January 14, 2013

Mr. Robert DeV. Frierson
Secretary
Board of Governors of the Federal Reserve System
20th Street and Constitution Avenue, NW
Washington, DC 20551

Mr. Robert E. Feldman
Executive Secretary
Attention: Comments
Federal Deposit Insurance Corporation
550 17th Street, NW
Washington, DC 20429

Office of the Comptroller of the Currency
250 E Street, SW
Mail Stop 2-3
Washington, DC 20219

Re: Policy Statement on the Principles for Development and Distribution of Annual Stress Test Scenarios (RIN 7100-AD-86; Docket No. OCC-2012-0016; 12 CFR Part 325)

Ladies and Gentlemen:

Better Markets[1] appreciates the opportunity to comment on the above-captioned proposed rules of the Board of Governors of the Federal Reserve ("Board"), the Federal Deposit Insurance Corporation ("FDIC"), and the Office of the Comptroller of the Currency ("OCC") regarding annual stress test scenarios.

SUMMARY

The policy statements referenced above describe proposed scenarios that will be used in bank stress tests. By omitting the loss of short-term funding, these scenarios neglect a major aspect of the crisis. The evidence suggests that, in a crisis, shocks to the asset side of bank balance sheets simultaneously produce shocks on the liability side, and that the liability shocks have been central to the creation of financial stress. Therefore, to fully understand whether banks have sufficient capital to weather a large asset price decline, we need to know if their capital is sufficient to protect them from a funding run likely to be precipitated by that price decline.

In addition, there needs to be much wider disclosure of the methods and data that are used in stress tests. Open source evaluation would surely improve the entire testing

[1] Better Markets, Inc. is a nonprofit organization that promotes the public interest in the capital and commodity markets, including in particular the rulemaking process associated with the Dodd-Frank Act.

enterprise. Moreover, stress tests which were more widely understood and more clearly meaningful would increase market discipline of banks.

INTRODUCTION

A. Stress test purpose

Section 165(i) of the Dodd-Frank Act establishes stress testing requirements for bank holding companies and nonbank financial institutions supervised by the Board. Section 165(i)(1) requires the Board to conduct annual stress tests of covered companies with assets greater than $50 billion. Section 165(i)(2) requires that covered companies conduct semi-annual stress tests, and that all financial companies with assets greater than $10 billion and for which there is the primary federal regulator, conduct their own stress tests annually. Section 165(i) further requires that all the tests be run under three different scenarios – baseline, adverse, and severely adverse. These tests are intended to discover whether covered companies "have the capital, on a total consolidated basis, necessary to absorb losses as a result of adverse economic conditions."

B. Proposed scenario construction

According to the three policy statements on scenario design issued by the Board, the OCC, and the FDIC ("federal regulators") and referenced above, covered entities generally will use the same scenarios when conducting stress tests. These scenarios will include hypothetical time paths for variables such as the unemployment rate, GDP growth rate, asset prices, and interest rates that reflect conditions observed in post-war recessions of varying severity. The Board notes that the focus of the tests themselves will be on the effect of mark-to-market losses on bank assets "and not on other types of risk, such as liquidity risk or operational risk unrelated to the macroeconomic environment. Pressures stemming from these sources are considered in separate supervisory exercises."[2]

All three policy statements acknowledge that additional variables may be included in the scenarios for some covered entities with significant trading activity. The Board statement, which has the most detail on this issue, indicates that the six bank holding companies that are currently subject to the market risk rule and have total assets over $500 billion will be required to run tests using amplified scenarios.

The Board's policy statement describes a "market shock" component to be added to the scenarios that apply to firms with significant trading activity. With respect to the "severely adverse" version of the market shock, the statement provides the following detail:

> "For the time being, the development of market shocks in the severely adverse scenario will begin with the risk factor movements in the

[2] Federal Register, Volume 77, Number 226, 70125.

> particular historical period, such as the second half of 2008. The Board will then develop hypothetical but plausible scenarios, based on financial stability reports, supervisory information, and internal and external assessments of market risks and potential flash points. Once broad market scenarios are agreed upon, specific risk factor groups will be targeted as the source of the trading stress. For example, a scenario involving the failure of a large, interconnected globally active financial institution could begin with a sharp increase in credit default swaps spreads and a precipitous decline in asset prices across multiple markets, as investors become more risk averse and market liquidity evaporates. These broad market movements would be extrapolated to the granular level for all risk factors by examining transmission channels and the historical relationships between variables, though in some cases, the movement in particular risk factors may be amplified based on theoretical relationships, market observations, or the saliency to company trading books. If there is a disagreement between the risk factor movements in the historical event used in the scenario and the hypothetical event, the Board will reconcile the differences by assessing consistency with the macro scenario, *a priori* expectation based on financial and economic theory, and the importance of the risk factors to the trading positions of the covered companies." [3]

In its 2012 Comprehensive Capital Analysis and Review capital planning exercise, which also requires the 19 participating banks and nonbanks to simulate potential losses conditioned on economic scenarios, ".... the Board provided to each trading company more than 35,000 specific risk factor shocks, primarily based on market moves in the second half of 2008."[4] The Board apparently intends to provide similar specificity in these market shock scenarios for stress testing.[5]

OMISSIONS FROM THE PROPOSED SCENARIOS

The Board plan to tailor scenarios to reflect the distinct risks posed by large bank holding companies makes sense. However, it appears to omit some important lessons of the financial crisis:

A. Short term funding loss often accompanies sharp declines in asset prices or other shocks to financial markets.

There are two clear examples from the crisis that show that short term funding is often lost when there are sharp declines in asset prices. The first is the contraction of the asset backed commercial paper ("ABCP") market at the very beginning of the crisis. In the

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3 *Ibid,* 70133 - 70134

4 *Ibid,* 701322 - 70133

5 For additional detail on short term funding runs see the Better Markets comment letter "Prohibitions and Restrictions on Proprietary Trading and Certain Relationships with Hedge Funds and Private Equity Funds" *available at* http://www.bettermarkets.com/sites/default/files/SEC-%20CL-%20Volcker%20Rule-%202-13-12_1.pdf

middle of 2007, when investors collectively realized that many mortgages and mortgage-backed securities ("MBS") had been devalued by the collapsing house price bubble, short term lenders who had funded MBS and other assets held in bank conduits began a run. As a result, the banks were forced to find other funding or sell conduit assets:

> "In a nutshell, global commercial banks funded long term assets such as mortgage- and asset-backed securities (MBS and ABS), credit card receivables, through overnight wholesale funding in the ABCP market. The "conduits" through which the ABCP was issued had little equity capital of their own, other than the guarantees provided by sponsoring banks (which found it attractive to do so due to the favorable treatment of such guarantees in the regulatory capital requirements). When the underlying assets, especially MBS and ABS, experienced a drying up of liquidity following the housing-market collapses in various parts of the world, the ABCP investors "ran" on the conduits, that is, reduced the overnight rollovers and charged higher spreads for doing so. Specifically, the run began on the 9th of August 2007, following the announcement by hedge funds of BNP Paribas on the 8th of August 2007 that their sub-prime MBS investments could no longer be marked to market due to evaporation of liquidity in market for these securities.
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> Being exposed to this run through the guarantees, the sponsoring banks had to either take over the conduit assets "on balance-sheet", which resulted in greater capital requirements, or generate overnight funding against the assets through alternative sources to the ABCP. Acharya, Schnabl and Suarez (2009) document that this ABCP run – effectively on the global commercial banks – was very large, with the market collapsing from its peak of over $1,200 billion in beginning of August 2007 to just over $600 billion by the end of 2008." [6]

In the first phase of the run on ABCP, banks replaced lost funding through increased time deposits, Federal Home Loan Bank advances, and other established borrowing channels. After the collapse of Lehman Brothers reignited the run in 2008, the Board was compelled to establish the Commercial Paper Funding Facility in order to bring the run to a halt.[7]

The run on ABCP funding also demonstrates that declining asset prices can lead to funding loss for bank exposures outside the trading book.

The second example is the run on repo financing that began in early 2008 as prices of mortgage-related assets continued to decline. Major broker dealers, including those in banks, rely heavily on short-term repo borrowing to finance their positions. Beginning in early March 2008 aggregate repo funding began to contract. This can be seen from data on total

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[6] V. Acharya et al. (2012). How do Global Banks Scramble for Liquidity? Evidence from the Asset-Backed Commercial Paper Freeze of 2007, *available at* http://ssrn.com/abstract=2024369.

[7] The collapse of ABCP funding had severe negative consequences for Citigroup, which had funded $25 billion in "super senior" CDO securities by placing them in conduits that were guaranteed by the bank. When the conduits lost funding, Citigroup had to move the CDO exposures onto its balance sheet. For details see the Better Markets comment letter, op. cit. at fn. 4.

primary dealer repo outstanding, which contracted significantly after March 2008.[8] Repo lenders ran on entities that were thought to have taken losses on their portfolio holdings (such as Bear Stearns and Lehman Brothers) and on assets such as MBS.[9] As a consequence, broker dealers were forced to find other funding sources. Their difficulty in doing so was severe, forcing the Board to create the Primary Dealer Credit Facility and the Term Securities Lending Facility to replace the missing funding and prevent asset fire sales.

B. Scenarios should include mark-to-market losses and short term funding losses jointly

Given this very recent history, it would be reasonable for the scenarios to jointly consider the effects of mark-to-market losses on assets and an accompanying loss of short term funding, whether or not the assets are held in the trading book. Otherwise, it would be very difficult to use the stress tests as they are intended – to understand whether or not banks have sufficient capital to absorb losses in adverse conditions.

Expanded scenarios would not be difficult to draft, since they could be constructed by adding something like the following: If mark-to-market losses occur in assets that are funded using short term borrowing (such as asset backed commercial paper or repo), explain what steps would be required if some (federal regulator-specified) percentage of that funding were lost. In particular, explain whether you could replace that funding by borrowing, asset sales, or other means.

It is of course common knowledge that banks were subject to massive runs on their short term funding in the crisis. The decision not to include them in the stress test scenarios is therefore puzzling. The evidence discussed above suggests that, in a crisis, shocks to the asset side of bank balance sheets simultaneously produce shocks on the liability side, and that the liability shocks have been central to the creation of financial stress.

THE PUBLIC NEEDS TO KNOW FAR MORE ABOUT THE FORECASTING MODELS THAT WILL USE SCENARIO INPUTS

It is obvious that even a very well specified stress scenario is only as useful as the model into which it feeds. Unfortunately, the stress testing program as currently implemented will leave everyone outside the banks and the regulatory community completely uniformed about those models. There are no requirements that the federal regulators or the covered banks discuss the specification, statistical fit, or out-of-sample forecasting properties of the risk models that they are using.

The public is instead given only hints about what is going on. We learn that more than 35,000 "risk factors" need to be specified for these models. This suggests that the banks and federal regulators are using models that are large, complex, possibly computationally

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[8] The Federal Reserve Bank of New York data are *available at* http://www.newyorkfed.org/markets/statrel.html.

[9] G. Gorton and A. Metrick (2010). Securitized Banking and the Run on Repo, *available at* http://ssrn.com/abstract=1440752.

burdensome, and perhaps difficult for their creators to thoroughly understand. Unfortunately scraps of information like these give the wider world no idea of how well the models work. Given the miserable failure of the industry-standard VaR models during the crisis, there is no reason for outsiders to have faith in the predictive performance of these mathematical black boxes.[10]

If those outside the closed circle of banks and their federal regulators, including importantly market participants, are to have any confidence in stress testing, then the entire process needs to be subject to "open source" evaluation. Representative models, along with (suitably masked) data need to be made publicly available so that independent experts can evaluate their structure and performance. These outside experts could, for example, ask the obvious question whether such models would have had any predictive power in 2005 or 2006. The outcome could only be an improvement of the entire testing process in the long run. In addition, greater understanding of, and confidence in, stress tests would help to increase market discipline, since bank counterparties would have important new information about bank viability. An obvious conduit for providing representative models and data to the external modeling community is the Office of Financial Research, since such a project is well within its legislative mandate.

We hope these comments are helpful.

Sincerely,

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[10] T. Adrian and H. Shin (2012). Procyclical Leverage and Value-at-Risk. Federal Reserve Bank of New York Staff Report no. 338, *available at* http://www.newyorkfed.org/research/staff_reports/sr338.pdf.