Comprehensive Capital Analysis and Review: Objectives and Overview

March 18, 2011

Board of Governors of the Federal Reserve System

I. Executive Summary

The Comprehensive Capital Analysis and Review (CCAR) involved the Federal Reserve's forward-looking evaluation of the internal capital planning processes of large, complex bank holding companies and their proposals to undertake capital actions in 2011, such as increasing dividend payments or repurchasing or redeeming stock. On November 17, 2010, the Federal Reserve issued guidelines to provide a common, conservative approach to ensure that these bank holding companies hold adequate capital to maintain ready access to funding, continue operations and meet their obligations to creditors and counterparties, and continue to serve as credit intermediaries, even under adverse conditions.[1] Nineteen large bank holding companies submitted comprehensive capital plans and additional supervisory information to the Federal Reserve in early January.[2] The Federal Reserve evaluated these plans across five areas of supervisory consideration. These are the bank holding company's

1. Capital assessment and planning processes;
2. Capital distribution policy;
3. Plans to repay any government investment;
4. Ability to absorb losses under several scenarios; and
5. Plans for addressing the expected impact of Basel III and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank Act).

The purpose of this paper is to provide an overview of the methodology that the Federal Reserve used in reviewing these five areas; a description of the CCAR's supervisory context, including an explanation of how its results should be interpreted; an explanation of the CCAR's connection with the Supervisory Capital Assessment Program (SCAP) and stress testing requirements mandated under the Dodd-Frank Act; and the Federal Reserve's expectations regarding disclosure of the CCAR's results.

Not all of the 19 bank holding companies proposed an increase in capital distributions in connection with the CCAR. Bank holding companies that did propose increased capital distributions in

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[1] Board of Governors of the Federal Reserve System. "Revised Temporary Addendum to SR Letter 09-4: Dividend Increases and Other Capital Distributions for the 19 Supervisory Capital Assessment Program Bank Holding Companies." November 17, 2010. Available at: http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904_Addendum.pdf

[2] The 19 bank holding companies participating in the 2011 CCAR are: Ally Financial Inc., American Express Company, Bank of America Corporation, The Bank of New York Mellon Corporation, BB&T Corporation, Capital One Financial Corporation, Citigroup Inc., Fifth Third Bancorp, The Goldman Sachs Group, Inc., JPMorgan Chase & Co., Keycorp, MetLife, Inc., Morgan Stanley, The PNC Financial Services Group, Inc., Regions Financial Corporation, State Street Corporation, SunTrust Banks, Inc., U.S. Bancorp, and Wells Fargo & Company. These 19 firms also participated in the 2009 SCAP.

2011 will be informed no later than March 21st of whether or not the Federal Reserve has any objection to the increases in 2011 capital distributions proposed in the plan. The Federal Reserve's decision to object or not object to a firm's proposed capital actions will be based on an assessment of the full range of elements in the capital plan. As a result, it is possible that the Federal Reserve may object to a firm's proposed capital actions even though the firm may be able to adequately support some increase in distributions, if, for instance, the Federal Reserve determines that the firm's capital planning and management processes do not fully meet supervisory expectations, its plans for meeting the upcoming Basel III capital standards were not robust, or the amount of the proposed distribution would weaken the firm's ability to weather adverse economic conditions. Conversely, non-objection to a capital action by the Federal Reserve does not mean that the Federal Reserve endorses the banking company's strategy or believes that there are no improvements that could and should be made to its internal capital planning processes. If the Federal Reserve does not object to the proposed increase in capital distributions, the firm will then have the Federal Reserve's concurrence to conduct its proposed 2011 capital distributions, subject to the Federal Reserve's ongoing monitoring of its financial condition and operating environment.

II. Objectives of the CCAR

Capital is central to a bank holding company's ability to absorb unexpected losses and continue to lend to creditworthy businesses and consumers. The Federal Reserve expects large, complex bank holding companies to hold sufficient capital to maintain access to funding, to continue to serve as credit intermediaries, to meet their obligations to creditors and counterparties, and to continue operations, even in an adverse environment. This expectation is consistent with ensuring that these firms are financially robust individually, and also with limiting the risks to the financial system from spillovers among these and other financial institutions. As such, large bank holding companies' processes for managing and allocating their capital resources are critical not only to their individual health and performance, but also to the stability and effective functioning of the U.S. financial system.

The CCAR represents a substantial strengthening of the Federal Reserve's approach to ensuring that large bank holding companies have thorough and robust processes for managing and allocating their capital resources, and that these are supported by effective risk measurement and management practices. The CCAR builds on lessons learned during the financial crisis about the importance of taking a forward-looking and comprehensive approach to assessing capital adequacy, including an assessment of the level and composition of a banking organization's capital resources under stressed economic and financial market conditions. As such, the CCAR significantly expands upon more traditional approaches to assessing capital adequacy. The CCAR's forward-looking evaluation encompasses both quantitative analysis and qualitative reviews of large bank holding companies' processes for assessing, and strategies for managing, their capital resources, rather than focusing on static comparisons of current capital amounts relative to regulatory minimum requirements, internal management targets, and capital levels at peer institutions. In addition, while traditional approaches have tended to evaluate individual capital actions in isolation at a fixed point in time, the CCAR takes a longer-run, comprehensive view of a firm's strategy and management of its capital resources over a two-year period. Finally, the CCAR expands upon traditional practices by undertaking this assessment of the largest U.S. bank holding companies at the same time, thus allowing the process to be informed by a horizontal perspective of the financial condition of, and outlook for, these firms.

As a result of the CCAR, the Federal Reserve has developed a deeper understanding of the processes by which large bank holding companies form and monitor their assessments and expectations for maintaining appropriate capital, and the appropriateness of their planned actions and policies for returning capital to shareholders. The Federal Reserve expects to engage with large bank holding companies on a regular basis to understand their capital assessments and expected capital actions, and to ensure that planned capital actions are well supported and consistent with the firms' own policies and processes, as well as with Federal Reserve expectations, as outlined in both regulations and supervisory guidance. The CCAR will provide the Federal Reserve with the information and perspective needed to help ensure that large bank holding companies have strong, firm-wide risk measurement and management processes supporting their internal assessments of capital adequacy and that their capital resources are sufficient given their business focus, activities, and resulting risk exposures. It is important to note that this process is also complemented by a range of other supervisory efforts by the Federal Reserve aimed at enhancing the continued viability of large bank holding companies, including continuous monitoring of bank holding companies' planning and management of liquidity and funding resources, and regular assessments of credit, market and operational risks, and associated risk management practices.

A key innovation in the CCAR is the expectation that large bank holding companies submit annual comprehensive capital plans to the Federal Reserve. These plans will describe their strategies for managing their capital over a 24-month, forward planning horizon. While the specific elements of the plan may evolve over time, some of the key components are:

- A description of the firm's current regulatory capital base, including key contractual terms of its capital instruments and any management plans to retire, refinance, or replace the instruments over the planning horizon.
- A description of all planned capital actions (e.g., dividends, share repurchases, and issuances), as well as anticipated changes in the banking company's risk profile, business strategy, or corporate structure over the planning horizon.
- A description of the bank holding company's processes and policies for determining the size of dividend and common stock repurchase programs under different operating conditions.
- The firm's assessment of potential losses, earnings, and other resources available to absorb such losses under stressed economic and financial market environments, and the resulting impact on a firm's capital adequacy and capital needs over the planning horizon.
- An assessment, accompanied by supporting analysis, of the capital needed by the firm on a post-stress basis to continue operations, meet its obligations, and function as a credit intermediary.

Importantly, the Federal Reserve expects plans to be approved by the bank holding company's board of directors before being submitted. Consistent with their fiduciary and governing responsibilities, boards of directors have the final approval authority and are fully responsible for their firms' capital assessments and plans. The CCAR is one of the key methods through which the Federal Reserve will hold bank holding companies – and their boards – to high standards in the critically important areas of assessing capital needs based on all of the firm's activities and firm-wide risk exposures and ensuring that the firm makes decisions that can impact capital based on strong capital planning and management practices.

The Supervisory Context for the CCAR

The Federal Reserve's analysis of large bank holding companies' comprehensive capital plans will enhance supervisors' understanding of the underlying processes used by firms to assess the adequacy of the size and composition of capital relative to the risks faced by the firm. An important element of these processes is the capacity of management to calibrate an appropriate internal target level of capital and to take actions consistent with the maintenance of the internal target over time. The results of these comprehensive capital plan reviews will serve as inputs into the Federal Reserve's development of its supervisory strategy for these firms, as well as for the formulation and communication of required remediation actions aimed at enhancing key risk management practices and internal capital assessment processes wherever those practices and processes are found lacking. Because the Federal Reserve will be undertaking a coordinated review of the capital plans for the largest bank holding companies on an annual basis, supervisory reviews, such as the CCAR, permit a regular, in-depth horizontal assessment of capital adequacy, and capital assessment and planning practices across the largest U.S. bank holding companies. These exercises will afford supervisors an invaluable perspective on capital adequacy across the largest firms and on the range of effectiveness of capital planning practices across a set of firms that hold a large fraction of the assets of the U.S. banking system.

The CCAR builds on a series of steps taken by the Federal Reserve to foster improved risk management, capital management, and strengthened capital resources at the largest bank holding companies. The Federal Reserve has issued guidance to U.S. bank holding companies requiring them to have robust processes for assessing their capital needs, including strong firm-wide risk measurement and management practices to support capital adequacy assessments and appropriate governance and controls involving senior management participation and approval by the board of directors.[3] This guidance has been accompanied by a sustained and systematic program of Federal Reserve supervisory review and assessment of large bank holding companies' internal capital adequacy processes (CAPs) that has encouraged increased focus on, and understanding by, senior management and boards of directors of potential capital needs, including under adverse scenarios.

These efforts, as well as a series of other actions taken since the onset of the recent financial crisis, have substantially contributed to a significant increase in the amount of common equity held by the largest bank holding companies. The 19 bank holding companies that participated in the SCAP increased common equity by more than $300 billion from Q4 2008 through the end of 2010, including the equity raised in connection with the redemption of U.S. government investments under the Troubled Asset Relief Program (TARP). There has also been meaningful accretion of common equity by a number of large bank holding companies that have earned profits during recent quarters, but that have made only limited distributions to shareholders, in accordance with Federal Reserve guidance

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[3] See Board of Governors of the Federal Reserve System. "Assessing Capital Adequacy in Relation to Risk at Large Banking Organizations and Others With Complex Risk Profiles." Supervisory Letter SR 99-18 (Sup). July 1, 1999. Available at http://www.federalreserve.gov/boarddocs/srletters/1999/SR9918.HTM; "Applying Supervisory Guidance and Regulations on the Payments of Dividends, Stock Redemptions and Stock Repurchases at Bank Holding Companies." Supervisory Letter SR 09-4. February 24, 2009 – revised March 27, 2009. Available at: http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904.htm; and "Revised Temporary Addendum to SR Letter 09-4: Dividend Increases and Other Capital Distributions for the 19 Supervisory Capital Assessment Program Bank Holding Companies." November 17, 2010. Available at : http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904_Addendum.pdf

regarding such distributions.[4] In total, the 19 SCAP bank holding companies have added roughly $25 billion in retained earnings to common equity since the end of 2008.[5] Overall, both the quantity and quality of capital at many large bank holding companies have improved since the financial crisis, with the weighted average Tier 1 common ratio for the 19 SCAP bank holding companies rising from 5.4 percent as of 4Q 2008 to 9.4 percent as of 4Q 2010, reflecting an overall increase in Tier 1 common capital of $275 billion at these firms.[6] Finally, the Federal Reserve has worked with domestic and international colleagues through the Basel Committee on Banking Supervision (BCBS) to strengthen international regulatory capital standards. A bank holding company's plan for meeting these enhanced capital standards is one of the key elements of the 2011 CCAR.

With an improving economy and many large bank holding companies in a stronger financial condition, and with more clarity about the future regulatory environment following the completion of the Basel III agreement and the adoption of the Dodd-Frank Act, some firms have expressed interest in resuming or increasing capital distributions such as dividend payments and common stock repurchases. The Federal Reserve is taking a measured and conservative approach in considering such capital distributions by the largest bank holding companies, given continued uncertainty around the pace and strength of the economic recovery in the United States and abroad, and the extraordinary nature of the 2007--2009 financial crisis. In keeping with this approach, requests for increased capital distributions in 2011 by the largest U.S. bank holding companies were evaluated as part of the 2011 CCAR. That is, these requests were considered as one element of the comprehensive capital plans submitted by these firms and were evaluated in the broader context of the Federal Reserve's assessment of the overall capital adequacy processes, governance, and capital resources at these bank holding companies. As discussed below, the framework used for evaluating capital distribution requests extends beyond a

[4] See Board of Governors of the Federal Reserve System "Applying Supervisory Guidance and Regulations on the Payments of Dividends, Stock Redemptions and Stock Repurchases at Bank Holding Companies." Supervisory Letter SR 09-4. February 24, 2009 – revised March 27, 2009. Available at: http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904.htm; and "Revised Temporary Addendum to SR Letter 09-4: Dividend Increases and Other Capital Distributions for the 19 Supervisory Capital Assessment Program Bank Holding Companies." November 17, 2010. Available at : http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904_Addendum.pdf

[5] These data are derived from the Federal Reserve Y-9C reports, which contain quarterly balance sheet and income statement data for bank holding companies.

[6] The Tier 1 common ratio is the ratio of Tier 1 common capital – defined as common equity minus Tier 1 deductions – to risk-weighted assets. Both Tier 1 common capital and risk-weighted assets are calculated using existing definitions of capital. See 12 CFR part 225, Appendix A.

mechanical consideration of the impact of the proposed action on the firms' post-stress capital, though such results nonetheless played a key role in this process.

Outcome of the 2011 CCAR

Each of the participating bank holding companies that requested increased capital distributions in 2011 will be informed no later than March 21st of whether or not the Federal Reserve has any objection to the increases in 2011 capital distributions proposed in its comprehensive capital plan. If the Federal Reserve does not object to any increased capital distributions contained in a firm's plan, the firm will then have the Federal Reserve's concurrence to conduct its proposed 2011 capital distributions, subject to the Federal Reserve's ongoing monitoring of its financial condition and operating environment. In contrast, if the Federal Reserve objects to any increased capital distributions contained in a firm's plan, then the banking company will not have the Federal Reserve's concurrence to increase its capital distributions beyond existing levels. In such a case, the firm has the option of resubmitting a revised plan for consideration as early as the second quarter of 2011. Bank holding companies will be expected to address any supervisory concerns with the initial plans as part of their resubmissions.

A firm's proposed capital actions were evaluated and will be objected to (or not objected to) in their entirety on the basis of the Federal Reserve's review and assessment of its overall comprehensive capital plan, as well as on the extent of other supervisory concerns such as unresolved risk management weaknesses. This approach is consistent with the view that a firm's comprehensive capital plan should incorporate its best forward-looking projections of capital resources and uses under a range of macroeconomic and financial market scenarios, grounded in robust capital planning and management processes, and reflecting sound capital distribution policies, as governed and approved by the bank holding company's boards of directors.

The Federal Reserve's decision to object or not object to a firm's proposed capital actions will be based on the full range of elements in the capital plan. One or more of the capital plan elements could be acceptable or strong, but the Federal Reserve might still object to a firm's proposed capital actions based on weak or unacceptable performance on one or more of the other dimensions. As a result, it is possible that the Federal Reserve may object to a firm's proposed capital actions even though the firm may be able to adequately support some increase in distributions, if, for example, the Federal Reserve determines that the firm's capital planning and management processes did not fully meet supervisory expectations or its plans for meeting the upcoming Basel III capital standards were not robust.

Conversely, non-objection to a capital action by the Federal Reserve does not mean that the Federal Reserve endorses the banking company's strategy or believes that there are no improvements that could and should be made to its internal capital planning processes. Further, non-objection to proposed capital distributions does not mean that larger capital distributions, had they been proposed, would have been accepted.

Although the 2011 comprehensive capital plans include projections over a planning horizon that extends until year-end 2012, the Federal Reserve's concurrence only extends to 2011 capital distributions. Planned capital distributions for 2012 were evaluated for information purposes, to help better understand each banking company's longer term capital management strategy, and to assess stressed capital levels over a two-year horizon. As such, the Federal Reserve would be assessing 2012 capital actions as part of our supervisory reviews of capital in 2012. Nonetheless, any projected 2012 capital distributions that raise supervisory concerns will be highlighted in feedback provided to the firms.

The Federal Reserve may require some or all firms to submit revised comprehensive capital plans with revised capital distribution proposals should economic or financial market conditions deteriorate relative to those anticipated at the times the original plans were developed. In addition, the bank holding companies participating in the CCAR will be monitored by the Federal Reserve to ensure that their performance and financial condition do not deviate substantially from the projections contained in their comprehensive capital plans. Federal Reserve guidance advises firms to update and resubmit their capital plans "to reflect any material change in the firm's risk profile, business strategy, or corporate structure."[7] Supervisors will expect the firms to closely monitor performance relative to plan, to evaluate changes in economic and financial market conditions and relevant idiosyncratic risks, changes in the outlook for the operating environment, and to proactively adjust capital distributions as circumstances warrant.

The Federal Reserve's analysis of the firms' dividend and repurchase policies considered quantitative and qualitative criteria established by each firm for promptly reconsidering capital distributions, including the presence or absence of defined triggers and specified actions to reduce distributions under adverse conditions. This will be a specific area of focus for supervisors going

[7] Board of Governors of the Federal Reserve System. "Revised Temporary Addendum to SR Letter 09-4: Dividend Increases and Other Capital Distributions for the 19 Supervisory Capital Assessment Program Bank Holding Companies." November 17, 2010. Available at : http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904_Addendum.pdf

forward, and the Federal Reserve will take steps to ensure that firms have appropriate internal constraints on capital distributions in place.

At the end of April, all 19 bank holding companies participating in the CCAR will receive detailed assessments of their comprehensive capital plans and internal capital assessment processes, including feedback on areas where the plans and processes need to be strengthened. This feedback will cover the major elements of the 2011 capital plans. These assessments will form the basis of the Federal Reserve's supervisory strategy for requiring the firm to strengthen its capital planning processes.

III. Details of the 2011 Comprehensive Capital Review Process

For the 2011 CCAR, all 19 SCAP bank holding companies were required to submit a comprehensive capital plan to the Federal Reserve by January 7, 2011, regardless of whether the firm was contemplating renewed or increased capital distributions in 2011.

The Federal Reserve reviewed and assessed all aspects of the comprehensive capital plans submitted by the 19 large bank holding companies. The reviews were conducted by a range of Federal Reserve staff, including senior bank supervisors, financial analysts, accounting and legal experts, economists, risk management specialists, financial risk modelers, regulatory capital analysts, and the on-site examiners responsible for each of the 19 institutions. This multi-disciplinary approach brought diverse perspectives to the Federal Reserve's assessment of these plans. The Federal Reserve also consulted with the firms' primary federal bank regulators when assessing the capital adequacy of the bank holding companies and with the Federal Deposit Insurance Corporation (FDIC) for those firms with outstanding Temporary Liquidity Guarantee Program (TLGP) debt.

The 2011 CCAR assessed five distinct aspects of the firms' comprehensive capital plans. The questions addressed were:

- Capital Adequacy Processes (CAP) assessment – does the bank holding company have effective processes for planning, managing, and allocating its capital resources and for assessing whether capital is adequate to withstand a stressful economic environment, and are those processes supported by adequate firm-wide risk management and measurement practices?
- Capital distribution policy – does the bank holding company have an acceptable policy and process governing dividends, repurchases, and any other distributions to common shareholders that is informed by considerations of its future performance?

- Government investment repayment – does the bank holding company have a credible and realistic plan that will result in the repayment of any U.S. government investment before beginning or increasing capital distributions to common shareholders?
- Stress scenario analysis – does the bank holding company have sufficient capital, incorporating all proposed capital actions, to remain viable and healthy even under a stressful economic environment?
- Basel III/Dodd-Frank plan – does the bank holding company have a credible plan for meeting the new regulatory capital requirements embodied in Basel III and to address the regulatory capital implications of the Dodd-Frank Act?

Some of these questions address elements that will be included in comprehensive capital plans submitted in future years, while others are more specific to current circumstances and thus might not be a permanent part of future CCAR exercises. For instance, review and assessment of the firms' CAPs, composition of capital, assessment of their capital distribution policies, and stress scenario analysis are critical components of the assessment of any comprehensive capital plan. In contrast, a firm's plans for Basel III and Dodd-Frank implementation, as well as plans for repaying government capital investments, would be included only as long as these issues continue to play an important role in assessing large bank holding companies' capital adequacy and internal capital planning and management processes. Over time, other issues may become central to this analysis, and the Federal Reserve would expect firms' comprehensive capital plans to address those issues as warranted. Similarly, even for those elements that are considered consistent features of the comprehensive capital plans, the particular expectations and details of how those elements are implemented and evaluated by the Federal Reserve will evolve over time, reflecting changes in financial market and economic conditions and innovations in risk management and measurement practices. This kind of evolution is consistent with the CCAR's role as an ongoing supervisory process.

In the 2011 CCAR, the five questions outlined above were assessed across all 19 bank holding companies, taking both firm-specific and horizontal perspectives on the responses and information provided in the plans. The assessments drew on prior analyses developed during ongoing Federal Reserve supervisory efforts. In addition, the 19 firms were asked to submit a significant volume of supporting analysis and supplementary data to assist in the evaluation of their plans.

The following sections provide a more detailed overview of the approaches taken to assess these five questions. Some of the questions were examined jointly since they touch on separate, but closely related issues addressed in the comprehensive capital plans. In particular, the sections describe Federal Reserve analysis of (1) CAPs and capital distribution policies; (2) stress scenario analysis and government investment repayment plans; and (3) Basel III and Dodd-Frank plans.

Capital Adequacy Processes and Capital Distribution Policies

The focus of these efforts was on evaluating the processes each firm has in place to assess its capital needs and manage its capital resources, and how well the firm's policies and procedures are implemented and governed by senior management and the board of directors. More specifically, the analysis focused on the effectiveness of firm-wide risk management and measurement practices, governance over internal capital adequacy assessments, and the completeness and comprehensiveness of the capital plans and capital planning processes. The assessment of completeness focused on the extent to which the stress scenario analysis performed by the firms in support of their capital plans fully captured the firms' material risks.

The assessments drew critically from the Federal Reserve's ongoing supervisory program for examining firms' CAPs. This helped ensure that the assessments made were consistent with existing safety and soundness expectations, as expressed in current supervisory guidance.[8] In particular, the assessments considered the strength of firm-wide risk management and measurement capabilities, including the quality of information provided by information management systems, and the comprehensiveness of the firm's stress scenario analysis. This assessment specifically considered:

- The extent to which the board of directors and senior management relied upon a robust analytical framework that weighed the appropriateness of proposed capital distributions against the inherent uncertainty in the economic outlook and the firm's financial performance.
- Whether the capital plan was supported by an effective process for translating firm-wide risk exposures into estimates of potential losses in an adverse environment.
- The extent to which the capital plans were supported by a stress scenario analysis framework that considered a range of economic, financial market, and operational events and outcomes.

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[8] See Board of Governors of the Federal Reserve System "Applying Supervisory Guidance and Regulations on the Payments of Dividends, Stock Redemptions and Stock Repurchases at Bank Holding Companies." Supervisory Letter SR 09-4. February 24, 2009 – revised March 27, 2009. Available at: http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904.htm; "Revised Temporary Addendum to SR Letter 09-4: Dividend Increases and Other Capital Distributions for the 19 Supervisory Capital Assessment Program Bank Holding Companies." November 17, 2010. Available at : http://www.federalreserve.gov/boarddocs/srletters/2009/SR0904_Addendum.pdf.

- Whether this stress scenario analysis framework effectively brought together estimates of potential stressed losses, and earnings and other resources available to absorb those losses in an adverse environment, and consideration of the resulting impact on capital needs.
- Whether the firm's dividend and repurchase policies enumerate quantitative and qualitative criteria for promptly reconsidering capital distributions in the event of a deteriorating operating environment or economic outlook.

Additionally, governance over the capital planning and management process was further assessed through the lens of each firm's dividend and share repurchase policy, with emphasis on how judgments on distributions were informed and were expected to differ under baseline projections and more adverse conditions. In particular, these attributes of a firm's policy were evaluated relative to existing minimum supervisory expectations (outlined in SR Letter 09-4) and the proposed distributions captured in each of the firm's own defined baseline and stress scenario submissions. This information proved useful in identifying areas where firms' policies and underlying processes could be improved.

Stress Scenario Analysis and Government Investment Repayment Plans

The bank holding companies participating in the CCAR were asked to provide quarterly projections of their revenues, losses, and pro forma capital positions over a 9-quarter period from 4Q 2010 to 4Q 2012 under three scenarios. The key outputs of this stress scenario analysis are quarterly projections of a firm's regulatory capital ratios – the Tier 1 ratio, the total capital ratio, and leverage ratio – as well as a Tier 1 common ratio similar to that used in the SCAP, over the 9-quarter planning horizon.[9] The three scenarios are a baseline scenario generated by the bank holding company and reflecting its expectations of the most likely path of the economy; a stress scenario generated by the bank holding company that is tailored to stress its key sources of revenue and most vulnerable sources of loss; and an adverse "supervisory stress scenario" generated by the Federal Reserve.

The supervisory stress scenario was intended to represent developments in a recession, with negative economic growth for at least a couple of quarters, a rise in unemployment, and a sharp drop in risky asset prices. The scenario covers the nine-quarter planning horizon of the stress scenario analysis

[9] The Tier 1 ratio is Tier 1 capital divided by risk-weighted assets; the total capital ratio is total regulatory capital (Tier 1 plus Tier 2 plus Tier 3) divided by risk-weighted assets; the leverage ratio is Tier 1 capital divided by average assets; and the Tier 1 common ratio is Tier 1 common capital (common equity minus Tier 1 deductions) divided by risk-weighted assets. All ratios are calculated using existing definitions of capital and risk-weighted assets. See 12 CFR part 225, Appendix A.

– 4Q 2010 to 4Q 2012 – and an additional four quarters through the end of 2013, to provide a basis for estimating loan losses and thus loan loss reserve needs at the end of the planning horizon. The scenario was developed in early November 2010, and is based upon the economic and financial market conditions prevailing at that time. Table 1 reports the key variables defining the supervisory stress scenario; the full scenario is available in the appendix.

Table 1
Supervisory Stress Scenario

	2011	2012	2013
Real GDP[1]	-1.5	2.4	3.4
Unemployment Rate[2]	11.0	10.6	9.6
National House Price Index[1]	-6.2	-4.1	2.7
Equity Price Index[1]	-27.8	36.9	15.9

1. Percent change over the four quarters ending in the fourth quarter of the year indicated.

2. Level in fourth quarter of year indicated.

In addition to the macroeconomic scenario provided by the Federal Reserve to all 19 bank holding companies, the six largest firms were required to estimate potential losses stemming from trading activities and private equity investments using the same severe global market shock scenario that was applied in the SCAP. Specifically, the firms estimated potential mark-to-market and default-related losses on trading and private equity positions and from exposures to trading and financing transaction counterparties. The scenario provided assumed an instantaneous revaluation of these positions that was based on the change in market risk factors from the end of June 2008 to the end of December 2008. The scenario required the six firms to assume that the deterioration in global markets that occurred over this period would occur in one day. This represents a very conservative scenario and by design allows for no offsetting benefits from any actions management at the firms might be able to take to mitigate losses from these exposures as the scenario unfolds.

As part of the exercise, the firms were required to specify by quarter all planned capital actions, including dividend payments, common share repurchases, conversions, and issuance, as well as expected changes in the firm's risk profile, business strategy, or corporate structure over the planning horizon. These capital actions also include any planned redemptions of remaining government capital investment (TARP investment) and associated capital actions, such as issuance of new common shares. Firms' plans to redeem these investments were evaluated as part of their overall planned capital actions. The Federal Reserve expects bank holding companies to complete the repayment of government investments and any associated issuance of common equity before increasing or renewing capital distributions to shareholders. Plans with dividend payout ratios above 30 percent of net income under the baseline scenario in 2011 received particularly close scrutiny and all plans were expected to demonstrate significant accretion of capital from earnings under the baseline scenario.

The bank holding companies were required to include the same capital distributions in the supervisory stress scenario that they included in the baseline scenario, so that the Federal Reserve could evaluate their ability to make their proposed capital distributions and remain viable and healthy even under adverse economic conditions. In reality, bank holding companies would be expected to reduce distributions under adverse conditions. However, the goal was to provide a rigorous test of a firm's health even if the economy deteriorated and the firm continued to make capital distributions. Under the firm-generated stress scenario, however, bank holding companies were allowed to adjust their capital distributions, and these adjusted distributions were used to help evaluate each firm's capital distribution policies.

A key component of the Federal Reserve's assessment of the firms' stress scenario results was comparing the bank holding companies' estimates of potential losses and the resources available to absorb losses (i.e., existing capital at the beginning of the period, pre-provision net revenues over the stress scenario time horizon, and any differences between the loan loss reserves in place at the beginning of the period and those needed for the 12 months afterward) with estimates made by the Federal Reserve. To aid in this process, the participating bank holding companies were asked to provide detailed information about loan and securities portfolios, the trading portfolio and its sensitivity to different market risk factors, and factors affecting future revenue-generating ability. Federal Reserve analysts used these data to develop and calibrate loss estimation models for different types of loans and securities. The participating bank holding companies submitted extensive documentation and supporting material describing their processes and empirical approaches to projecting losses, revenues, and other key components affecting capital over the planning horizon.

To test the sensitivity of the bank holding companies' projected pro forma capital ratios to alternative loss and earnings estimates, Federal Reserve analysts substituted supervisory loss or revenue projections for certain bank holding company projections. Pro forma capital ratios under the supervisory stress scenario were re-calculated using these supervisory loss and revenue estimates and a supervisory capital estimation model. The resulting adjusted pro forma capital ratio estimates were used to inform our assessments of the analysis supporting the firm-submitted numbers.

A key benchmark in the analysis was whether a bank holding company's adjusted Tier 1 common ratio exceeded a supervisory reference level of 5 percent on a pro forma, post-stress basis in each quarter over the planning horizon. This reference level reflects a supervisory assessment of the minimum capital needed for a banking company to continue to function and meet its obligations throughout the stress period and on a post-stress basis, based on an analysis of the historical distribution of earnings by large U.S. banking organizations. The reference level is above the 4 percent Tier 1 common ratio required in SCAP, reflecting an evolving supervisory assessment of the minimum capital needed to be confident that the firm can survive the stress period and continue to function on a post-stress basis. The Federal Reserve will continue to evaluate the appropriate reference level over time, in light of economic and financial market developments as well as regulatory developments such as the implementation of the Basel III capital agreement.

Basel III and Dodd-Frank Plans

While the Basel III framework has not yet been implemented in the United States, it represents a very significant strengthening of regulatory capital requirements with potentially important impacts at large bank holding companies. As such, the bank holding companies subject to the 2011 CCAR were asked to provide annual forecasts of selected regulatory and other capital ratios from 3Q 2010 through year-end 2012 or until the year in which the firm projects to meet Basel III target ratios under baseline conditions if that year is later than 2012.[10] Thus, each bank holding company provided projections covering at least two years. The capital ratios included in these projections are the Tier 1 common ratio, the Tier 1 ratio, and the Tier 1 leverage ratio, all calculated using the definitions of capital, risk-weighted assets, and leverage ratio assets in the Basel III framework. The firms were also asked to provide information regarding regulatory capital instruments, amounts of items such as intangibles subject to deduction or limits under the Basel III regulatory capital rules, estimates of risk weighted assets, and leverage exposures. For purposes of the CCAR, the bank holding companies were asked to provide estimates of capital ratios based on the Basel III capital framework as released by the BCBS in December 2010 on a fully phased-in basis, that is, not recognizing transition period provisions included in the international agreement.

In addition to numerical projections of the three capital ratios, the bank holding companies were also asked to detail the strategies they anticipate taking in response to Basel III and the provisions

[10] The Basel III fully phased-in target levels are 7 percent for the Tier 1 common ratio, 8.5 percent for the Tier 1 ratio, and 3 percent for the Tier 1 leverage ratio.

of the Dodd-Frank Act that preclude or restrict the inclusion of certain capital instruments in regulatory capital.[11] These strategies could include reducing or increasing certain types of positions or portfolios; sales of certain portfolios, securities, or other assets; improvements in risk modeling; or other changes in business focus or operations that would affect risk-weighted assets, leverage ratio assets, or capital.

Federal Reserve analysts used this information and an extensive review of supporting documentation to benchmark and review the estimates provided by the bank holding companies under baseline conditions. Analysts compared firm-generated estimates to Federal Reserve estimates adjusted to reflect uncertainty about some of the projections made by the bank holding companies. Adjustments were made when a particular strategy for reducing risk-weighted assets or increasing regulatory capital was deemed to be "high risk," due to factors such as uncertainty about realized sale prices of certain illiquid assets, or assets with highly volatile valuation histories, or uncertainty about a firm's ability to reduce risk-weighted assets by using improved risk measurement methodologies. Overall, the key benchmark was whether a bank holding company's pro forma (adjusted) Tier 1 common, Tier 1 and Tier 1 leverage ratios on a Basel III basis met the target levels of 7 percent, 8.5 percent, and 3 percent, respectively, according to the timeline specified by management for meeting the fully phased-in standards.

The primary objective in evaluating the bank holding companies' Basel III projections was to assess the reasonableness of their plans for satisfying the Basel III requirements. The goal was to provide a rigorous challenge to the firms' assumptions regarding their ability to take the steps necessary to meet more stringent capital requirements by identifying strategies and actions that might not yield the capital or risk-weighted asset impact projected by the firms. This analysis will provide the Federal Reserve with the information needed to evaluate whether bank holding companies are successfully enhancing their mitigation strategies in cases in which long transition periods may be needed and to follow-up with rigorous supervisory monitoring.

IV. The CCAR, the SCAP and Dodd-Frank Stress Test Provisions

While the comprehensive capital plans contain numerical estimates of the impact of adverse economic conditions on the companies' capital positions (i.e., "stress tests"), the plans are necessarily much broader in scope and objectives than simply reporting and explaining these calculations. Indeed, capital plans are intended to provide a comprehensive view of each firm's overall capital adequacy

[11] For instance, the Dodd-Frank Act generally excludes trust preferred securities ("TruPS") from the regulatory capital of large bank holding companies, following a transition period.

processes and to reinforce incentives for the firms themselves to take a comprehensive and forward-looking approach to assessing capital needs and developing appropriate capital plans. The analysis of these plans is a critical component of the Federal Reserve's framework for assessing firms' capital adequacy, a framework that builds on the insights gained during the recent financial crisis and the supervisory actions taken during that period, including the SCAP.

It is worth noting that the CCAR differs in some important ways from the SCAP and the forthcoming Dodd-Frank stress tests. The SCAP was focused on deriving supervisory stress test results to identify large bank holding companies with capital insufficient to weather a more adverse than anticipated economic environment while maintaining their capacity to lend. Firms identified as having such capital shortfalls were required to raise specific dollar amounts of capital within six months of the release of the SCAP results and a government backstop was in place if firms were unable to raise the required capital from private markets.[12] And while the precise regulations implementing the stress test provisions of the Dodd-Frank Act have not yet been finalized, the statute provides that the Board of Governors conduct an evaluation of whether certain large bank holding companies and nonbank financial institutions supervised by the Board of Governors "have the capital, on a total consolidated basis, necessary to absorb losses as a result of adverse economic conditions."[13] The Board of Governors is required to have these companies update their resolution plans based on the results and the Board must publish a summary of the stress test results.[14] The Dodd-Frank Act also requires these firms, as well as certain other financial companies, to conduct, respectively, semi-annual or annual stress tests of their own.[15]

The most significant difference between the CCAR and these other two programs is that the CCAR involves an evaluation not only of potential stressed capital levels, but also of the processes used by the firms to manage and assess their risks and capital adequacy on an ongoing and forward-looking basis. In both the SCAP and the Dodd-Frank stress test requirements, the main outcomes are the stress test results themselves. In contrast, the CCAR is a broad supervisory exercise, part of the Federal Reserve's ongoing efforts to ensure that large bank holding companies have robust internal processes for assessing capital adequacy and carrying out capital planning, as well as active board of directors

[12] See Board of Governors of the Federal Reserve System, "The Supervisory Capital Assessment Program: Overview of Results." May 7, 2009. Available at http://www.federalreserve.gov/bankinforeg/bcreg20090507a1.pdf.

[13] Dodd-Frank Act, section 165(i). 12 U.S.C. 5365; 124 Stat. 1423.

[14] Id.

[15] Id.

involvement in overseeing these processes and approving the plans. In other words, the CCAR rounds out the Federal Reserve's assessment of the overall capital adequacy of these firms. This assessment includes, but is much broader than, an assessment of stress scenario results and a firm's sensitivity to different assumptions about potential losses.

It is also worth noting that while all three of these efforts involve an evaluation of capital under stressed macroeconomic conditions, that evaluation is implemented in different ways across the three exercises. In SCAP and the Dodd-Frank requirements, the Federal Reserve did or will develop its own independent and complete estimates of pro forma capital ratios under stress. In CCAR, the Federal Reserve has developed and is using supervisory models as an analytical tool to inform its assessments of a bank holding company's processes and outcomes in estimating losses, revenues, and capital and of the firm's sensitivity to an adverse environment. In keeping with the CCAR's focus on evaluating the firm's capital planning and assessment process, the starting point for CCAR is the company's own analysis of its capital under baseline and stress scenarios, rather than being focused on independent supervisory estimates of capital adequacy under such scenarios.

V. Federal Reserve Disclosure of CCAR Results

In contrast to the 2009 SCAP, the Federal Reserve does not intend to disclose any firm-specific results from the CCAR. This reflects the different nature and purpose of the two exercises. In the SCAP, the Federal Reserve focused on generating consistent, independent supervisory estimates of the bank holding companies' capital in an adverse economic environment. The stress scenario analyses in the CCAR were performed by the firms, and assessed by the supervisors using a variety of robust modeling techniques.

Consistent with the overall supervisory goals of the CCAR, the focus of the Federal Reserve's stress scenario analysis and review was on assessing the sensitivity of the firms' own projections of capital under the baseline and stress scenarios to alternate assumptions and estimates. The Federal Reserve's development of independent supervisory estimates for losses and resources were central to the evaluation of the firms' capital plans, but the intensity and comprehensiveness of that analysis was tailored to each firm and portfolio depending on several factors, including the materiality of the estimate to the firm's post-stress capital position, the Federal Reserve's assessment of the reliability of the firm's internally generated estimates, and by how wide a margin the firm's estimates indicated it would meet the CCAR's quantitative criteria. The extent and nature of supervisory adjustments made to the firms' estimates therefore varied across institutions reflecting these factors. Thus, the CCAR stress scenario results do not lend themselves to direct, apples-to-apples comparisons like the results in the SCAP.

Appendix:
Supervisory Stress Scenario

Date	Real GDP	CPI	Real Disposable Personal Income	Unemployment Rate	3 Month T Bill Rate	10 yr Treasury Bond Rate	BBB Corporate Bond Rate	Dow Jones Total Stock Market Index	National House Price Index
Q3 2010	13,261	218.0	10,237	9.6	0.16	2.90	5.07	11,947	142
Q4 2010	13,332	219.0	10,271	9.6	0.16	2.57	4.69	12,069	140
Q1 2011	13,393	219.9	10,299	9.6	0.19	2.64	4.86	11,822	139
Q2 2011	13,255	220.9	10,318	10.1	0.07	2.66	5.88	9,116	137
Q3 2011	13,206	221.7	10,236	10.6	0.13	2.79	6.26	8,809	134
Q4 2011	13,138	222.3	10,179	11.0	0.13	2.77	6.46	8,716	132
Q1 2012	13,178	222.9	10,081	11.1	0.13	2.71	6.16	10,682	130
Q2 2012	13,229	223.4	10,054	11.0	0.13	2.98	6.27	11,083	128
Q3 2012	13,343	224.0	10,047	10.9	0.13	3.12	6.22	11,498	127
Q4 2012	13,453	224.7	10,066	10.6	0.13	3.35	6.25	11,930	126
Q1 2013	13,569	225.4	10,086	10.5	0.13	3.38	6.14	12,377	127
Q2 2013	13,668	226.1	10,105	10.1	0.13	3.54	6.17	12,841	127
Q3 2013	13,791	226.8	10,127	9.9	0.13	3.65	6.16	13,323	128
Q4 2013	13,911	227.7	10,164	9.6	0.13	3.81	6.22	13,822	130

Notes:

Sources for data through 2010: Q3 (as released through 11/05/2010); values after that date are assumptions for the supervisory stress scenario

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

CPI: Bureau of Labor Statistics

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

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

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

10-yr Treasury Bond Rate: Quarterly average of yield on 10-yr U.S. Treasury bond, where yields are obtained from smoothed yield curve fitted to off-the-run coupon securities, Federal Reserve Board

BBB Corporate Bond Rate: Yield on 10-yr BBB-rated corporate bond, where yields are obtained from smoothed yield curve fitted to individual corporate bond yields, Federal Reserve Board

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

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