

The reaction of medium-sized banks to stress test implementation

Joseph Reising
Minnesota State University - Mankato

ABSTRACT

Recent events have led to discussions about rolling back the Dodd-Frank Wall Street Reform and Consumer Protection Act including the requirement to stress test major financial institutions. Much of the current literature on the value of stress testing has focused on the announcement of results for the largest financial institutions operating in the United States. Far less has been done on the market's reaction to the implementation of the stress testing process. This is, in part, because stress testing was initially implemented for large financial firms during February 2009 in the aftermath of the financial crisis. However Dodd-Frank also required medium-sized banks (those with total assets of between \$10 billion and \$50 billion) to conduct stress tests and publicly release their results. As those requirements on medium-sized banks were implemented during a period of less market disruption, 2011-2015, it is possible to examine the market response to different steps in the process. The results suggest a positive reaction by the financial markets to announcements indicating progress toward implementing stress testing. There is also evidence that progress toward the public release of information may be an important component of that reaction.

Keywords: Banking, Regulation, Dodd-Frank, Stress, Test, Announcement

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INTRODUCTION

An important question in the bank regulation literature is the value of stress testing. There has been a great deal of research looking at the market reaction to the disclosure of stress test results. These studies evaluate the incremental market value of that disclosure. However few papers have scrutinized the process of implementing stress testing. Yet an examination of that process can provide insight into whether stress testing truly adds value to banks.

Bank stress tests are scenario analyses examining the robustness of financial institutions to adverse economic and financial conditions. The scenarios include the potential for loss in areas like trading, private equity, counterparty risk, loan losses, and others. A particular focus is determining the impact of a severely adverse scenario on bank capital. If a financial institution is deemed to have insufficient capital under the severely adverse scenario it is expected to take actions to remedy that deficiency. Until it does it can be subject to restrictions on its operations.

Stress testing has been a key factor in bank regulation since the 2008-2009 financial crisis. Tarullo (2010) suggests the first high-profile implementation of stress testing, the Supervisory Capital Assessment Program (SCAP) in February 2009 helped reassure markets about the strength of large bank holding companies. Those comments clarify that stress testing is a way to combat market anxiety about bank health. They do leave open the question about the value of stress testing as a normal regulation tool. That value, if any, does not appear to be separable from the value of reassuring an anxious market.

Following the success of SCAP, newer stress testing regimes were added. Regulatory stress tests subsequently implemented included the Comprehensive Capital Analysis and Review (CCAR) and the Dodd-Frank Act Stress Test. The Federal Reserve's basic approach to the tests did not change materially during the process from their macroprudential orientation as indicted by Tarullo (2014). Therefore the regulatory processes, and much of the subsequent literature, has focused on the largest holding companies and other systematically important nonbank financial firms.

What is often missed in the literature is that, though these large institutions with consolidated assets in excess of \$50 billion are critical to financial stability, other financial firms are also subject to stress testing. During the period 2011-2015 stress testing was put in place for financial institutions with consolidated assets of between \$10 and \$50 billion. Those subject to the process included bank holding companies, state member banks, savings and loan holding companies, and others institutions as designated by the Federal Reserve. These will be referred to collectively as medium-sized banks. Examining these firms during the implementation of stress testing can obviate two challenges of using larger company stress tests. The initial stress tests for large bank holding companies occurred between mid-February and May 7th, 2009. In addition to a very compressed timeline, the process occurred during great market disruption. Contrast that to medium-sized banks where stress testing was developed over four years with easily identifiable major events and during a time of relative market confidence.

Further, although larger bank holding companies were included in the development of follow-up stress tests, those firms had already been subject to regulatory investigation, invested in testing systems, had areas of need identified, started managing issues, and had publicly release their stress test results in 2009. Given these large firms had already been stress tested, it should be no surprise that literature has instead focused on the results of disclosure. Even there

Flannery, Hirtle, and Kovner (2017) observe that standard event studies do not always show abnormal returns around stress test dates, and Candelon and Sy (2015) find that the reaction to the release of stress test results tended to decrease over time.

Yet even those reactions to stress test disclosures only indirectly address the overall value of the stress testing process. That value includes other factors, such as costs, which are part of the stress testing process but do not necessarily show up in reactions to disclosures. For instance Tracy (2016) points out that roughly \$29 billion was spent worldwide in 2015 solely on stress testing external consultants. The article also suggests simply building a stress test program can cost \$150 to \$250 million. Even these estimates do not include the substantial annual costs of gathering data and updating the models. Although these are all significant additional costs associated with stress testing, their impact on company value is not necessarily captured by models examining reactions to disclosures.

Use of medium-sized banks allows this paper to expand the current literature by examining of the market's reaction to the major steps in implementing stress testing. That process, conducted jointly by the Federal Reserve System, the Office of the Comptroller of Currency, and the Federal Deposit Insurance Corporation started with preliminary guidance issued in June 2011 and finishing with the first release of stress test results in June 2015. Evaluating the full process should provide a more complete picture of the value of stress testing to banks.

LITERATURE REVIEW

The literature on stress testing has primarily focused on large banking institutions. The literature has looked at risk changes in banks after stress testing was implemented. A second, larger, focus has been on the market reactions to the public release of stress testing results.

When discussing regulatory stress testing, Wall (2013) argues the tests have the potential to address some of the issues with Basel III's measurement of interest rate and credit risk. However the efficacy of stress testing is tied to their proper implementation. This argument suggests that value implications to banks go beyond simply putting the tests in place. Rather the specifics of guidance and regulations can strongly impact the value of the process. To measure whether risk has actually been reduced by stress testing, Aghigbe, Martin, and Whyte (2016) examine large banks. They find a significant risk reductions since 2010 with those banks that had been riskiest before 2010 seeing the greatest subsequent reduction. Also they find a linkage between capital ratio increases and risk reduction. Given the stress tests' emphasis on ensuring sufficient capital for the largest banks, there may be a relation to risk reduction.

Neretina, Sahin, and de Haan (2015) examine announcement and results dates for stress tests of the largest banks from 2009-2015. They find that many stress tests do not have a significant impact on stock returns. However they do find strong declines in systematic risk of firms after the results of the 2009 and 2013 stress tests were released. They also saw a reduction of systemic risk, measured as a reduction in the correlation of the bank stock series with the market, during 2009 and 2012. Together their results provide some evidence that disclosure of stress testing results is helpful in bank risk management. Glasserman and Tangirala (2016) find evidence that results become predictable over time by examining the correlation of projected potential losses across subsequent stress tests. They argue that, in addition to balance sheet stability over time, one potential reason for the consistency is that banks are investing in better risk management tools. Woo, Chelluboina, and Xoual (2014) argue that effective disclosure of

stress test results can contribute to reduced systematic risk via market discipline. That discipline applies both to banks but also to regulators. Once results are published, regulators have taken a position on bank risk for which they can be held accountable. This encourages a regulatory approach focusing on credibility.

There has also been a great deal of literature specifically focusing on the market reaction to public release of stress test results following Tarullo (2010) who argued that much of SCAP's benefit was in the public disclosure. Morgan, Peristiani, and Savino (2014) examine the SCAP process and find evidence that the market knew which banks were relatively weak. However the market did not fully realize the degree to which those banks were exposed to risk. Interestingly, an event study around the announcement of the SCAP showed a significant negative reaction for firms subject to the stress testing, but those not subject to the testing had an even more negative reaction to the event. Given that SCAP banks had a positive and significant reaction upon release of the results, the authors argue that the 2009 stress test provided valuable information to the financial markets.

Another early set of stress testing were conducted by the European Union during 2010 and 2011 on many of its largest financial institutions. Petrella and Resti (2013) examine the European Union's 2011 stress test results. They find that public release of information led to a significant market reaction both for process initiation and results release. Further that reaction was a function of bank-specific information. They argue the release of stress test results enhanced bank transparency. Ellahie (2016) also examines the EU stress test disclosures. Using that data the paper develops firm-specific sovereign risk measures to enhance estimation of equity and credit returns. The evidence suggests the disclosed results are informative for investors.

Bird, Karolyi, Ruchti, and Sudbury (2015) examine CCAR results and also find that disclosures are informative to the financial markets. However the reaction to disclosure suggests that the Federal Reserve may use stress test disclosures to shape bank behavior. That process may be an important part of the value of stress testing. Candelon and Sy (2015) find that the reaction to stress testing has declined over time. They also find that the specific process used is critical to its success. Consistent with Wall (2013), this suggests that the details of the test, matter a great deal to the public markets. That suggests there is the potential for a difference in reactions between an initial announcements of a regulation and the announcement of its final implementation based on how proposed plan has changed.

Given the evidence of the benefits to releasing stress test results, a current question in the literature is whether there are also negative effects of disclosure. Goldstein and Sapra (2014) point out some of the challenges with information disclosure. One is proprietary costs as private firm information is given to competitors who can exploit it at the expense of the firm. Another challenge is disclosure's effect on risk sharing. Once a bank is known to be at particular risk of failure they may be unable to obtain or maintain contracts as others shy away due to potential counterparty and related risks. That, in turn, would accelerate the bank's likelihood of failure. A third issue is that excessive disclosure might tend to incent short-term performance. With the markets looking carefully at actions taken by the bank, managers may have an incentive to reduce risk even at the expense of sacrificing highly valuable longer-term investments. That risk reduction has been observed in the literature. There is also the potential for excess reaction by market participants, like bank runs, based on disclosed data leading to loss of confidence. The last potential issue is that as disclosure reduces uncertainty it may reduce private information gathering. That private information is helpful to regulators as well as it aggregates disparate

information sources that may be difficult for regulators to access. Given all these possible drawbacks, there is a potential for a significant negative reaction around announcements regarding implementation of stress test disclosure.

Building on these concerns, Schuermann (2014) documents that not all broad-based stress testing has been successful by referencing the 2010-2011 European stress tests. The paper's argument is that public disclosure of results was important during the financial crisis. At that time, banks were unable to 'window dress' their results and investors could see a fair picture of bank risk exposures. That tended to rebuild trust in the banks. Once that trust was rebuilt, however, the cost-benefit analysis of disclosure might change. That argument is consistent with Candelon and Sy (2015) finding the reaction to stress test disclosure becomes less significant over time. However other papers in the literature have examined the potential problems with public disclosure of stress testing results and have not found evidence to support the issues being a major concern.

Fernandes, Igan, and Pinheiro (2015) find evidence that public disclosures reduce informational asymmetries but do not appear to reduce incentives to generate private information. Flannery, Hirtle, and Kovner (2017) argue that absolute cumulative abnormal returns and trading volume are indicators of information release. They find that, regardless of the net reaction, disclosure of stress test results provide the market significant information. They also examine challenges raised in Goldstein and Sapra (2014) but find no evidence of negative welfare costs of disclosure. Nor do they find evidence holding companies are manipulating their portfolio to do well in stress testing at the expense of maximizing value. Finally, they do not find evidence of increased vulnerability to bank runs or strong evidence for reductions of private information gathering. Their results suggest that the potential negative effects suggested by Goldstein and Sapra (2014) do not appear to be significant in the data.

HYPOTHESES

The paper seeks to test two hypotheses associated with implementing stress testing. The supervisory hypothesis, specifies that the financial institutions are better off through being subject to more rigorous supervision by bank regulators. Although the greater scrutiny may require significant expenditures that would tend to decrease the value of the firm, the hypothesis suggests enhanced oversight would more than offset the drag on value by greater costs. For stress test implementation, the supervisory hypothesis suggests a positive reaction in banks stock prices as regulators develop rigorous processes. However that connection can be nullified or even reversed for announcements where markets see a reduction in stress test rigor or delays in execution.

The information hypothesis, indicates that the market values the public release of stress test results. That information can afford markets a better understanding of the firms' strengths and risk profiles. The hypothesis posits that the value of reduced information asymmetry significantly exceeds the potential negative impacts of public disclosure addressed by Goldstein and Sapra (2014). The information hypothesis suggests that the likelihood of expeditious public release of stress testing results increase the market value of the bank. Regulatory announcements that provide for public disclosure of results would be deemed a positive by the information hypothesis. That relation might be inverted by confounding factors like announcements that delay disclosure or changing the terms of disclosure to make the released data less useable by the markets.

METHODOLOGY

The analyses uses daily stock price data from the Center for Research in Stock Prices during the period 2011-2015. Event dates were gathered from press releases by the Federal Reserve Board, the Office of the Comptroller of Currency, and the Federal Deposit Insurance Corporation. Those press releases, in conjunction with the corresponding Federal Register entries, were also examined for details of the stress testing process. Other data was taken from Bank Holding Company Performance Reports and Call Reports provided by the Federal Financial Institutions Examination Council.

Table 1 (Appendix) lists the significant events associated with the implementation of medium-sized bank stress tests. These announcements focus on the release of supervisory guidance, regulatory changes, and public release of results. Some of these announcements are only relevant to medium-sized banks while others address all banks with assets in excess of \$10 billion. The latter announcements impact both medium-sized banks and larger financial institutions, referred to as covered companies, with consolidated assets in excess of \$50 billion.

The final sample in Table 2 (Appendix) includes 46 publicly-traded bank holding companies with total consolidated financial asset values of \$10 to \$50 billion as of 2011. One firm included in the sample that should be noted is Flagstar Bancorp Inc. It was the target of Consent Orders from the OCC and the Consumer Finance Protection Bureau during 2012-2014. Those orders led to Flagstar reporting their total assets dropping from over \$13 billion at the end of 2013 to roughly 9.3 billion at the end of the first quarter of 2014. It had recovered back to above \$10 billion by the first quarter of 2015. Because of the timing of the dip relative to the event dates, Flagstar was kept in the sample for 2013-2015. Two firms that do not show up in the 2011 events but do appear in the other events are BankUnited Inc., and First Republic Bank. The BankUnited initial public offering priced on January 28, 2011 while First Republic Bank became a publicly traded company on December 9th, 2010. Both existed on the first event date but did not have a year of prior data in the estimation window.

Table 3 (Appendix) presents the characteristic of the sample bank holding companies. The median total assets of \$18.2 billion suggests most firms tend to be closer to the lower end of the \$10-\$50 billion size range. The median equity to asset ratio is over 11% so most appear reasonably well capitalized. Also, at a time when larger banks were having their dividend plans carefully scrutinized, the dividend of these institutions was 26% of the median net income.

The paper uses the four factor event study model from Carhart (1997) to examine cumulative abnormal returns around significant announcements related to implementing the stress test for medium-sized financial institutions. That expands on the three factor model used by Flannery, Hirtle, and Kovner (2017) through the addition of a momentum factor. A 255 day estimation window is used. Although a range of event windows were examined, this paper uses a five day window consistent with Candelon and Sy (2015), Petrella and Resti (2013), and Woo, Chelluboina, and Xoual (2014). For the late June 2015 event, a thirteen day window is built to include the full information release period and one day following.

In addition to cumulative abnormal returns, the paper also reports sign tests and absolute cumulative abnormal returns. The former following Cowan (1992) provides a non-parametric test of the data which can limit the effect of outliers. The latter is used by Flannery, Hirtle, and Kovner (2017) to determine whether significant information is being released around the event.

They argue that simply adding together cumulative abnormal returns tends to cancel out information, some positive and some negative, that is being provided to the markets. By taking absolute values the total information effect can be seen, though at the expense of observing a net direction.

Table 4 (Appendix) indicates the expected signs suggested by the hypotheses on the important event dates. During June 9, 2011 the federal regulators sought initial comments on proposed supervisory guidance for stress testing banks. Based on the information released by three federal banking regulators, the Federal Reserve, the Office of the Comptroller of Currency, and the Federal Deposit Insurance Corporation (2011), it was clear that the guidance would apply to all banks with consolidated assets in excess of \$10 billion. The agencies also indicated future regulatory changes would be consistent with the principals established in the guidance. The guidance was therefore a clear first step to implementing stress testing of financial institutions. The supervisory hypothesis would suggest that initiating the stress testing process would be associated with a positive reaction.

Proposed stress test regulations, issued on December 20, 2011 from the Federal Reserve (2012), included mandatory public disclosure of stress test results. The initiation of the formal regulatory process would be associated with a positive reaction for the supervisory hypothesis. Regulatory bodies including mandatory public disclosure suggests a positive reaction would also be associated with the information hypothesis.

On May 14, 2012 final supervisory guidance for stress testing of medium and large banks was issued by the Federal Reserve, Office of the Comptroller of Currency, and the Federal Deposit Insurance Corporation (2012). This provided the financial institutions guidance on the processes behind stress testing and a better understanding of what to expect for the final regulation. The issuance of final guidance would be deemed to be a positive by the supervisory hypothesis.

The Federal Reserve announced its final rules on October 9, 2012 and indicated it would institute a one year delay in the execution of medium bank stress tests. It also specified that public release of such stress test results would not occur until June 2015. The sign of the supervisory hypothesis is expected to be negative. The Federal Reserve had indicated in August that final rules would be forthcoming so the reaction is likely muted. However delaying the testing may well be seen as a negative. Given the proposed rules had already included mandatory public disclosure, the announcement that such disclosure would be delayed for nearly three years would also suggest a negative reaction according to the information hypothesis.

On July 30, 2013 the three federal banking agencies indicated that they had developed further guidance for medium financial institutions in recognition of their differences from those of larger banks. The guidance suggests progress toward full stress test implementation for medium-sized financial institutions. The supervisory hypothesis would suggest a positive reaction.

Medium-sized financial institutions proceeded with their stress tests during March 2014 after the issuance of final regulatory guidance on March 5th. However the final guidance provided mixed signals to the market. The announcement of final regulatory guidance indicated that first stress tests would occur over the next few weeks. That would be a positive for the supervisory hypothesis. However the final guidance provided firms with significant flexibility and control over how they conduct the stress tests. Further the final guidance explicitly excluded the medium-sized firms from the capital plan rule, the CCAR, and the Dodd-Frank supervisory stress test. It was also mentioned that these exclusions would lead to banks also having lower

expectations in the areas of data sources, data segmentation, estimation practices, reports, and public disclosure. The supervisory framework was clearly far less rigorous than those of larger banks and may have been a negative surprise to investors. Given those two factors, the expected sign for the supervisory hypothesis is ambiguous. The market may have been surprised by the lower level of data collection and reporting for medium banks required in the guidance. If so, the announcement would be associated with a negative reaction under the information hypothesis.

On June 2, 2015 the Federal Reserve affirmed that the stress test results would be publicly released during the last two weeks of the month. Seven banks released the results of their stress tests on June 15th, but the rest of the releases were more spread out between then and June 30th. The information hypothesis would suggest these events are positive for financial institutions.

RESULTS

Table 5 (Appendix) contains the results of the event studies around the selected dates. The June 9, 2011 results show a significant positive reaction suggesting that shareholders viewed the beginning of the stress testing process to be a positive. That result is confirmed by the sign test where positive reactions outweighed negative reaction by nearly 2:1. The absolute cumulative abnormal returns (CARs) are also highly significant indicating that the guidance provided the markets with significant new information.

The outcome of the December 20, 2011 event study shows that the CARs are positive and significant for that day. As this date is the initiation of the regulatory process, the reaction is consistent with the supervisory hypothesis. The absolute CARs are also strongly positive suggesting the initiation of the regulatory process provided fresh information to the market.

The issuance of final guidance on May 14, 2012 generated strongly significant results for all three tests. The mean CAR was 3.92% on that day which is much higher than the reaction of any other event examined. Both the sign test and absolute CARs are also strongly significant. All but five firms had a positive reaction to the announcement, while the sample showing a mean absolute CAR of over 4%. The regulators had indicated that the guidance would inform the regulatory process so the markets may well have taken the issuance as an indicator of how the final regulation would appear.

The CARs around October 9, 2012 are significant and negative at the 1% level. The sign test also showed a significant negative result. The absolute CARs did suggest that the announcement was informative. For both hypotheses, the result is consistent with the argument that the delay in implementation was deemed as a negative by the market.

The initiation of the process for developing guidance solely for medium-sized financial institutions on July 30, 2013 was seen by the markets as a positive for those firms. The mean CAR was a positive 1.09% and significant at the 1% level. Also significant at that level was the sign test and the test of absolute CARs. Given this event was moving the process of stress testing forward, the positive reaction is consistent with the supervisory hypothesis.

The finalization of guidance on March 5, 2014 is associated with significant negative returns. The sign test was also significantly negative. Although the guidance was finalized it included significant flexibility and specifically excluded a higher level of rigor and information release required of larger banks. These suggest market concerns with lower transparency and less supervisory control over the stress testing process. The test of absolute CARs showed

significant information release which is consistent with the degree of flexibility being unexpected. One other note is that the pattern of a positive reaction when stress testing is announced followed by a negative reaction when specifics are disclosed is also observed by Petrella and Resti (2013) in the 2011 European Union stress test, albeit over approximately a six month window.

The evidence above is generally consistent with the hypothesis that the regulatory implementation of rigorous stress testing is a positive for shareholders. Less clear, based on that data, is the results for the information hypothesis. The initiation of regulation on December 20, 2011 was a positive as the preliminary documentation included steps to release results of the stress tests. The October 9, 2012 negative reaction is consistent with the hypothesis as the release of public information was put off for nearly three years. The March 5, 2014 negative reaction is also consistent with the information hypothesis. The date for public information release of results did not change, but the rigor, detail, and consistency of the required reporting was much less than for covered banks. However it is challenging to disentangle the information effects from the supervisory effects on these dates. In contrast the last two events dates in the study occurred after stress testing has been implemented and deal specifically with transparency.

The public release of information slated for the end of June was reaffirmed on June 2, 2015. The reaction around that date was positive and significant for both CARs and the sign test. The test of mean absolute CARs also indicated that significant new information was released on that day. It may be that, given the length of the process, the reaffirmation of the regulators to ensuring information release was seen positively. The reaction to the announcement does provide evidence to support the information hypothesis.

Table 6 (Appendix) includes results from the initial public release of medium bank stress test information. The results were released during June 15-30, 2015. Given that some data may have been released after trading on June 30th, a thirteen day window is used. The absolute CARs indicate that the market is reacting to new information about the banks, and the sign tests indicate that the reaction is generally positive. The reaction to these two events provide strong support for the information hypothesis.

Interestingly, there is no significant mean CARs during the window (0,+11) despite the absolute returns indicating the information released was significant and the sign test indicating that the reaction was positive for most banks. The sample does show a strongly positive reaction on the last day. One potential explanation might be that many banks with strong results held their data until the end of the release period. The sign test results make clear that thirty-nine of the forty-six firms had a positive reaction on that day. However forty banks had already released their information prior to the last week of the window. There appears to be no other systematic announcement that would drive the reaction. Perhaps investors were concerned about weaker banks holding their results until the end of the process. When that did not occur, expectations of the overall strength of medium banks increased leading to significant positive returns.

CONCLUSION

Studying medium-sized banks provides for a unique perspective on the value created by imposing regulatory stress tests. The examination is particularly informative as process for these banks occurred outside a time of financial crisis. That allows a look at whether stress testing adds value to banks during regular economic conditions. Consistent with the supervisory hypothesis, the evidence suggests implementing stress testing is generally a positive for banks.

The banks saw a nearly 4% jump in cumulative abnormal returns around the May 2012 announcement providing final guidance on stress testing. Further, public disclosure of stress test performance is seen as positive and informative by the equity markets. During the window for the initial public release of stress test results, the average cumulative abnormal return was 0.8%. That results is consistent with the information hypothesis. These findings appear to be consistent with literature like Petrella and Resti (2013) who find significant positive reactions to stress testing. The results of the absolute cumulative abnormal returns as suggest the stress testing announcements are informative to the financial markets in line with the findings of Flannery, Hirtle, and Kovner (2017). Overall, the evidence suggests the market believes that stress testing enhances the value of banks despite the significant costs involved.

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APPENDIX

Table 1
Critical Dates in the Implementation of Medium-Sized Bank Stress Testing

Date	Event
June 9, 2011	The Federal Reserve Board (Fed), Office of the Comptroller of Currency (OCC), and the Federal Deposit Insurance Corp. (FDIC) sought comments on proposed supervisory guidance for stress testing banks with assets in excess of \$10 billion.
Dec. 20, 2011	The Fed proposed steps to improve regulation of large bank holding companies including the release of stress-testing results. The proposal indicated disclosure of some results by assets in excess of \$10 billion would be part of the process.
May 14, 2012	The Fed, OCC, and FDIC issued final supervisory guidance for stress testing banks in excess of \$10 billion in consolidated assets.
October 9, 2012	The Fed, OCC, and FDIC indicated the stress testing process would be delayed until October 2013. Final stress testing rules implemented. Affirmed results will not be publicly released until June 2015.
July 30, 2013	The Fed, OCC, and FDIC sought comments on proposed stress test guidance for firms with between \$10 billion and \$50 billion in consolidated assets.
March 5, 2014	Issuance of final stress test guidance. The guidance provided significant flexibility to the firms and explicitly excluded the firms from the CCAR, capital plan rule, or Dodd-Frank Act supervisory stress test. The exclusion also applies to related data collection.
June 2, 2015	The three federal banking agencies reiterated that financial institutions with consolidated assets of between \$10 billion and \$50 billion will need to release the results of their stress tests between June 15 th and June 30 th , 2015.
June 15, 2015	The beginning of a 12 business day window for medium-sized financial institutions to report their stress test results.

Table 2
Financial Institution List

Associated Banc Corp.	ASB	Hancock Holding Co.	HBHC
Astoria Financial Corp.	AF	Hudson City Bancorp Inc.	HCBK
B O K Financial Corp.	BOKF	Iberiabank Corp.	IBKC
BancorpSouth Inc.	BXS	International Bancshares	IBOC
Bank Of Hawaii Corp.	BOH	Investors Bancorp Inc.	ISBC
BankUnited Inc.	BKU	N. Y. Community Bancorp Inc.	NYCB
Barclays PLC	BCS	People's United Financial Inc.	PBCT
Cathay General Bancorp	CATY	Popular Inc.	BPOP
CIT Group	CIT	PrivateBancorp Inc.	PVTB
City National Corp.	CYN	Prosperity Bancshares Inc.	PB
Commerce Bancshares Inc.	CBSH	Raymond James Financial Inc.	RJF
Cullen Frost Bankers Inc.	CFR	SVB Financial Group	SIVB
E Trade Financial Corp.	ETFC	Signature Bank	SBNY
East West Bancorp Inc.	EWBC	Susquehanna Bancshares Inc.	SUSQ
F.N.B. Corp.	FNB	Synovus Financial Corp.	SNV
First Bancorp P R	FBP	TCF Financial Corp.	TCB
First Citizens BancShares Inc.	FCNCA	TFS Financial	TFSL
First Horizon National Corp.	FHN	UMB Financial Corp.	UMBF
First Niagara Financial Group Inc.	FNFG	Umpqua Holdings Corp.	UMPQ
First Republic Bank	FRC	Valley National Bancorp	VLY
Firstmerit Corp.	FMER	Washington Federal Inc.	WAFD
Flagstar Bancorp Inc.	FBC	Webster Financial Corp.	WBS
Fulton Financial	FULT	Wintrust Financial	WTFC

Table 3
Descriptive Statistics

Item	Obs.	Median (000)	Standard Deviation (000)	Maximum (000)	Minimum (000)
Total Assets	46	\$18,159,350	\$9,765,998	\$47,386,739	\$10,694,089
Total Equity	46	\$1,998,167	\$1,484,595	\$8,334,775	\$624,065
Net Loans & Leases	46	\$11,252,532	\$6,188,291	\$31,579,713	\$4,716,813
Allowance for Loan Loss	46	\$172,831	\$131,897	\$731,000	\$52,564
Core Deposits	46	\$11,084,333	\$5,768,105	\$26,040,557	\$3,111,499
Net Interest Income	46	\$576,214	\$400,038	\$1,409,000	\$-1,302,306
Provision for Loan Loss	46	\$51,982	\$103,772	\$409,000	\$-14,654
Net Income	46	\$147,685	\$193,142	\$830,209	\$-592,288
Dividends to Common Equity	46	\$38,876	\$79,955	\$438,539	\$0

Table 4
Expected Sign of Results

Event Date	Supervisory Hypothesis	Information Hypothesis
June 9, 2011	+	0
Dec. 20, 2011	+	+
May 14, 2012	+	0
October 9, 2012	-	-
July 30, 2013	+	0
March 5, 2014	+/-	-
June 2, 2015	0	+
June 15, 2015	0	+

Table 5
Stress Test Implementation Process

Date	Obs.	Mean CAR	T-stat Mean CAR	Positive: Negative	Generalized Sign Test	Mean Absolute CAR	T-stat Mean Abs. CAR
Jun. 9, 2011	44	0.70%	2.32*	29:15	2.46*	1.91%	7.29**
Dec. 20, 2011	44	0.95%	2.50*	27:17	1.69	2.48%	8.69**
May 14, 2012	46	3.92%	7.27**	41:5	5.33**	4.32%	12.45**
Oct. 9, 2012	46	-0.62%	-2.58**	14:32	-2.53**	2.16%	9.43**
July 30, 2013	46	1.09%	4.17**	38:8	4.59**	2.31%	9.53**
March 5, 2014	46	-0.71%	-2.22*	16:30	-1.91*	1.60%	8.98**
Jun. 2, 2015	46	0.38%	2.43*	30:16	2.38*	0.81%	8.81**

* (**) indicates significance at the 5% (1%) level.

Table 6
Initial Release of Stress Test Results

Window	Obs.	Mean CAR	T-stat Mean CAR	Positive: Negative	Generalized Sign Test	Mean Absolute CAR	T-stat Mean Abs. CAR
(0,+11)	46	-0.22%	0.50	28:18	1.65*	2.61%	6.54**
(0,+12)	46	0.80%	2.56**	33:13	3.13**	3.07%	8.87**
(+11,+12)	46	1.01%	6.03**	39:7	4.90**	1.60%	10.36**

* (**) indicates significance at the 5% (1%) level.