baseline scenario as the revised regulatory capital framework is phased in.

The Federal Reserve expects that capital plans will reflect conservative common dividend payout ratios. Specifically, capital plans that imply common dividend payout ratios above 30 percent of projected after-tax net income available to common shareholders in either the BHC baseline or supervisory baseline will receive particularly close scrutiny.

Regulatory Capital Rule Transition Plans

As part of CCAR, the Federal Reserve evaluates whether a BHC's proposed capital actions are appropriate in light of the BHC's plans to meet the requirements of the revised regulatory capital framework after the transition periods set forth in that rule.

As part of its capital plan submission, a BHC should provide a transition plan that includes pro forma estimates under baseline conditions of the BHC's regulatory risk-based capital and leverage ratios under the revised regulatory capital framework. Generally, a BHC should maintain prudent earnings-retention policies with a view toward meeting the conservation buffer under the time frame described in the revised regulatory capital framework.[44] Where applicable, a BHC's regulatory capital transition plan should also incorporate a plan to meet the higher loss-absorbency requirements for global systemically important banks as estimated by management or the enhanced supplementary leverage ratio.[45]

A BHC should, through its capital plan, demonstrate an ability to maintain no less than steady progress along a path between its existing capital ratios based upon the revised regulatory capital framework and the fully phased-in requirements in 2019. The Federal Reserve will closely scrutinize plans that fall short of this supervisory expectation.

Some BHCs may exceed the transition targets over the near term, but not yet meet the fully phased-in targets. Those BHCs are expected to submit plans reflecting steady accretion of capital at a sufficient pace to demonstrate continual progress toward full compliance with the revised regulatory capital framework on a fully phased-in basis.

The Federal Reserve expects that any BHC performance projections that suggest that ratios would fall below the regulatory minimums at any point over the projection period would be accompanied by proposed actions that reflect affirmative steps to improve the BHC's capital ratios, including actions such as external capital raises, to provide great assurance that the BHC will meet the minimum requirements of the revised regulatory capital framework as they phase in.

Limited Adjustments to Planned Capital Actions

Upon completion of the quantitative and qualitative assessments of BHCs' capital plans, but before the disclosure of the final CCAR results, the Federal Reserve will provide each BHC with the results of the post-stress capital analysis for its BHC, and each

[43] The last four quarters of the planning horizon of CCAR 2015 will coincide with the initial portion of the risk-based framework's capital conservation buffer. See 12 CFR 217.11. For CCAR 2015, the effects of the capital conservation buffer distribution limitations are likely to be limited given the small portion of the buffer that will be effective during the planning horizon (0.625 percent, only one quarter the size of the fully phased-in buffer). Therefore, the Federal Reserve will not consider the limitation effects of the capital conservation buffer in the last four quarters of the CCAR 2015 planning horizon when performing its post-stress capital analysis of BHCs' planned capital distributions. The Board is considering the appropriate treatment of the capital conservation buffer distribution limitations in stress testing and capital planning for future CCAR exercises and intends to address this issue in due course.

[44] 78 *Fed. Reg.* 62018 (October 11, 2013).

[45] See Basel Committee on Banking Supervision (2013), "Global Systemically Important Banks: Updated Assessment Methodology and the Higher Loss Absorbency Requirement," rules text (Basel: BCBS, July), www.bis.org/publ/bcbs255.htm.; 79 *Fed. Reg.* 24528 (May 1, 2014); and 79 *Fed. Reg.* 57725 (September 26, 2014).

BHC will have an opportunity to make a one-time adjustment to planned capital distributions. The only adjustment that will be considered is a reduction in the common stock distributions (e.g., common stock dividend and repurchases) relative to those initially submitted in the BHC's original capital plan. The Federal Reserve's final decision to object or not object will be informed by the BHC adjusted capital distributions.

The Federal Reserve has observed a practice where some BHCs have only adjusted the out quarters of the planning horizon that are not subject to objection in the current CCAR exercise (for CCAR 2015, those would be the projected third and fourth quarters of 2016), while leaving the quarters subject to objection unchanged. Without explanation, this practice erodes the credibility of a BHC's capital plan. Accordingly, a BHC that makes a one-time adjustment to its planned capital distributions should not solely concentrate the adjustment in the quarters not subject to objection in CCAR 2015.

Federal Reserve Responses to Planned Capital Actions

Based on the results of the qualitative and quantitative assessment, the Federal Reserve determines whether to authorize a BHC to undertake its planned capital actions during the next four quarters, covering the second quarter of the current year through the first quarter of the following year (the third through the sixth quarters of the CCAR 2015 planning horizon). For CCAR 2015, the Federal Reserve's authorization for capital distributions will extend five quarters, through June 30, 2016, in order to account for the shift in the capital plan cycle in 2016.[46]

For purposes of CCAR 2015, if a BHC receives a non-objection to its capital plan, the BHC generally may make the capital distributions included in its capital plan submission beginning on April 1, 2015, through June 30, 2016, without seeking prior approval from or providing prior notice to the Federal Reserve. (See "Execution of Capital Plan and Requests for Additional Distributions" on page 31.)

If the BHC receives an objection to its 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. In this instance, the Federal Reserve still may authorize the BHC to undertake certain distributions set forth in its capital plan, consistent with the quarterly path of authorized distributions, during this five-quarter period.

The Federal Reserve at all times retains the ability to ultimately object to capital distributions in future quarters if there is a material change in the BHC's risk profile (including a material change in its business strategy or any risk exposure), financial condition, or corporate structure, or if changes in financial markets or the macroeconomic outlook that could have a material impact on the BHC's risk profile and financial condition require the use of updated scenarios.

Disclosure of Supervisory Assessments

At the end of the CCAR process, the Federal Reserve intends to disclose publicly its decision to object or not object to a BHC's capital plan, along with a summary of the Federal Reserve's analyses of that company.

The Federal Reserve will publish a summary of the results of the Board's supervisory stress test of the company under the Dodd-Frank Act supervisory stress tests. The supervisory stress test disclosure will include results under both the supervisory adverse and severely adverse scenarios. The Federal Reserve will provide the detailed results of supervisory stress tests for each BHC, including stressed losses and revenues, and the post-stress capital ratios based on the capital action assumptions required under the Dodd-Frank Act stress test rules, along with an overview of methodologies used for supervisory stress tests. (See appendix B for the format that will be used to publish these data.)

In its disclosure of the CCAR results, the Federal Reserve will also publish the results of its post-stress capital analysis for each BHC, including BHC-specific post-stress regulatory capital ratios (leverage, common equity tier 1 risk-based, tier 1 risk-based, and total risk-based capital ratios) and the tier 1 common ratio estimated in the adverse and severely adverse scenarios. These results will be derived using the planned capital actions as provided under the BHC baseline scenario. The disclosed information

46 Starting January 1, 2016, the capital plan cycle will begin on January 1, and a BHC will be required to submit its capital plan to the Board by April 5 of that year. The Federal Reserve would respond to the BHC's capital plan by June 30 of that year.

will include minimum values of these ratios over the planning horizon, using the originally submitted planned capital actions under the baseline scenario and any adjusted capital distributions in the final capital plans, where applicable. (See appendix C for the format that will be used to publish these data.) In addition to the information about its quantitative assessment of the capital plans, the Federal Reserve will disclose the reasons for objections to specific BHCs' capital plans, including general information about the capital planning weaknesses that led to an objection to the BHC's capital plan for qualitative reasons.

Both sets of results, with the overview of methodologies and other information related to supervisory stress tests and CCAR, are expected to be published by March 31, 2015. BHCs will be required to disclose the results of their company-run stress tests within 15 days of the date the Board discloses the results of its Dodd-Frank Act supervisory stress test.[47]

Resubmissions

If a BHC receives an objection to its capital plan, it may choose to resubmit its plan in advance of the next CCAR exercise in the following year.

As detailed in the capital plan 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 if changes in financial markets or the macroeconomic outlook that could have a material impact on a BHC's risk profile and financial condition requires the use of updated scenarios.

Submissions that are late, incomplete, or otherwise unclear could result in an objection to the resubmitted plan and a mandatory resubmission of a new plan, which may not be reviewed until the following quarter. 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.

Execution of Capital Plan and Requests for Additional Distributions

The capital plan rule provides that a BHC generally 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 (gross distribution limit).[48] In addition, a BHC generally must request the Board's non-objection for capital distributions included in the BHC's capital plan if the BHC has issued less capital of a given class of regulatory capital instrument (net of distributions) than the BHC had included in its capital plan, measured cumulatively, beginning with the third quarter of the planning horizon.[49]

For example, if a shortfall in capital issuance occurred in the third quarter, then the BHC may not make planned distributions in that quarter and subsequent quarters unless and until it offsets the excess net distributions. BHCs have the flexibility to credit excess issuances or lower distributions of capital than the amounts included in the company's capital plan for a given class of regulatory capital instrument to subsequent quarters.

A BHC should notify the Federal Reserve as early as possible before redeeming any capital instrument that counts as regulatory capital and that was not included in its capital plan or if it has excess net dis-

---

47 See 12 CFR 252.58(a)(1).

48 A BHC is not required to provide prior notice and seek approval for distributions involving issuances of instruments that would qualify for inclusion in the numerator of regulatory capital ratios that were not included in the BHC's capital plan. See 12 CFR 225.8(g)(2)(iii)(B).

49 The classes of regulatory capital instruments are common equity tier 1, additional tier 1, and tier 2 capital instruments, as defined in 12 CFR 217.2. BHCs are not required to provide prior notice and seek approval for distributions included in their capital plans that are scheduled payments on addition tier 1 or tier 2 capital. Additionally, BHCs are not required to provide prior notice and seek approval where the shortfall in capital issuance (net of distributions) is due to employee-directed capital issuances related to an employee stock ownership plan; a planned merger or acquisition that is no longer expected to be consummated or for which the consideration paid is lower than the projected price in the capital plan; or if aggregate excess net distributions is less than 1 percent of the BHC's tier 1 capital. See 12 CFR 225.8(g)(2)(iii).

tributions.[50] A BHC should use the CCAR Communications mailbox to submit any requests for capital (gross or net) not included in its capital plan.

Any such requests should reflect the change in the BHC's planned capital issuances and any other relevant changes in the capital plan. The BHC may be required to submit additional supporting information, including a revised capital plan, the BHC's forward-looking assessment of its capital adequacy under revised scenarios, any supporting information, and a description of any quantitative methods used that are different than those used in its original capital plan.[51] The Federal Reserve will examine performance relative to the initial projections and the rationale for the request.

Under the capital plan rule, the Federal Reserve may object to a BHC's capital plan if the assumptions and analysis underlying the capital plan, or the BHC's methodologies for reviewing the robustness of its capital adequacy process, are not reasonable or appropriate. A BHC's consistent failure to execute planned capital issuances may be indicative of shortcomings in its capital planning processes and may indicate that the assumptions and analysis underlying the BHC's capital plan, or the BHC's methodologies for reviewing the robustness of its capital adequacy process, are not reasonable or appropriate. Accordingly, a consistent failure to execute capital issuances as indicated in its capital plan may form the basis for objection if the BHC is unable to explain the discrepancies between its planned and executed capital issuances.

[50] See 12 CFR 225.8(f) for circumstances under which approval would be required where a BHC had received a non-objection to its capital plan.

[51] See 12 CFR 225.8(g)(4).

Appendix A: Common Themes from CCAR 2014

Introduction

This appendix describes some of the common themes identified by supervisors during CCAR 2014 that were broadly applicable to the bank holding companies (BHCs) involved in the program. The Federal Reserve provided these commonly observed themes to the BHCs as part of the CCAR 2014 supervisory feedback communicated in April 2014 to build upon expectations outlined in previous guidance and to provide additional clarification in specific areas where BHCs continue to experience challenges. The topics covered here were all outlined in the Federal Reserve's *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Range of Current Practice*, published in August 2013.[52]

In subsequent communication, the Federal Reserve further clarified its expectations for modeling changes in the fair value of available-for-sale (AFS) securities to project other comprehensive income (OCI). In addition, certain information was updated regarding the threshold of trading assets and liabilities that trigger specific expectations for projecting market risk-weighted assets (RWAs). The RWA Methodologies and AFS Fair Value OCI sections of this appendix include those subsequent communications. The following nine themes came out of the CCAR 2014 program and are described further below: (1) sensitivity analysis, (2) assumptions management, (3) model overlays, (4) model risk management, (5) capital policy, (6) presentation of consolidated pro forma financial results, (7) RWA projection methodologies, (8) operational risk loss-estimation methodologies, and (9) AFS Fair Value OCI.

Before discussing each of these themes in more detail, it is important to reiterate one theme that is generally applicable to all of the issues below. While supervisors generally expect that BHCs use independently validated quantitative methods as the basis for their estimates, BHCs should **not** rely on weak or poorly specified models. Instead, qualitative approaches or adjustments to quantitative results should be used, for example, to address data limitations, material changes in a BHC's business, or unique risks of a certain portfolio (including fundamental changes to markets, products and businesses) that are not well represented in reference data and therefore not well captured in a model.

Most BHCs use some form of expert judgment—often as a management adjustment overlay to modeled outputs. Supervisors prefer that BHCs use management overlays to compensate for model limitations. Regardless of the estimation methodology, BHCs should have a transparent, repeatable, well-supported process that generates credible estimates that are consistent with assumed scenario conditions. (For more on model overlays see section 3 of this appendix and also the discussion of model risk management on page 19).

1. Sensitivity Analysis

Having an understanding of the sensitivity of pro forma financial estimates to the various inputs and assumptions developed to support the forecasting process is an important aspect of developing sound stress scenario analysis projections. Sensitivity analysis is an important tool that tests the robustness of models and enhances reporting for BHC management, the board of directors, and supervisors. Based on observations in CCAR 2014, there is a continued need for BHCs to expand the use of sensitivity analysis to understand the range of potential estimates based on changes to inputs and key assumptions as well as the uncertainties associated with those estimates. Most notably, BHCs did not conduct sufficient sensitivity analysis during model development, and instead relied on the model validation function to carry it out. BHCs should expand the use of sensi-

[52] See Board of Governors of the Federal Reserve System (2013), *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Current Range of Practice* (Washington: Board of Governors, August), www.federalreserve.gov/bankinforeg/bcreg20130819a1.pdf.

tivity analysis around both individual loss, revenue, and balance sheet component estimates as well as aggregate estimates at various levels of the consolidation process.

All key assumptions and input variables should be candidates for sensitivity testing. While not all assumptions and inputs will prove to have a material impact on estimates, BHCs should conduct sensitivity analysis to determine which inputs and assumptions can materially alter results. Some foundational assumptions that are common to most BHCs and should be subject to sensitivity analysis include projected market share, size of the mortgage market, cost and flow of deposits, utilization rate of credit lines, discount rates, or level and composition of trading assets. However, this list is not exhaustive and conducting sensitivity testing only on these assumptions will not be sufficient to meet supervisors' expectations in this area.

Sensitivity testing can also be particularly helpful in understanding the range of possible results of vendor-provided scenario forecasts and vendor models with less transparent or proprietary elements. Furthermore, sensitivity analysis can be an important tool to assess stress testing models and the credibility of stress projections, given the inherent challenges in conducting outcomes analysis of these models.

Overall, BHCs should ensure that model developers and model owners conduct sensitivity analysis, in addition to the testing performed by the model validation function. BHCs should also conduct sensitivity analysis as part of the aggregation process to understand the sensitivity of material components of the consolidated pro forma financials, as well as the post-stress pro forma capital ratios to material assumptions and inputs. By understanding and documenting a range of potential outcomes, BHCs can ensure there is a clear understanding of the inherent uncertainty and imprecision around pro forma results. Importantly, management should have a full understanding of key sensitivities in estimates and highlight those to the board so that the directors understand the sensitivity of capital to alternative inputs and assumptions and can make informed capital decisions.

2. Assumptions Management

BHCs are expected to clearly document key assumptions used to estimate losses, revenues, expenses, asset and liability balances, and RWA. Documentation should provide the rationale and any empirical support for assumptions and specifically address how they are consistent with scenario conditions. Assumptions should generally be conservative, particularly in areas of high uncertainty, and should be well supported and subject to close oversight and scrutiny.

Given the significant number of assumptions required for capital planning and stress testing, one of the most common issues across firms is unclear or unsubstantiated assumptions. While this issue spans all areas of capital planning, it was among the most common issues for PPNR projections in CCAR 2013 and again in CCAR 2014. In particular, loan and deposit pricing assumptions were, in many instances, not well documented nor adequately supported, and in some cases they appeared inconsistent with the expected impact of scenario conditions, shift in portfolio mix, or growth or decline in balances over the planning horizon. Similarly, in certain instances, assumptions were made that provided a clear benefit to the BHC without consideration of strategic initiatives or achievability under a given scenario.

Overall, assumptions that may materially affect capital estimates should be consistent with scenario conditions, challenged across the enterprise, and internally consistent within each scenario. Where possible, assumptions should be supported by quantitative analysis or empirical evidence, and as discussed in the preceding section, augmented with sensitivity analysis to assess whether deviations from assumed values could have a material impact on post-stress, pro forma capital levels. That said, assumptions do not have to be anchored in historical experience. Historical experience may not be relevant if a BHC has gone through significant structural changes, or if the economic environment changes dramatically. Assumptions not based in historical experience can be acceptable, if BHCs provide sufficient support and rationale for why the assumptions are plausible, internally consistent with assumed scenario conditions, and conservative (i.e., they generate more losses or fewer revenues than strict adherence to historical experience).

3. Model Overlays

As noted, most BHCs use some form of expert judgment—often as a management adjustment overlay to modeled outputs. In developing management overlays, BHCs should ensure that they have a transparent and repeatable process; that assumptions are clearly outlined and consistent with assumed scenario conditions; **and that results are provided with and without adjustments**.

In general, the purpose and impact of specific management overlays should be communicated in a way that facilitates a thorough understanding by the BHC's senior management. Senior management should be able to independently assess the reasonableness of using an overlay to capture a particular risk or compensate for a known limitation. Significant management overlays should receive a heightened level of support and scrutiny, up to and including review by the board of directors in instances where the impact to pro forma results is sufficiently material. Extensive use of management overlays should also trigger discussion as to whether new or improved modeling approaches are needed.

While improved support for management overlays was apparent during CCAR 2014, some BHCs' approach to overlays did not meet supervisory expectations. Specifically, a number of BHCs failed to tie management overlays to specific model weaknesses or identified issues and used a general "catch-all" adjustment to influence aggregate modeled losses in the interest of conservatism. In addition, several BHCs relied exclusively on a capital buffer and/or the capital targets to account for model limitations, rather than using a specific adjustment to model output, which directly impacts capital levels. To the extent possible, BHCs should incorporate the impact of all risk exposures into their projections of net income over the nine-quarter planning horizon rather than trying to address certain risks and model limitations by adding buffers on top of internally defined capital goals and targets.

In certain cases, BHCs made adjustments within the model (e.g., changes to parameter estimates) that were independently reviewed as part of the overall model validation process. However, post-validation management overlays applied to model outcomes to account for risks not captured by the model or to compensate for model limitations often failed to receive an adequate level of independent review (see "Model Risk Management"). In addition to being clearly documented and well-supported, supervisors expect all management overlays and adjustments to be reviewed in detail and approved at the appropriate level given their materiality/impact to the overall pro forma financial results.

4. Model Risk Management

BHCs should ensure that they have sound model risk management, including independent review and validation of all models used in internal capital planning, consistent with existing supervisory guidance on model risk management (SR letter 11-7). Most BHCs involved in CCAR 2014 have made progress in enhancing their model risk management practices for models used in their capital planning processes. However, some BHCs still fell substantially short of supervisory expectations, and all BHCs still have room for improvement, most notably in the area of conducting more rigorous evaluations of the conceptual soundness of modeling approaches applied to stress testing use.

Supervisors observed that validation activities conducted by some BHCs were rigorous and appropriately resulted in required enhancements, restrictions on use, or rejection. However, there were numerous cases in which validation activities were not in line with supervisory expectations or effective challenge was not exercised.[53] For instance, some validation activities were only cursory in nature; did not probe key assumptions or model sensitivities; and perhaps most critically, **did not evaluate models for their intended use (including vendor models)**. Supervisors also expect that model overrides or overlays—including those based solely on expert judgment—will be subject to oversight and review by validation staff or other independent reviewers, with the recognition that the work done to evaluate overlays to model output may be different than the validation work to evaluate and test the model and model output. BHCs should also ensure that challenger or benchmark models used as part of the capital planning processes are subject to validation, with the intensity and frequency of validation work a function of the importance of those models in generating estimates (per SR 11-7).

Supervisors recognize that not all validation activities can be conducted before each model is used, especially certain types of outcomes analysis given the lack of realized outcomes against which to assess projections generated under stressful scenarios. That said, at a minimum, BHCs should make every effort to conduct the conceptual soundness evaluation of a

[53] The term "effective challenge" used in this appendix applies to certain MRM activities as defined in SR letter 11-7, "Supervisory Guidance on Model Risk Management," (April 4, 2011), www.federalreserve.gov/bankinforeg/srletters/sr1107.htm.

model prior to its use. An important aspect of model risk management governance is clearly identifying whenever any validation activities are not able to be conducted prior to use, making those shortcomings in validation transparent to users of model output, developing remediation plans, and applying compensating controls—such as conducting additional sensitivity analysis or using benchmarks. Any cases in which certain model risk management activities—not just validation activities—are not completed could suggest high levels of model uncertainty and call into question a model's effectiveness. BHCs should ensure that the output from models for which there are model risk management shortcomings are treated with greater caution (e.g., by applying compensating controls and conservative adjustments to model results) than output from models for which all model risk management activities have been conducted in line with supervisory expectations.

5. Capital Policy

A BHC's capital policy should be a distinct, comprehensive written document that addresses the major components of the BHC's capital planning processes and links to and is supported by other policies. The policy should provide details on how the board and senior management manage, monitor, and make decisions regarding all aspects of capital planning and lay out expectations for the information included in the BHC's capital plan. During CCAR 2014, supervisors observed many cases in which BHCs' capital policies did not meet expectations. For instance, at some BHCs, capital policies provided insufficient detail, particularly as it pertained to the decisionmaking process around the level and composition of capital distributions. Supervisors expect capital policies to include explicit limits on aggregate capital distributions and to outline the type of analysis the BHC must provide in its capital plan to support its proposed capital actions.

Many BHCs' capital policies lacked a comprehensive suite of payout ratio targets or limits; an explanation for how the BHC arrived at those targets or limits; and, where they did exist, lacked defined response actions to be taken in case of breaches of dividend and/or repurchase payout targets or limits. Some BHCs included general considerations for decisionmaking, such as review of capital ratios under stress scenarios, but offered no explanation of how the BHC would arrive at planned distribution amounts or the form of capital distributions.

During CCAR 2014, supervisors also observed that some BHCs did not define and set capital goals and targets in a manner consistent with supervisory expectations. For example, some BHCs did not demonstrate that their internal capital goals were aligned with the expectations of all relevant stakeholders (including, but not limited to, shareholders, rating agencies, counterparties, and creditors) to help ensure that the BHC could continue as a viable entity during and after periods of stress. Some BHCs did not consider or clearly incorporate the impact of stress test results and uncertainty around those results in the determination of capital targets. In other cases, capital goals and targets did not incorporate expectations of changes to regulatory standards (e.g., they were solely based on Basel I metrics). Furthermore, some BHCs used a poorly defined capital buffer, ostensibly to capture a range of additional risks or uncertainties, but without clear attribution or sufficient analysis.

6. Presentation of Consolidated Pro Forma Results

BHCs should ensure that they have sound processes for review, challenge, and aggregation of estimates used in their capital planning processes. Based on supervisory evaluations from CCAR 2014, there is evidence that processes for review, challenge, and aggregation contained significant shortcomings at several BHCs and that all BHCs should continue to enhance these processes. In some cases, BHCs had satisfactory review and challenge processes for some of their pro forma estimates, but not for others.

Satisfactory processes for review, challenge, and aggregation should include

- an effective internal review of processes used at both the line of business/sub-aggregated and enterprise level, with final review and sign off completed by an informed party not directly involved in those processes;
- policies and procedures documenting the process from end to end that include a clear articulation of accountability for credibility of results at each stage of the challenge process;
- evidence of clear communication among the different functions involved in drawing together estimates from across the organization to promote consistency and to ensure that those functions are

operating under the same guidelines and assumptions;

- set processes for aggregating and finalizing results, including appropriate review and oversight of aggregate results to ensure coherence and consistency of projected outcomes sourced from various forecast providers;
- clear identification and documentation of key assumptions, sensitivities, limitations, and judgment applied at all levels of the processes used to generate estimates, as well as communication of these items to relevant senior management—and the board of directors, when necessary; and
- evidence of oversight and challenge to both processes and outcomes at the appropriate level of management, including documentation of actions taken as a result of questions, issues, or requests that came up during such review and discussions.

7. RWA Methodologies

Many BHCs faced challenges with their methodologies for projecting RWAs. Given that the as-of-date RWA calculated for regulatory reporting serves as the foundation for RWA projections in scenario analysis, BHC management should ensure, and provide evidence of, an independent review of RWA regulatory reporting by either internal audit or another control function. Independent reviews should ensure point-in-time RWA processes appropriately capture all relevant on- and off-balance sheet exposures and are consistent with the various risk-weighting frameworks to which the BHC is subject. For CCAR 2014, the level of independent review for point-in-time RWA accuracy for many BHCs was not always evident, as reviews were either dated, under the guise of general regulatory reporting audits that lacked detail specific to RWA coverage, inferred as part of CCAR review process, or nonexistent.

For BHCs subject to the Market Risk Capital Rule, supervisors expect management to ensure that projections of market risk RWAs appropriately reflect the level of risk in the BHC's trading book and the contribution market risk RWA makes to the firm's total RWA. BHCs should document the rationale for any significant changes in risk weighting assigned to the trading book, particularly in cases where projections show the ratio of trading book RWA-to-trading exposures declining over time or under stress conditions. All else equal, RWA per notional dollar of trading asset is generally expected to *increase* over the projection horizon in response to the heightened market volatility assumed in many firms' stress scenarios, and any deviations from that relationship should be well supported.

Although some BHCs subject to the Market Risk Capital Rule report market risk RWAs that represent a relatively small proportion of total RWAs, all BHCs should ensure that their reported projections of market risk RWAs sufficiently consider the impact of each scenario. In general, all BHCs in the LISCC portfolio as well as any BHCs subject to the Market Risk Capital Rule that report (1) trading assets and liabilities of greater than $10 billion or (2) trading assets and liabilities of greater than 10 percent of total assets at the as-of date for reporting should project market risk RWAs using a quantitative methodology that captures both changes in exposures and changes in volatility implied by stress conditions over time.

Providing overall support and documentation for RWA methodologies was a shortcoming among BHCs in CCAR 2014. BHCs should provide evidence for the appropriateness of assumptions regarding the following:

- any aggregation of balance projections by exposure type or characteristic (e.g., balances for exposures that do not distinguish between amounts that are considered past due) for purposes of applying corresponding risk weights
- any uses of average or effective risk weights based on the BHC's as-of date portfolio composition or historical trend (and evidence of the appropriateness of basing RWA projections on historical trend, given the potential for changes in portfolio composition over time and under different stress conditions)
- support for any exposure types for which RWA is held constant over the projection horizon

8. Operational Risk Loss Estimation

BHCs have found it challenging to identify meaningful relationships between operational losses and macroeconomic factors. Limited datasets and potential problems classifying and reporting events contribute to the difficulties. Specifically, the limited length of operational risk datasets makes finding robust correlations to macroeconomic and financial variables difficult for many firms. Compounding this problem, BHCs use extensive judgment to assign dates to loss events that unfold over time, such as legal losses. Given these challenges, correlation analysis can result in loss projections that are unstable or invariant to scenario conditions, and are thus inconsistent with the expectation that BHCs significantly stress their operational risk exposures.

Given the challenges noted above, BHCs should not try to force the use of unstable and/or unobservable correlations and should instead use a conservative approach to project increased operational risk losses from significant operational risk events that could plausibly occur during a stressed economic and financial environment. In other words, the use of scenario analysis may provide a more conceptually sound basis for assessing potential operational losses under stress.

The **BHC stress scenario** should capture significant operational risks that could occur over the nine quarters of the BHC scenario and translate them into loss estimates, regardless of whether or not they are directly linked to the stressed economic environment. The BHC stress scenario should be designed with the BHC's particular vulnerabilities in mind and include potential BHC-specific events such as system failures, litigation related losses, or rogue trading. BHCs internally identify operational risks using tools such as risk assessments and key risk reports. Material risks identified through these risk-management tools should be considered and captured in the scenario analysis supporting stress test estimates. While operational risk events may not be caused by the economic environment, firms should assume that they will occur during the nine-quarter period for the purpose of stress testing.

Methodology Guidelines

Operational risk scenario analysis should cover a myriad of potential losses characterized by differing event types and business lines, despite limited historical data. Various techniques and methodologies can be used based on the particular losses to be stressed, as long as they are logical, well supported, and effectively stress material, inherent risks. For example, a bank with limited internal data could supplement its analysis through the use of external data, using such data in both operational loss scenario analysis as well as other complementary approaches to operational risk quantification. BHCs are encouraged to explore multiple loss-projection techniques as long as the overall methodology ultimately leads to reasonable, significant loss projections.

In previous CCAR programs, four methodologies emerged: regression analysis, loss-distribution approaches, historical averages, and scenario analysis. Regardless of the methodology or combination of methodologies a BHC ultimately uses, it should justify its choice. In addition, when using a given methodology, BHCs should adhere to the supervisory expectations described below.

- **When using a regression model**, BHCs should have a clear understanding of data and model limitations and make compensating adjustments that are well supported and documented. BHCs should also balance goodness of fit considerations with overfitting and stability concerns in variable selection criteria.
- **When using a loss-distribution approach**, BHCs should provide reasoning and justification for percentiles chosen as well as sensitivity analysis around the percentiles.
- **When using historical averages**, BHCs should justify the date range chosen through extensive sensitivity analysis, including exploring moving averages, averages during stressed periods, rolling averages, and worst-quarter results. BHCs should also stress averages for both frequency and severity when computing stressed operational risk loss estimates.
- **When using scenario analysis**, BHCs should have a structured, transparent, well-supported, and repeatable process subject to independent validation and review. BHCs should document and support the scenarios chosen and the resulting loss estimates and describe reasons why some scenarios may have been considered but then were rejected from the stress estimates. Furthermore, BHCs should consider all large historical events the BHC has experienced as well as external losses experienced by peer firms and hypothetical events the BHC is exposed to but may have not yet experienced.

Other Guidelines

The majority of operational risk shortcomings observed in CCAR 2014 related to data-capture, documentation, validation, and litigation-related losses. Data-capture issues typically included immature data-collection methods, use of net losses, subjective exclusion of large historical losses, truncated date ranges, and scaled-down internal losses.

BHCs should not assume that if they have scaled down certain businesses, the associated operational risk is necessarily eliminated and, thus, historical losses can be removed from data used for operational risk projections. Large historical events should not be excluded from a BHC's dataset unless soundly justified with evidence and analysis. Date ranges used in any empirical analysis should be justified, and BHCs should not selectively exclude time periods with relevant loss data. Relatively recent data may be more representative of a bank's current risk profile, but larger datasets usually facilitate a more stable model. BHCs should balance this tradeoff and conduct sensitivity analysis to confirm any choices around date ranges. In addition, the use of losses net of recoveries or insurance must be particularly well supported (i.e., inclusive of an assessment of the likelihood and timing of claims fulfillment), as such recoveries may not occur during a stressed economic environment.

Finally, many BHCs did not provide detailed and transparent information on the process used to estimate legal losses and how these losses factor into overall estimates of losses stemming from operational risks. Some firms only considered settled losses and did not incorporate forward-looking potential losses. Supervisors expects firms to estimate legal costs (including expenses, judgments, fines, and settlements) associated with the baseline and stressful outcomes. In baseline scenarios, firms should use expected litigation-related losses. Under stress scenarios, firms should estimate potential losses by assuming unfavorable, stressed outcomes on current, pending, threatened, or otherwise possible claims of all types. Estimates of stressed legal losses and other costs and expenses should be well supported by detailed underlying analysis and, while considered as a part of operational losses, should be broken out in their own subcategory, to the extent possible.

9. AFS Fair Value OCI

As noted previously, this section on common themes identified by supervisors in CCAR 2014 regarding BHC practices for AFS Fair Value OCI was communicated to the BHCs subsequent to the other sections of this appendix.

Under U.S. Generally Accepted Accounting Principles (GAAP), changes in the fair value of AFS securities are reflected in changes in accumulated other comprehensive income (AOCI); however, prior to issuance of the revised capital framework, these changes were not reflected in the calculation of regulatory capital. In accordance with the revised capital framework, BHCs with total consolidated assets of $250 billion or more or on-balance-sheet foreign exposures of $10 billion or more (advanced approaches BHCs) must reflect AOCI items in their regulatory capital beginning in the second quarter of the planning horizon (the first quarter of 2014).[54] Under the transition provisions of the revised capital framework, regulatory capital for advanced approaches BHCs must include 20 percent of eligible AOCI in 2014, 40 percent in 2015, and 60 percent in 2016.[55] This guidance applies only to advanced approaches BHCs; it does not apply to BHCs with total consolidated assets of $50 billion or more that are not advanced approaches BHCs.

Advanced approaches BHCs are expected to evaluate all AFS (and impaired HTM) securities for changes in unrealized gains and losses that flow through OCI under stress scenarios. Stressing fair value is expected to reflect movements in projected spreads, interest rates, foreign exchange rates, and any other relevant factors specific to each asset class. Historical spread and price data may be sourced externally or internally; however, information utilized should be representative of the BHC's portfolio at a sufficiently granular level to capture the inherent risks of the assets. Additionally, the data utilized for projection is expected to span a sufficient period of time that includes a period of vulnerability for that asset class. Advanced approaches BHCs with weaker practices either chose historical data from indices that did not represent the inherent risk in their portfolios or evaluated a too limited a time frame of spread movements.

In order to appropriately capture the risks inherent in AFS agency mortgage-backed securities (MBS), advanced approaches BHCs should stress assets at a security level and substantially all risk be subject to cashflow modeling. The stress test should capture changes in prepayments, interest rates, and spreads. BHCs with better practices used cashflow models to project losses on every asset in their portfolio, while BHCs with lagging practices utilized sensitivity-based approaches (on a security and portfolio-level basis). Changes in fair value of securities should be projected using scenario-derived interest rates and

[54] See 12 CFR 217.22(b). Non-advanced approaches BHCs may elect to calculate regulatory capital by using the treatment in the agencies' regulatory capital rules prior to issuance of the revised capital framework, which excludes most AOCI amounts.

[55] See 12 CFR 217.300(b)(3).

spreads projected over the planning horizon. Advanced approaches BHCs should use the spreads that are consistent with scenario conditions. Better practices reflected forecasting agency MBS fair value changes through a forward full revaluation, repricing at every quarter or at multiple points in the time horizon.

There was limited variation across BHCs in approaches for stressing Treasury securities. Advanced approaches BHCs should explicitly link interest rate moves to scenario conditions. BHCs with better practices utilized full revaluation. Lagging BHCs did not holistically capture future price changes and instead projected price movements based only upon sensitivities.

For AFS credit sensitive assets, advanced approaches BHCs are expected to project changes in fair value consistent with assumed scenario conditions. Better practices included a projection of interest rate and spread changes using cashflow modeling with explicit linkage to the projected scenario horizon. Advanced approaches BHCs are expected to support the appropriateness of scenario variables specifically for each asset class. For example, if a BHC utilizes the same key explanatory variable for every asset class, there should be empirical support of a strong relationship between the explanatory variable and each asset class. The BHCs with the better practices utilized a regression-based methodology that captured the risk characteristics of the portfolio at a granular level, with clear documentation of key assumptions, limitations, and other considerations.

If an advanced approaches BHC contemplates reinvestments, investments should be clearly articulated with supporting rationale that is consistent with scenario conditions. New purchases and reallocations should also be subject to fair value changes across the remaining time horizon. BHCs with lagging practices did not contemplate any future changes in unrealized gains and losses for new asset purchases.

Consistent with expectations as laid out in *Capital Planning at Large Bank Holding Companies: Supervisory Expectations and Range of Current Practice*, all models utilized to project unrealized gains and losses should be independently validated. Any judgment used, including choice of data and key explanatory variables, should be well supported and subject to independent challenge.

In order to transparently evaluate the full functionality of AFS fair value OCI models, the Federal Reserve expects advanced approaches BHCs to clearly document their key methodologies and assumptions used in estimating unrealized gains and losses. Documentation should concisely explain methodologies used for each asset class, with relevant macroeconomic or other risk drivers, and demonstrate relationships between these drivers and estimates. The source and time frame of historical data utilized should also be clearly detailed, including support for the dataset chosen relative to the appropriate risk inherent in the portfolio. Documentation should also be developed and maintained to detail how the projections are consistent with the BHC's scenario conditions.

Appendix B: Templates for Dodd-Frank Act Stress Testing Results 2015

This appendix provides the format that the Federal Reserve will use to disclose the results of the supervisory stress test in accordance with the Dodd-Frank Act stress test rules.

Tables begin on next page.

Table B.1. All bank holding companies

Projected minimum tier 1 common ratio, 2014:Q4 to 2016:Q4

Federal Reserve estimates: Severely adverse scenario

Bank holding company	Stressed ratios with DFA stress testing capital action assumptions
Ally Financial Inc.	
American Express Company	
Bank of America Corporation	
The Bank of New York Mellon Corporation	
BB&T Corporation	
BBVA Compass Bancshares, Inc.	
BMO Financial Corp.	
Capital One Financial Corporation	
Citigroup Inc.	
Comerica Incorporated	
Deutsche Bank Trust Corporation	
Discover Financial Services	
Fifth Third Bancorp	
The Goldman Sachs Group, Inc.	
HSBC North America Holdings Inc.	
Huntington Bancshares Incorporated	
JPMorgan Chase & Co.	
KeyCorp	
M&T Bank Corporation	
Morgan Stanley	
MUFG Americas Holdings Corporation	
Northern Trust Corporation	
The PNC Financial Services Group, Inc.	
RBS Citizens Financial Group, Inc.	
Regions Financial Corporation	
Santander Holdings USA, Inc.	
State Street Corporation	
SunTrust Banks, Inc.	
U.S. Bancorp	
Wells Fargo & Co.	
Zions Bancorporation	

Note: The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of capital ratios. The minimum stressed ratios (%) are the lowest quarterly ratios from 2014:Q4 to 2016:Q4 under the severely adverse scenario.

Source: Federal Reserve estimates in the severely adverse scenario. Stressed ratios with Dodd-Frank Act capital action assumptions through 2016:Q4.

Table B.2. All bank holding companies

Projected minimum tier 1 common ratio, 2014:Q4 to 2016:Q4

Federal Reserve estimates: Adverse scenario

Bank holding company	Stressed ratios with DFA stress testing capital action assumptions
Ally Financial Inc.	
American Express Company	
Bank of America Corporation	
The Bank of New York Mellon Corporation	
BB&T Corporation	
BBVA Compass Bancshares, Inc.	
BMO Financial Corp.	
Capital One Financial Corporation	
Citigroup Inc.	
Comerica Incorporated	
Deutsche Bank Trust Corporation	
Discover Financial Services	
Fifth Third Bancorp	
The Goldman Sachs Group, Inc.	
HSBC North America Holdings Inc.	
Huntington Bancshares Incorporated	
JPMorgan Chase & Co.	
KeyCorp	
M&T Bank Corporation	
Morgan Stanley	
MUFG Americas Holdings Corporation	
Northern Trust Corporation	
The PNC Financial Services Group, Inc.	
RBS Citizens Financial Group, Inc.	
Regions Financial Corporation	
Santander Holdings USA, Inc.	
State Street Corporation	
SunTrust Banks, Inc.	
U.S. Bancorp	
Wells Fargo & Co.	
Zions Bancorporation	

Note: The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of capital ratios. The minimum stressed ratios (%) are the lowest quarterly ratios from 2014:Q4 to 2016:Q4 under the adverse scenario.

Source: Federal Reserve estimates in the adverse scenario. Stressed ratios with Dodd-Frank Act capital action assumptions through 2016:Q4.

Table B.3. BHC XYZ, Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Severely adverse scenario

Actual 2014:Q3 and projected stressed capital ratios through 2016:Q4

	Actual 2014:Q3	Stressed capital ratios[1]	
		Ending	Minimum
Tier 1 common ratio (%)			
Common equity tier 1 capital ratio (%)[2]			
Tier 1 risk-based capital ratio (%)			
Total risk-based capital ratio (%)			
Tier 1 leverage ratio (%)			

1 The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of expected losses, revenues, net income before taxes, or capital ratios. The minimum capital ratio presented is for the period 2014:Q4 to 2016:Q4.

2 Advanced approaches bank holding companies (BHCs) are subject to the common equity tier 1 ratio for the third and fourth quarter of 2014. All bank holding companies are subject to the common equity tier 1 ratio for each quarter of 2015 and 2016. For purposes of this stress test cycle, an advanced approaches BHC includes any BHC that has consolidated assets greater than or equal to $250 billion or total consolidated on-balance sheet foreign exposure of at least $10 billion as of December 31, 2014. See 12 CFR 217.100(b)(1); 12 CFR part 225, appendix G, section 1(b). Other BHCs include any BHC that is subject to 12 CFR 225.8 and is not an advanced approaches BHC.

Projected loan losses, by type of loan, 2014:Q4–2016:Q4

	Billions of dollars	Portfolio loss rates (%)[1]
Loan losses		
First-lien mortgages, domestic		
Junior liens and HELOCs, domestic		
Commercial and industrial[2]		
Commercial real estate, domestic		
Credit cards		
Other consumer[3]		
Other loans[4]		

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair value option, and are calculated over nine quarters.

2 Commercial and industrial loans include small- and medium- enterprise loans and corporate cards.

3 Other consumer loans include student loans and automobile loans.

4 Other loans include international real estate loans.

Actual 2014:Q3 and projected 2016:Q4 risk-weighted assets

	Actual 2014:Q3	Projected 2016:Q4	
		General approach	Basel III standardized approach
Risk-weighted assets (billions of dollars)[1]			

1 For each quarter in 2014, risk-weighted assets are calculated using the current general risk-based capital approach. For each quarter in 2015 and 2016, risk-weighted assets are calculated under the Basel III standardized capital risk-based approach, except for the tier 1 common ratio which uses the general risk-based capital approach for all quarters.

Projected losses, revenues, net income, and other comprehensive income through 2016:Q4

	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue[2]		
Other revenue[3]		
less		
Provisions		
Realized losses/gains on securities (AFS/HTM)		
Trading and counterparty losses[4]		
Other losses/gains[5]		
equals		
Net income before taxes		
Memo items		
Other comprehensive income[6]		
Other effects on capital	*Actual 2014:Q3*	*2016:Q4*
AOCI included in capital (billions of dollars)[7]		

1 Average assets is the nine-quarter average of total assets.

2 Pre-provision net revenue includes losses from operational-risk events, mortgage repurchase expenses, and other real estate owned (OREO) costs.

3 Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

4 Trading and counterparty losses include mark-to-market and credit valuation adjustments (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

5 Other losses/gains includes projected change in fair value of loans held for sale and loans held for investment measured under the fair value option, and goodwill impairment losses.

6 Other comprehensive income (OCI) is only calculated for advanced approaches BHCs, as only those BHCs include accumulated other comprehensive income (AOCI) in calculations of regulatory capital. Supervisory projections of OCI include incremental unrealized losses/gains on AFS securities and on any HTM securities that have experienced other than temporary impairment.

7 For advanced approaches BHCs, certain AOCI items are subject to transition into projected regulatory capital. Those transitions are 20 percent included in projected regulatory capital for 2014, 40 percent included in projected regulatory capital for 2015, and 60 percent included in projected regulatory capital for 2016.

Table B.4. BHC XYZ, Inc.

Projected stressed capital ratios, risk-weighted assets, losses, revenues, net income before taxes, and loan losses

Federal Reserve estimates: Adverse scenario

Actual 2014:Q3 and projected stressed capital ratios through 2016:Q4

	Actual 2014:Q3	Stressed capital ratios[1]	
		Ending	Minimum
Tier 1 common ratio (%)			
Common equity tier 1 capital ratio (%)[2]			
Tier 1 risk-based capital ratio (%)			
Total risk-based capital ratio (%)			
Tier 1 leverage ratio (%)			

1 The capital ratios are calculated using capital action assumptions provided within the Dodd-Frank Act stress testing rule. These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of expected losses, revenues, net income before taxes, or capital ratios. The minimum capital ratio presented is for the period 2014:Q4 to 2016:Q4.

2 Advanced approaches bank holding companies (BHCs) are subject to the common equity tier 1 ratio for the third and fourth quarter of 2014. All bank holding companies are subject to the common equity tier 1 ratio for each quarter of 2015 and 2016. For purposes of this stress test cycle, an advanced approaches BHC includes any BHC that has consolidated assets greater than or equal to $250 billion or total consolidated on-balance sheet foreign exposure of at least $10 billion as of December 31, 2014. See 12 CFR 217.100(b)(1); 12 CFR part 225, appendix G, section 1(b). Other BHCs include any BHC that is subject to 12 CFR 225.8 and is not an advanced approaches BHC.

Projected loan losses, by type of loan, 2014:Q4–2016:Q4

	Billions of dollars	Portfolio loss rates (%)[1]
Loan losses		
First-lien mortgages, domestic		
Junior liens and HELOCs, domestic		
Commercial and industrial[2]		
Commercial real estate, domestic		
Credit cards		
Other consumer[3]		
Other loans[4]		

1 Average loan balances used to calculate portfolio loss rates exclude loans held for sale and loans held for investment under the fair value option, and are calculated over nine quarters.

2 Commercial and industrial loans include small- and medium- enterprise loans and corporate cards.

3 Other consumer loans include student loans and automobile loans.

4 Other loans include international real estate loans.

Actual 2014:Q3 and projected 2016:Q4 risk-weighted assets

	Actual 2014:Q3	Projected 2016:Q4	
		General approach	Basel III standardized approach
Risk-weighted assets (billions of dollars)[1]			

1 For each quarter in 2014, risk-weighted assets are calculated using the current general risk-based capital approach. For each quarter in 2015 and 2016, risk-weighted assets are calculated under the Basel III standardized capital risk-based approach, except for the tier 1 common ratio which uses the general risk-based capital approach for all quarters.

Projected losses, revenues, net income, and other comprehensive income through 2016:Q4

	Billions of dollars	Percent of average assets[1]
Pre-provision net revenue[2]		
Other revenue[3]		
less		
Provisions		
Realized losses/gains on securities (AFS/HTM)		
Trading and counterparty losses[4]		
Other losses/gains[5]		
equals		
Net income before taxes		
Memo items		
Other comprehensive income[6]		
Other effects on capital	*Actual 2014:Q3*	*2016:Q4*
AOCI included in capital (billions of dollars)[7]		

1 Average assets is the nine-quarter average of total assets.

2 Pre-provision net revenue includes losses from operational-risk events, mortgage repurchase expenses, and other real estate owned (OREO) costs.

3 Other revenue includes one-time income and (expense) items not included in pre-provision net revenue.

4 Trading and counterparty losses include mark-to-market and credit valuation adjustments (CVA) losses and losses arising from the counterparty default scenario component applied to derivatives, securities lending, and repurchase agreement activities.

5 Other losses/gains includes projected change in fair value of loans held for sale and loans held for investment measured under the fair value option, and goodwill impairment losses.

6 Other comprehensive income (OCI) is only calculated for advanced approaches BHCs, as only those BHCs include accumulated other comprehensive income (AOCI) in calculations of regulatory capital. Supervisory projections of OCI include incremental unrealized losses/gains on AFS securities and on any HTM securities that have experienced other than temporary impairment.

7 For advanced approaches BHCs, certain AOCI items are subject to transition into projected regulatory capital. Those transitions are 20 percent included in projected regulatory capital for 2014, 40 percent included in projected regulatory capital for 2015, and 60 percent included in projected regulatory capital for 2016.

Appendix C: Templates for Comprehensive Capital Analysis and Review Results 2015

This appendix provides the format that the Federal Reserve will use to disclose the results of the supervisory post-stress capital analysis under the Comprehensive Capital Analysis and Review.

Tables begin on next page.

Table C.1. All bank holding companies
Projected minimum tier 1 common ratio, 2014:Q4 to 2016:Q4
Federal Reserve estimates: Severely adverse scenario

Bank holding company	Stressed ratio with original planned capital actions	Stressed ratio with adjusted planned capital actions
Ally Financial Inc.		
American Express Company		
Bank of America Corporation		
The Bank of New York Mellon Corporation		
BB&T Corporation		
BBVA Compass Bancshares, Inc.		
BMO Financial Corp.		
Capital One Financial Corporation		
Citigroup Inc.		
Comerica Incorporated		
Deutsche Bank Trust Corporation		
Discover Financial Services		
Fifth Third Bancorp		
The Goldman Sachs Group, Inc.		
HSBC North America Holdings Inc.		
Huntington Bancshares Incorporated		
JPMorgan Chase & Co.		
KeyCorp		
M&T Bank Corporation		
Morgan Stanley		
MUFG Americas Holdings Corporation		
Northern Trust Corporation		
The PNC Financial Services Group, Inc.		
RBS Citizens Financial Group, Inc.		
Regions Financial Corporation		
Santander Holdings USA, Inc.		
State Street Corporation		
SunTrust Banks, Inc.		
U.S. Bancorp		
Wells Fargo & Co.		
Zions Bancorporation		

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of capital ratios. The tables include the minimum ratios assuming the capital actions originally submitted in January 2015 by the bank holding companies (BHCs) in their annual capital plans and the minimum ratios incorporating any adjustments to capital distributions made by BHCs after reviewing the Federal Reserve's stress test projections and original planned capital distributions for those BHCs that did not make adjustments. The minimum capital ratios are for the period 2014:Q4 to 2016:Q4 and do not necessarily occur in the same quarter.

Source: Federal Reserve estimates in the severely adverse scenario.

Table C.2. All bank holding companies

Projected minimum tier 1 common ratio, 2014:Q4 to 2016:Q4

Federal Reserve estimates: Adverse scenario

Bank holding company	Stressed ratio with original planned capital actions	Stressed ratio with adjusted planned capital actions
Ally Financial Inc.		
American Express Company		
Bank of America Corporation		
The Bank of New York Mellon Corporation		
BB&T Corporation		
BBVA Compass Bancshares, Inc.		
BMO Financial Corp.		
Capital One Financial Corporation		
Citigroup Inc.		
Comerica Incorporated		
Deutsche Bank Trust Corporation		
Discover Financial Services		
Fifth Third Bancorp		
The Goldman Sachs Group, Inc.		
HSBC North America Holdings Inc.		
Huntington Bancshares Incorporated		
JPMorgan Chase & Co.		
KeyCorp		
M&T Bank Corporation		
Morgan Stanley		
MUFG Americas Holdings Corporation		
Northern Trust Corporation		
The PNC Financial Services Group, Inc.		
RBS Citizens Financial Group, Inc.		
Regions Financial Corporation		
Santander Holdings USA, Inc.		
State Street Corporation		
SunTrust Banks, Inc.		
U.S. Bancorp		
Wells Fargo & Co.		
Zions Bancorporation		

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of capital ratios. The tables include the minimum ratios assuming the capital actions originally submitted in January 2015 by the bank holding companies (BHCs) in their annual capital plans and the minimum ratios incorporating any adjustments to capital distributions made by BHCs after reviewing the Federal Reserve's stress test projections and original planned capital distributions for those BHCs that did not make adjustments. The minimum capital ratios are for the period 2014:Q4 to 2016:Q4 and do not necessarily occur in the same quarter.

Source: Federal Reserve estimates in the adverse scenario.

Table C.3. Advanced Approaches BHC XYZ, Inc.

Minimum regulatory capital ratios and tier 1 common ratio, actual 2014:Q3 and projected 2014:Q4 to 2016:Q4

Federal Reserve estimates: Severely adverse scenario

Actual 2014:Q3 and projected capital ratios through 2016:Q4 under the severely adverse scenario

	Actual 2014:Q3	Minimum stressed ratios with original planned capital actions		Minimum stressed ratios with adjusted planned capital actions	
		2014:Q4	2015–16	2014:Q4	2015–16
Tier 1 common ratio (%)					
Common equity tier 1 capital ratio (%)					
Tier 1 risk-based capital ratio (%)					
Total risk-based capital ratio (%)					
Tier 1 leverage ratio (%)					

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of capital ratios. The tables include the minimum ratios assuming the capital actions originally submitted in January 2015 by the bank holding companies (BHCs) in their annual capital plans and the minimum ratios incorporating any adjustments to capital distributions made by BHCs after reviewing the Federal Reserve's stress test projections and original planned capital distributions for those BHCs that did not make adjustments. The minimum capital ratios are for the period 2014:Q4 to 2016:Q4 and do not necessarily occur in the same quarter.

Required minimum capital ratios for advanced approaches BHCs in CCAR 2015

Regulatory ratio	2014:Q4	2015–16
Tier 1 common ratio[1]	5 percent	5 percent
Common equity tier 1 capital ratio	4 percent	4.5 percent
Tier 1 risk-based capital ratio	5.5 percent	6 percent
Total risk-based capital ratio	8 percent	8 percent
Tier 1 leverage ratio	4 percent	4 percent

Note: For purposes of CCAR 2015, an advanced approaches BHC includes any BHC that has consolidated assets greater than or equal to $250 billion or total consolidated on-balance sheet foreign exposure of at least $10 billion as of December 31, 2013. See 12 CFR 217.100(b)(1); 12 CFR part 225, appendix G, section 1(b). Other BHCs include any BHC that is subject to 12 CFR 225.8 and is not an advanced approaches BHC.

[1] The tier 1 common ratio is to be calculated using the definitions of tier 1 capital and total risk-weighted assets in 12 CFR part 225, appendix A. All other ratios are calculated in accordance with the transition arrangements provided in the Board's revised regulatory capital framework (12 CFR 217).

Table C.4. Advanced Approaches BHC XYZ, Inc.

Minimum regulatory capital ratios and tier 1 common ratio, actual 2014:Q3 and projected 2014:Q4 to 2016:Q4

Federal Reserve estimates: Adverse scenario

Actual 2013:Q4 and projected capital ratios through 2016:Q4 under the adverse scenario

	Actual 2014:Q3	Minimum stressed ratios with original planned capital actions		Minimum stressed ratios with adjusted planned capital actions	
		2014:Q4	2015–16	2014:Q4	2015–16
Tier 1 common ratio (%)					
Common equity tier 1 capital ratio (%)					
Tier 1 risk-based capital ratio (%)					
Total risk-based capital ratio (%)					
Tier 1 leverage ratio (%)					

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of capital ratios. The tables include the minimum ratios assuming the capital actions originally submitted in January 2015 by the bank holding companies (BHCs) in their annual capital plans and the minimum ratios incorporating any adjustments to capital distributions made by BHCs after reviewing the Federal Reserve's stress test projections and original planned capital distributions for those BHCs that did not make adjustments. The minimum capital ratios are for the period 2014:Q4 to 2016:Q4 and do not necessarily occur in the same quarter.

Required minimum capital ratios for advanced approaches BHCs in CCAR 2015

Regulatory ratio	2014:Q4	2015–16
Tier 1 common ratio[1]	5 percent	5 percent
Common equity tier 1 capital ratio	4 percent	4.5 percent
Tier 1 risk-based capital ratio	5.5 percent	6 percent
Total risk-based capital ratio	8 percent	8 percent
Tier 1 leverage ratio	4 percent	4 percent

Note: For purposes of CCAR 2015, an advanced approaches BHC includes any BHC that has consolidated assets greater than or equal to $250 billion or total consolidated on-balance sheet foreign exposure of at least $10 billion as of December 31, 2013. See 12 CFR 217.100(b)(1); 12 CFR part 225, appendix G, section 1(b). Other BHCs include any BHC that is subject to 12 CFR 225.8 and is not an advanced approaches BHC.

1 The tier 1 common ratio is to be calculated using the definitions of tier 1 capital and total risk-weighted assets in 12 CFR part 225, appendix A. All other ratios are calculated in accordance with the transition arrangements provided in the Board's revised regulatory capital framework (12 CFR 217).

Table C.5. Other BHC ABC, Inc.

Minimum regulatory capital ratios and tier 1 common ratio, actual 2014:Q3 and projected 2014:Q4 to 2016:Q4

Federal Reserve estimates: Severely adverse scenario

Actual 2014:Q3 and projected capital ratios through 2016:Q4 under the severely adverse scenario

	Actual 2014:Q3	Minimum stressed ratios with original planned capital actions		Minimum stressed ratios with adjusted planned capital actions	
		2014:Q4	2015–16	2014:Q4	2015–16
Tier 1 common ratio (%)					
Common equity tier 1 capital ratio (%)	n/a	n/a		n/a	
Tier 1 risk-based capital ratio (%)					
Total risk-based capital ratio (%)					
Tier 1 leverage ratio (%)					

Note: These projections represent hypothetical estimates that involve an economic outcome that is more severely adverse than expected. These estimates are not forecasts of capital ratios. The tables include the minimum ratios assuming the capital actions originally submitted in January 2015 by the bank holding companies (BHCs) in their annual capital plans and the minimum ratios incorporating any adjustments to capital distributions made by BHCs after reviewing the Federal Reserve's stress test projections and original planned capital distributions for those BHCs that did not make adjustments. The minimum capital ratios are for the period 2014:Q4 to 2016:Q4 and do not necessarily occur in the same quarter.

n/a Not applicable.

Required minimum capital ratios for other BHCs in CCAR 2015

Regulatory ratio	2014:Q4	2015–16
Tier 1 common ratio[1]	5 percent	5 percent
Common equity tier 1 capital ratio	n/a	4.5 percent
Tier 1 risk-based capital ratio	4 percent	6 percent
Total risk-based capital ratio	8 percent	8 percent
Tier 1 leverage ratio	3 or 4 percent	4 percent

Note: For purposes of CCAR 2015, an advanced approaches BHC includes any BHC that has consolidated assets greater than or equal to $250 billion or total consolidated on-balance sheet foreign exposure of at least $10 billion as of December 31, 2013. See 12 CFR 217.100(b)(1); 12 CFR part 225, appendix G, section 1(b). Other BHCs include any BHC that is subject to 12 CFR 225.8 and is not an advanced approaches BHC.

1 The tier 1 common ratio is to be calculated using the definitions of tier 1 capital and total risk-weighted assets in 12 CFR part 225, appendix A. All other ratios are calculated in accordance with the transition arrangements provided in the Board's revised regulatory capital framework (12 CFR 217).

n/a Not applicable.

Table C.6. Other BHC ABC, Inc.

Minimum regulatory capital ratios and tier 1 common ratio, actual 2014:Q3 and projected 2014:Q4 to 2016:Q4

Federal Reserve estimates: Adverse scenario

Actual 2014:Q3 and projected capital ratios through 2016:Q4 under the adverse scenario

	Actual 2014:Q3	Minimum stressed ratios with original planned capital actions		Minimum stressed ratios with adjusted planned capital actions	
		2014:Q4	2015–16	2014:Q4	2015–16
Tier 1 common ratio (%)					
Common equity tier 1 capital ratio (%)	n/a	n/a		n/a	
Tier 1 risk-based capital ratio (%)					
Total risk-based capital ratio (%)					
Tier 1 leverage ratio (%)					

Note: These projections represent hypothetical estimates that involve an economic outcome that is more adverse than expected. These estimates are not forecasts of capital ratios. The tables include the minimum ratios assuming the capital actions originally submitted in January 2015 by the bank holding companies (BHCs) in their annual capital plans and the minimum ratios incorporating any adjustments to capital distributions made by BHCs after reviewing the Federal Reserve's stress test projections and original planned capital distributions for those BHCs that did not make adjustments. The minimum capital ratios are for the period 2014:Q4 to 2016:Q4 and do not necessarily occur in the same quarter.

n/a Not applicable.

Required minimum capital ratios for other BHCs in CCAR 2015

Regulatory ratio	2014:Q4	2015–16
Tier 1 common ratio[1]	5 percent	5 percent
Common equity tier 1 capital ratio	n/a	4.5 percent
Tier 1 risk-based capital ratio	4 percent	6 percent
Total risk-based capital ratio	8 percent	8 percent
Tier 1 leverage ratio	3 or 4 percent	4 percent

Note: For purposes of CCAR 2015, an advanced approaches BHC includes any BHC that has consolidated assets greater than or equal to $250 billion or total consolidated on-balance sheet foreign exposure of at least $10 billion as of December 31, 2013. See 12 CFR 217.100(b)(1); 12 CFR part 225, appendix G, section 1(b). Other BHCs include any BHC that is subject to 12 CFR 225.8 and is not an advanced approaches BHC.

1 The tier 1 common ratio is to be calculated using the definitions of tier 1 capital and total risk-weighted assets in 12 CFR part 225, appendix A. All other ratios are calculated in accordance with the transition arrangements provided in the Board's revised regulatory capital framework (12 CFR 217).

n/a Not applicable.