



DEPARTMENT OF THE TREASURY  
WASHINGTON, D.C.

SECRETARY OF THE TREASURY

December 10, 2009

Elizabeth Warren  
Chair  
Congressional Oversight Panel  
732 North Capitol Street, NW  
Rooms C-320 and C-617  
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Washington, DC 20401

Dear Chair Warren:

Thank you for your letter of September 15, 2009, regarding the Supervisory Capital Assessment Program (SCAP or “stress tests”).

The design and detailed implementation of the stress tests were the responsibility of the banking supervisory agencies. Consequently, questions regarding the detailed execution and implementation of the stress tests are better addressed to the banking supervisory agencies. Nevertheless, I appreciate the opportunity to provide additional insight on your important questions in the enclosed document.

Thank you again for your letter.

Sincerely,



Timothy F. Geithner

Enclosure

**(1) What inputs and formulae were used in the stress tests?**

As described above, questions about the precise nature of the inputs and formulae used in the stress tests are best addressed to the various banking supervisors who have access to this information. The Federal Reserve's Design and Implementation white paper describes inputs that were used in the stress tests, including the following:

- For first and second lien mortgages, the participating BHCs provided detailed and uniform descriptions of their residential mortgage portfolio risk characteristics. In particular, firms provided information on type of product, loan-to-value (LTV) ratio, FICO score, geography, level of documentation, year of origination, and other features.
- For credit cards, data included FICO scores, payment rates, utilization rates, and geographic concentrations.
- For other types of consumer loans, such as auto loans, stress test participants provided information on FICO scores, LTV, term, vehicle age, and geographic concentration.
- For C&I loans, analysis was based on the distribution of exposures by industry, internal and third-party credit ratings, and default probabilities.
- For commercial real estate (CRE) loans, firms were asked to submit detailed portfolio information on property type, loan to value (LTV) ratios, debt service coverage ratios (DSCR), geography, and loan maturities.
- For securities in available-for-sale and hold-to-maturity portfolios, banks provided information relating to each security, such as collateral type, vintage, metropolitan area, and property type, as well as elements of each security's structure, such as credit ratings, current credit support, and carrying and market values.
- The supervisors used information on trading book positions from the firms' internal risk-management reports to project loss amount under a market stress scenario. In evaluating counterparty credit risk, the supervisors reviewed the firms' loss estimates for mark-to-market losses stemming from credit valuation adjustments consistent with the trading shock scenario.
- The firms provided the underlying assumptions for their pre-provision net revenue estimates (PPNR), including internal management and financial reports, and the supervisors examined historical trends in the main components of PPNR. Supervisors also examined the historical relationship between PPNR and its main components to measures of macroeconomic activity. Allowance for loan losses for newly extended credits were based on loss rates by loan category from 2007.

The foregoing inputs were used to estimate losses, revenues, and reserve needs for BHCs in 2009 and 2010 under the "baseline" and "more adverse" scenarios.

**(2) The loss rates relied upon in the stress tests were set higher than those experienced by the U.S. during the Great Depression. What factors led you to believe that it was necessary to use such a conservative estimate?**

As I mentioned in my testimony, the primary goal of the supervisory assessment was to ensure that the equity capital held by the 19 bank holding companies was sufficient--in both quantity and quality--to allow those institutions to withstand a worse-than-expected macroeconomic environment over the subsequent two years and still remain healthy and able to lend, enabling

Americans to access the credit that is necessary to start a business, buy a home or send a child to college.

In order to make this assessment, the federal bank regulatory agencies developed an adverse economic scenario that was based on historical analysis and assumptions for unemployment and house-prices that were more unfavorable than those implied by the consensus of private-sector forecasters. This scenario was viewed as having a low percent probability of actually materializing. Given that the recent financial crisis has been, in many regards, the worst since the Great Depression, using metrics and loss rates that are similar or worse than those experienced at that time was deemed prudent. Indeed, the conservative nature of the assumptions was critical to the credibility of the stress test. It is largely a result of these conservative assumptions that the stress test results instilled confidence that our nation's largest financial institutions would be able to withstand a severe economic deterioration.

**(3) Now that results from the first two quarters of 2009 are available, how do the actual first and second quarter results compare to the estimated loss rates and the indicative rates? Are you able to provide us actual loss rates in each of the twelve categories for both quarters? To the extent that the actual results differ from the indicative rates, what factors contributed to the divergence?**

The stress test provided an estimate of total losses over a two year period (not quarterly loss rates). As a result, it is not possible to make a direct comparison between the losses that were estimated by the stress test and those published by these financial institutions over the past two quarters. Furthermore, an accurate comparison of actual and estimated losses is not possible due to the fact that SCAP loss estimates were made under a forecast scenario that is materially different from what has been realized. With these caveats being noted, however, actual loss rates from the first two quarters of 2009 appear to indicate lower losses than would be implied by a pro-rata percentage (25%) of the estimated two-year loss rates under the SCAP adverse scenario.

**(4) You testified that the fact that unemployment figures are higher than were estimated in the more adverse scenario is immaterial to the value of the stress test results. Because the unemployment metrics were those advanced by Treasury, can you explain why this is true?**

First, it is important to put the unemployment assumptions in perspective. At the time the stress tests were conducted, the Blue Chip Forecast for the annual average unemployment rate was 8.3 percent for 2009 and 8.7 percent for 2010. The stress tests used much more conservative assumptions of 8.9 percent for 2009 and 10.3 percent for 2010. The average unemployment rate for 2009 has now reached 8.9 percent year to date and the Blue Chip Forecast for the average unemployment rate 2010 is currently 9.8 percent. While the 2009 assumption may end up being too low, the 2010 assumption still appears to be significantly higher than the Blue Chip Forecast and it remains a conservative estimate of the adverse scenario.

At the same time, the housing market appears to be performing better than the assumptions used in the stress test. The adverse scenario used in the stress test assumed that house prices would fall by 22 percent in 2009 and by an additional 7 percent in 2010. However, in recent months house prices appear to have been bottoming out as house price indexes have registered two straight months of increases. If housing prices remain constant for the rest of the year, then the

2009 decline in housing prices would be approximately 5 percent, which is well below the assumption used in the stress tests. Furthermore, the Case-Shiller futures market predicts that house prices will actually rise by 1 percent in 2010, again making the assumptions used in the stress test appear conservative.

Real GDP growth was the third macroeconomic variable used in the stress test, and as with the assumptions about housing prices, the assumptions that were made about real GDP growth have proved to be conservative. At the time the stress tests were conducted, the Blue Chip Forecast was that real GDP growth would be -2.1 percent for 2009 and 2.0 percent for 2010. The adverse scenario in the stress tests used more conservative assumptions of -3.3 percent for 2009 and 0.5 percent for 2010. Today the Blue Chip Forecast for GDP growth in 2009 is -2.6 percent and the forecast for 2010 is 2.4 percent. Today the adverse scenario used in the stress test is more conservative than even the average of the bottom 10 forecasts in the Blue Chip Forecast.

**(5) What factors were considered in reaching the metrics that underlay the indicative loss rates and how was each factor weighed? Why were these factors selected and how was it determined how they should be weighed?**

Treasury was not involved in the actual administration of the assessments, the granular details of the loss rates applied, or the weighting of each individual factor or metric. As mentioned in the SCAP Overview of Results, the indicative loss rate ranges were derived using a variety of methods for predicting loan losses, including analysis of historical loss experience at large BHCs and quantitative models relating the performance of loans or groups of loans to macroeconomic variables. The specific factors selected in these models are the variables that historically have been shown to be the primary drivers of credit losses for the various categories of loans being analyzed. While supervisors viewed these indicative ranges as useful indicators of industry loss rates and in that way they can serve as a general guide, they also recognized that they might not adequately capture differences across individual firms that could affect the performance and losses in significant ways. Thus, supervisors asked firms to provide granular data about the particular characteristics of their portfolios in order to make more tailored quantitative assessments of loss. Loss estimates for the SCAP thus relied ultimately on firm-specific information about factors such as past performance, origination year, borrower characteristics, and geographic distribution.