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Do Investors Value the Required Stress Tests of Financial Holding Companies?

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Do Investors Value the Required Stress Tests of Financial Holding Companies?

An honors thesis submitted in partial fulfillment of the requirement for the degree of
Bachelor of Science in Business Administration, Accounting & Finance

By

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May 2016

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This honors thesis is approved for recommendation.

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Abstract

This paper explores the value of disclosing stress test results to investors and market participants within the US financial system. Recently the Federal Reserve (“Fed”) expanded its required internal stress testing program, often referred to as the Dodd-Frank Act Stress Test (“DFAST”), to include bank holding companies (“BHCs”) with more than \$10 billion in total assets. These BHCs were required to publicly disclose their results for the first time in June of 2015. Large BHCs are subject to another level of stress testing implemented by the Comprehensive Capital Analysis Review (“CCAR”). Large BHCs are defined as having more than \$50 billion in total assets, and have been undergoing various stress tests since 2009. Key trends within the stress tests of CCAR banks may be a telling signal of how the results of DFAST banks will be received by market participants. Moving forward, more banks will become subject to these stress testing requirements as they grow both organically and acquisitively. This paper focuses on the market reactions to DFAST banks’ disclosures, using several techniques to measure this market reaction.

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Introduction

Stress testing of bank holding companies is a way to promote financial stability and reduce the chance of a financial crisis, but many questions still exist about the details of these stress tests. Within the U.S. financial system stress testing has been an ongoing event, beginning in 2009. It is a dynamic process that is typically mandated by legislators and ultimately implemented by regulatory agencies such as the Federal Reserve (“Fed”), the Officer of the Comptroller of Currency (“OCC”), and the Federal Deposit Insurance Corporation (“FDIC”). I will refer to this group collectively as the “regulators” for the remainder of this paper. These regulators are given the authority to determine the goals of the stress tests (Federal Reserve 2014). Over time, we have learned a great deal about these stress tests but still have much more to learn. One major area of concern deals with how valuable the disclosure of these tests are to investors. Does the public disclosure of stress test results promote the goals for which the tests were established?

I will address this issue in several ways, primarily by analyzing the 2015 results of banks subject to both the Dodd-Frank Act Stress Test (“DFAST”) and Comprehensive Capital Assessment Review (“CCAR”) stress testing. A brief history and background on stress testing will be provided for a frame of reference. Following that I will highlight major trends within these stress tests and the likelihood of these trends continuing. I will support these trends by presenting several banks’ stress test results and subsequent stock movement in a short case study. The case study will include two DFAST banks total, one that performed well and one that

performed poorly. Based on the analysis and related research performed, I will conclude with policy recommendations.

History of Stress Testing in the U.S.

Background and Objective

Stress tests of financial institutions are a tool used to gauge the impacts on the financial sector given a severe change in macroeconomic variables. More simply, stress tests allow people to see how a financial company would perform in a bad economic situation. Stress tests often reflect the overall condition of the financial sector and do not look at specific risks in isolation. It is important to note that stress tests do not address the issue of liquidity for banks, but rather assess the solvency of a bank. These tests are good at identifying potential weaknesses within the banking sector as they are forward looking. Stress tests can help to ease market participants. Often times market participants know that the banking sector is in trouble but they do not know the scale. Stress tests assist in quantifying the condition of the sector (Candelon 2015). Stress tests complement the static capital ratios provided by banks (Bernanke 2013). There are two main goals of stress tests: 1) to assure that banks hold adequate capital in the event of economic downturn and 2) to mitigate systemic risk, increased risk in the system as a whole, (Henry & Kok 2013). So far, there have been several different stress testing exercises programs, all having similar goals and methodologies.

Supervisory Capital Assessment Program

The first sector wide stress test was the Supervisory Capital Assessment Program (“SCAP”) in 2009 (Candelon 2015). Bank holding companies (“BHCs”) with total assets of \$100

billion or more, of which there were 19, were required to participate in SCAP. These banks were tested under hypothetical worse-than-expected macroeconomic variables to see if their capital would still allow them to continue operating in the that adverse environment. The primary goal of SCAP was to calm the financial markets in the wake of the financial crisis. The SCAP set target capital ratios that banks were required to meet. If a bank's projected minimum ratios fell below this target, they were forced to raise common equity in order to reach the desired levels. Overall, 10 banks fell short of these target capital levels and had to raise roughly \$100 billion through equity issuances (Flannery, Hirtle, Kovner 2015).

Dodd-Frank Act Stress Tests

Stress testing in the U.S. financial system continued and developed after the initial SCAP introduction. These macro-level stress tests are generally broken into two categories: the Dodd-Frank Act Stress Tests ("DFAST") and the Comprehensive Capital Adequacy Review ("CCAR"). These two types of tests are quite similar but apply to banks on the basis of asset size.

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 mandated that the Fed must conduct annual stress tests of all BHCs with more than \$50 billion in assets. Several other large non-bank financial institutions, deemed systemically important financial institutions ("SIFIs") are also subject to DFAST. These large financial institutions also have to perform another stress tests based on their own internal scenarios. Additionally, the Dodd-Frank Act ("DFA") required BHCs with more than \$10 billion in assets to perform stress tests based on scenarios provided by the Fed. Only the stress test results of the Fed and those BHCs over \$50 billion in assets were originally required to be disclosed (Flannery, Hirtle, Kovner

2015). All of the above mentioned tests contain three scenarios, a baseline scenario, an adverse scenario, and a severely adverse scenario. The Fed must disclose the results of the adverse and severely adverse scenarios while BHCs must at minimum disclose results of the severely adverse scenario (Flannery, Hirtle, Kovner 2015). The implementation of these mandates from the DFA took effect in 2012.

In March of 2014, additional guidance for DFAST was issued by regulators which effected BHCs with assets between \$10 - \$50 billion. This updated added to the current framework which was established by the DFA. There were several updates, but perhaps the most drastic change was the required disclosure of the results for these banks. The BHCs are required to perform their stress tests on September 30th and project out nine quarters into the future. The disclosure their results, including both qualitative and quantitative information, must be released between the 15th and 30th of June the following year. These \$10-\$50B BHCs only have to report results under the severely adverse scenario, a similar requirement of their larger counterparts. These results must be posted to a company's website or "any other forum that is reasonably accessible to the public" ("Supervisory Guidance on" 2014). The updated DFAST program relies on similar processes as the larger scale CCAR program ("Stress Tests and Capital" 2014). The analysis section, which will be discussed later in this paper, is based in large part on the stress test results due to the change in guidance of DFAST.

Comprehensive Capital Analysis Review

In 2011 the Fed implemented a new supervisory program to pick up where SCAP left off. This program, deemed CCAR, was designed to capital adequacy and planning for large BHCs. CCAR includes both qualitative and quantitative measures. The qualitative measures include a

requires BHCs to submit a capital plan which includes governance and internal capital plans (planned dividends, capital distributions, other actions BHC would like to make in coming two years, etc.). The quantitative measure includes both a company run stress test and a stress test performed by the Fed. If the BHC performs poorly on any measure, then the Fed has the power to limit dividends, share repurchases or other capital actions. The Fed discloses their results as do the BHCs. The disclosure of both stress test results occurs in May of each year (Flannery, Hirtle, Kovner 2015). When projecting forward, CCAR stress tests include the capital actions (such as share repurchases, equity issuances, etc.) provided by the BHCs in their capital plans. DFAST projections use more general assumptions and do not account for bank specific capital actions. From this point on I will refer to BHCs that are subject to DFAST only as DFAST banks and BHCs subject both DFAST and CCAR as CCAR banks.

Trends and Comparable Studies

Over the past few years of stress testing in the U.S. financial system, several major trends are beginning to stand out. These trends are formed from the results of CCAR testing and date back to its inception in 2011. These trends include aggressive capital management, stability and possible convergence of results, and an increasing dependence on the Fed to correctly identify possible economic risks (Gallardo, Schuermann, Duane 2016).

Many academics share these views in a general sense, but the level to which they agree is debatable. For instance, Til Schuermann, a former senior vice president at the New York Fed, suggests in a 2013 Wall Street Journal article that the Fed's stress tests are indirectly adding risk to the financial system (Schuermann 2013). This view can be viewed as support of the above trends. BHCs are becoming more familiar with the stress tests and the criteria for which the Fed

evaluates their banks. Consequently, they are managing their capital to achieve the desired results. This is counterproductive since stress tests are supposed to simulate an unexpected but plausible level of risk. Ultimately banks will rely heavily on the hypothetical risks presented by the Fed and less on what they think their own internal risks may be. The Fed is trying their best to prevent banks from gaming the system, but they are in a tough position. Many bank want to know more about the Fed's stress testing framework, specifically those banks whose results drastically differed from the Fed results. In a 2013 speech former Fed Chairman Ben Bernanke stated that the Fed wants to help clear up the opacity of the system but acknowledged that it was somewhat of a "black box" (Bernanke 2013). Schuermann brings up a great point: If the system as a whole becomes dependent on trying to mimic the risks identified by the Fed to get similar results, that adds more risk to the system. This narrowing or convergence could result in another financial crisis. Schuermann believes that the Fed is indirectly discouraging innovation in BHCs internal models for fear that they might get different results.

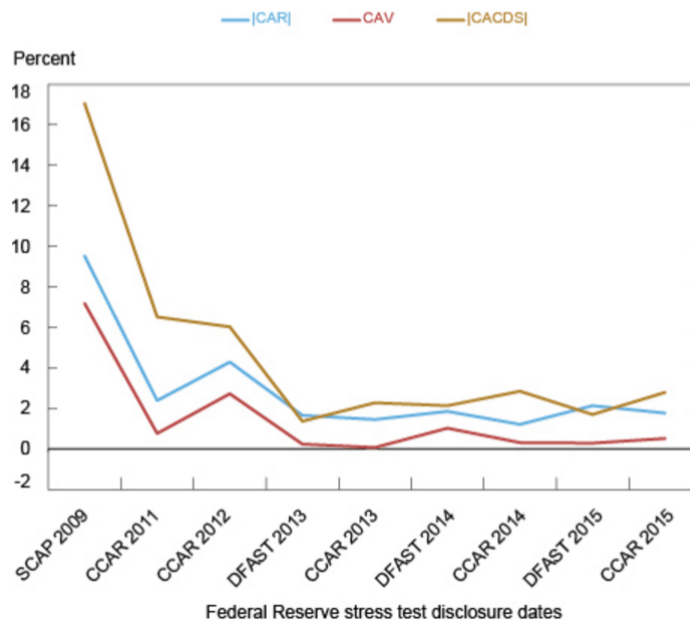
Goldstein and Sapra (2014) propose the idea that some disclosure is optimal when the market is in distress, but not necessary when markets are performing well. This concept is also supported by Goldstein and Leitner in another piece of work titled *Stress Tests and Information Disclosure*. The overwhelming theme is that disclosure of results is good for financial stability but can exacerbate bank specific results. Like Schuermann, these academics acknowledge that an incentive exists for banks to play the system and potentially hide risk in order to have better received test results. Furthermore, they warn against the design issues within the stress testing framework. They provide more insight by explaining how in poor economic times disclosure of results can increase investor confidence and restore stability to the system. To complement

this rationale, they make the recommendation that regulators should disclose results on an aggregate level instead of providing individual bank results. This would help maintain the goal of financial stability and would prevent market participants from misinterpreting micro or bank level situations.

Other academics argue that the disclosure of these stress test results, while significant to market participants, draw a smaller amount of market reaction. Research from Beverly Hirtle at New York Fed supports this notion. Figure 1. below shows through various measures (cumulative abnormal returns, cumulative abnormal volatility, and cumulative abnormal spread changes) of market reaction that over time markets seem to place less emphasis on the disclosure of stress tests (Hirtle, Kovner, Zeller 2016). Overall, it seems like most research agrees that disclosure of stress tests is important, but that importance is dwindling and can be variable due to economic times.

Figure 1.

Measures of the Market Reaction of Bank Holding Companies to Stress Test Results.



A final area to consider is the possibility that psychology from a bank's perspective may affect the current stress testing programs. Within the stress testing programs, there is inherently a trade-off between capital adequacy and economic performance: the more capitalized a bank becomes, the less efficiently it is employing its capital. According to Gallardo, Schumann, & Duane, this trade-off presents a huge problem. The CCAR system essentially rewards BHCs for closely mimicking the Fed, which discussed earlier may lead to greater systemic risk. This incentive to mirror Fed results introduces the Hirshleifer Effect (Goldstein and Leitner 2013), where disclosing too much information destroys risk sharing opportunities in the market, which is generally a goal of stress testing (Hirshleifer 1971). Bayesian persuasion is another factor that is likely in play throughout stress tests. This concept arises when the sender (BHCs) of information chooses what information to disclose to another party (market participants) that will ultimately make a decision affecting both parties (investment decisions) (Goldstein and Leitner 2013). In this situation BHCs can "selectively decide" how to run their internal stress tests which in turn gives results that they believe investors will receive positively. There are many specific view points on how the market reacts to stress tests. Holistically, most people agree that the system is beneficial, but the value of the disclosures seems to be decreasing over time.

Methodology and Analysis

Summary of Analysis

Collection and Summary of Stress Test Results

The analysis provided in this paper is based on data collected from both the DFAST and CCAR results disclosed in 2015. Tables 1 and 2 summarize the results of both DFAST and CCAR tests and are listed at the end of this paper. Table 1 displays the results of the DFAST banks. There were 51 banks used in my analysis, though more banks were subject to testing. I elect to exclude banks that were non-traditional in nature and may skew results (ie. brokerage firms with bank operating companies). Information was collected from each company's website. Table 2 includes data from the CCAR banks. This data was collected from the official Federal Reserve disclosure, though it reflects the company's own internally run tests. Both Tables 1 and 2 include the projected minimum of the four required capital adequacy ratios over the projected 9 quarter period. The four ratios are Common Equity Tier 1 ("CET1"), Tier 1 Capital, Total Capital, and the Leverage Ratio. CET1 is a rather new measure implemented by the Basel III, a universally adopted framework for capital adequacy in the banking sector, and is widely considered the most useful of the capital adequacy ratios. Each group of banks has been divided into quintiles based on their reported minimum CET1.

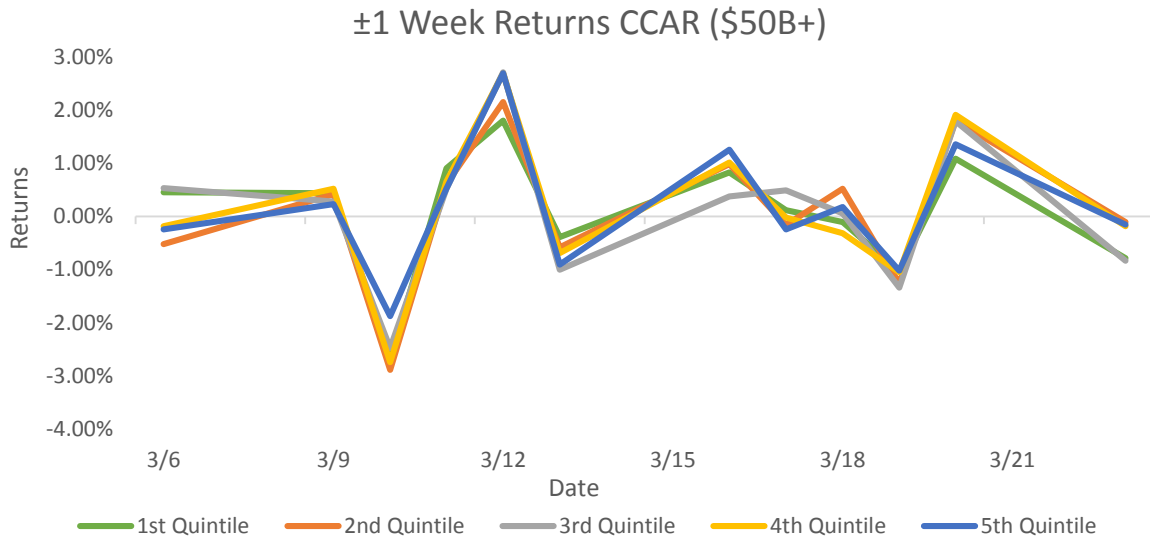
No BHCs at either the DFAST or CCAR level failed the 2015 stress tests, though some BHCs fell below the "well capitalized" standard. Interestingly, 2 BHCs that were in the lowest quintile of the 2015 DFAST results ended up being acquired since reporting in June. Those banks were First Niagara Financial Group and City National Corporation. Two other BHCs were also acquired, one that was in the third quintile (Susquehanna Bancshares) and another one

that was a well-capitalized but not public (OneBank West). It is also important to note the disclosure dates for all of these BHCs. Historical stock market data was collected from Bloomberg Professional for these banks, reaching out one year prior to disclosure dates. The market data collected includes historical open, high, low and closing prices as well as volume and turnover. This data was then analyzed in an attempt to quantify market reaction to the disclosure of the stress tests. There are two main metrics I considered when looking for market reaction, price return data and volatility data. Prior to performing my analysis, my expectations were that while markets may have a tough time digesting the results of DFAST banks, those banks who held too much or too little capital, relative to their peers, would draw a larger amount of market reaction.

Price Reactions

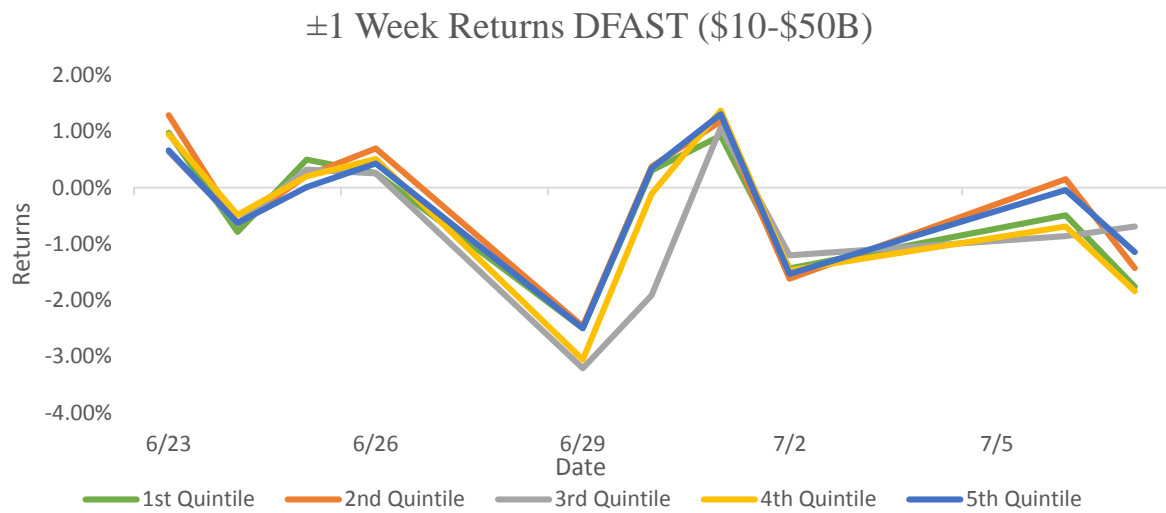
One way to measure market reaction is by the movement in daily stock prices. I observed several different time periods to see if stock prices responded to the disclosure of stress test results. I looked at both CCAR and DFAST banks but, as previously mentioned, was focusing on the DFAST bank results. I looked at the time total timeframe spanning (approximately) one month prior to disclosure and one month after the disclosure date. CCAR and DFAST banks reported at different times but I used the most frequent reporting date for each group. I narrowed down the time frame of various analyses in order to get a more accurate view of how disclosure may affect prices. The following graphs are based on stock movement in different time spans and labeled within the graphs.

Figure 2.



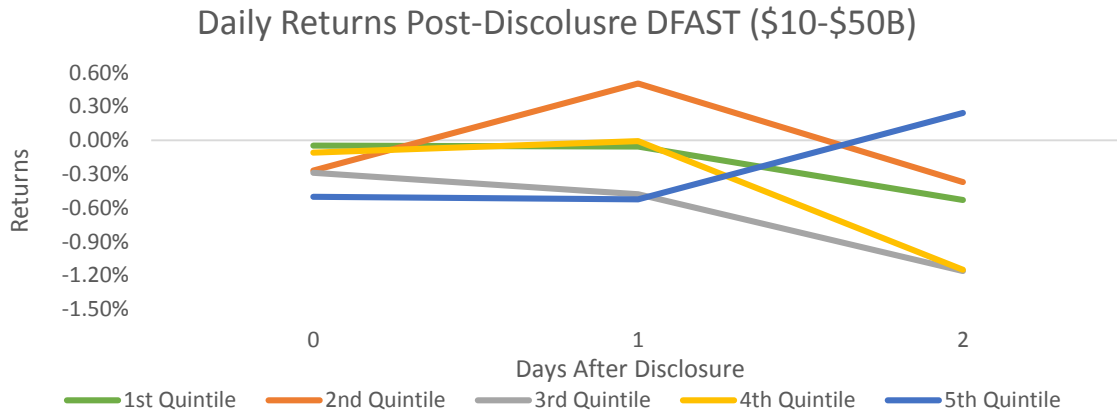
*Figure 2 displays the average daily price change for each quintile of CCAR banks. The graph spans 2 weeks, one week prior to the average disclosure date and one week following disclosure.

Figure 3.



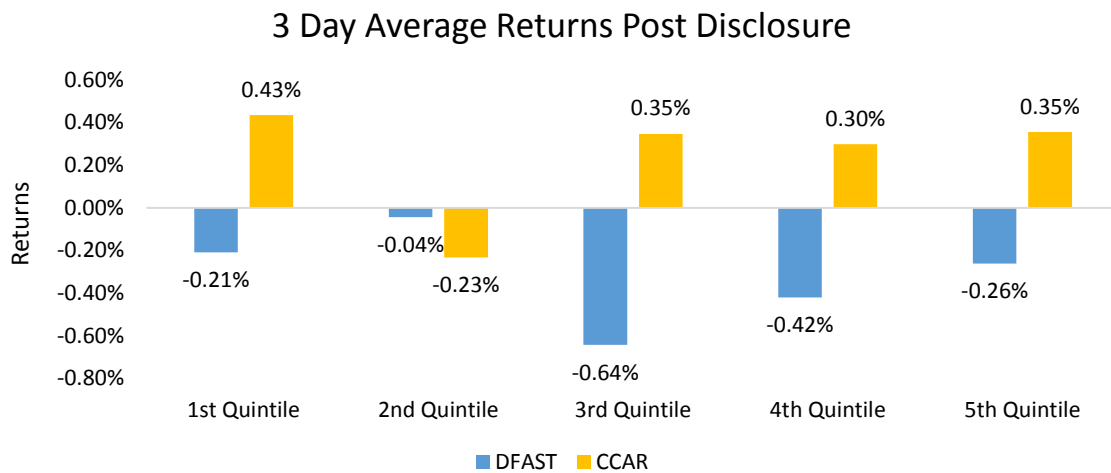
*Figure 3 displays the average daily price change for each quintile of DFAST banks. The graph spans 2 weeks, one week prior to the average disclosure date and one week following disclosure.

Figure 4.



*Figure 4 displays the average daily price change for each quintile of DFAST banks. The graph spans 3 days following each bank's specific disclosure date within the established quintiles.

Figure 5.



*Figure 5 displays a comparison of the average returns for both DAST (\$10-\$50B) and CCAR (\$50B+) banks over a three day period following disclosure.

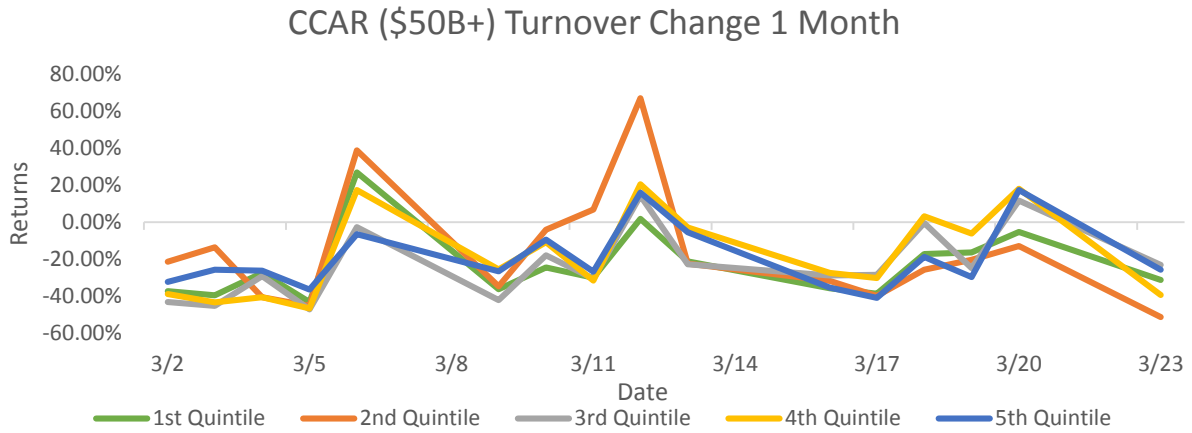
As seen in the graphs above, the market reacted much differently to the disclosure of DFAST and CCAR results. Figures 2 and 3 show the inherent uncertainty that market participants have when confronted with results. A single bank's results alone are not as valuable as their relative performance. Most CCAR banks disclosed their internal test results on the 5th or 6th of March. Following that date, you can see that the average stock price of all CCAR

banks dropped significantly. This drop is likely due to the hesitant nature of market participants. The Fed released its test results on the 11th of March. Shortly after this release you can see a large rebound in the market. In the days following the disclosure, stock returns stabilized and returned to more typical levels. This same phenomenon can be seen in the stock returns of DFAST banks. DFAST banks were required to disclose results between the 15th and 30th of June. Up until the deadline to report, the prices of all quintiles of banks were declining. After all of the participating banks released their results (which were positive results – no failures) the market rebounded quickly and gradually stabilized. This market movement was similar to that seen in the CCAR banks but the rebound was not nearly as large in scale. Figure 5 helps to quantify and compare the rebounds in the market of both DFAST and CCAR banks following their disclosures. On average, DFAST banks were much more capitalized, having an average CET1 ratio of 11.2% compared to the CCAR average of 9.8%. Despite being more adequately capitalized, DFAST banks experienced lower market returns. This irrational behavior by investors can be linked to a degree of market inefficiency.

Volatility Reactions

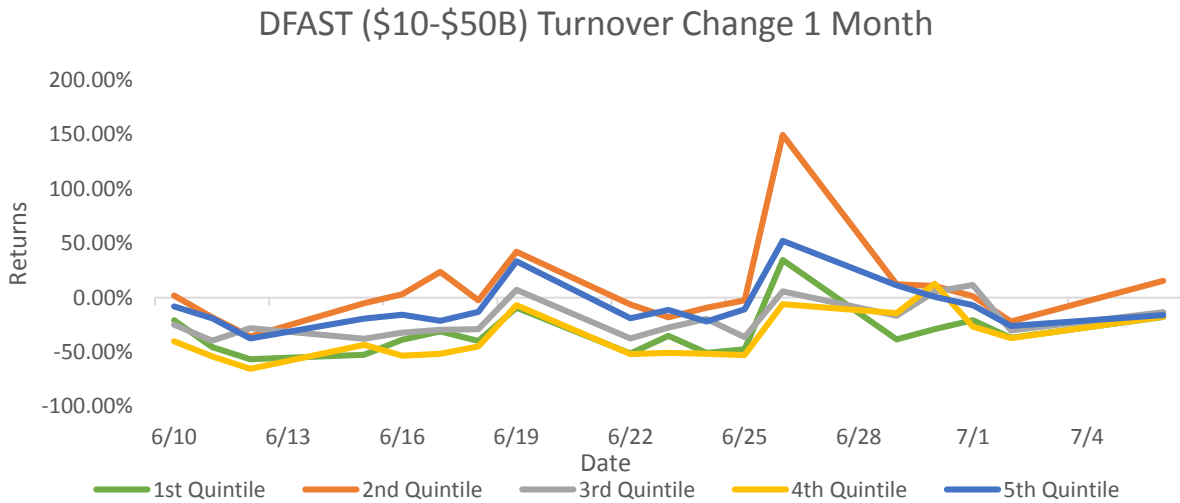
In addition to using returns to measure market reaction to stress tests I also looked into the volatility of the BHCs' equities. Furthermore, I used two separate methods to capture the volatility. The first measure was calculated by taking the daily high minus the daily low and dividing that spread by the low price. The second measure used to capture volatility was the change in the BHC turnover. Turnover is often viewed as an indicator of stock performance. Typically, the higher the turnover of a particular stock, the better it is performing in the market. The graphs below (Figures 6-9) help illustrate my findings.

Figure 6.



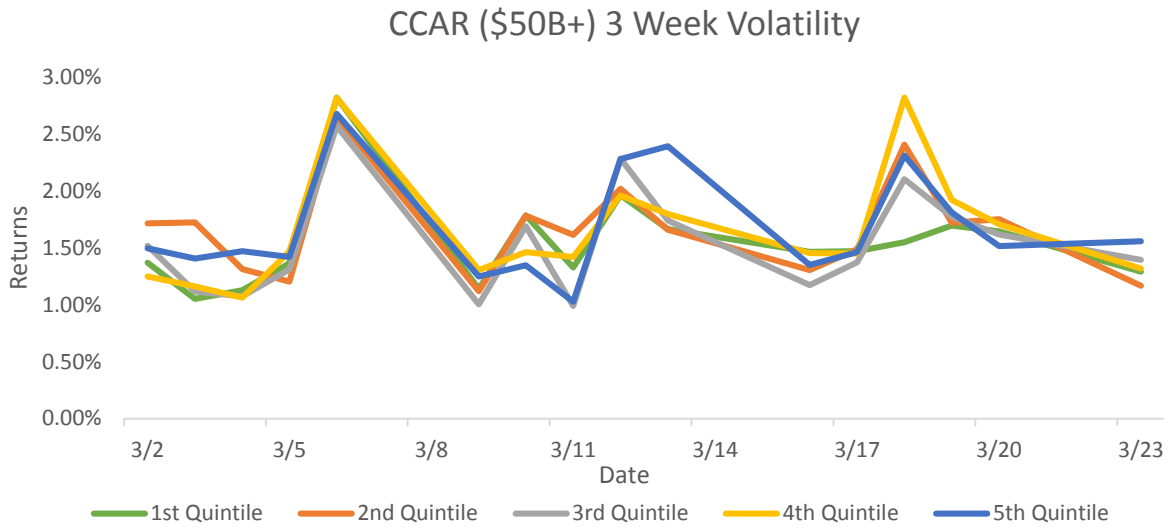
*Figure 6 shows the average percentage change in turnover of CCAR (\$50B+) banks by quintile over a one month period

Figure 7.



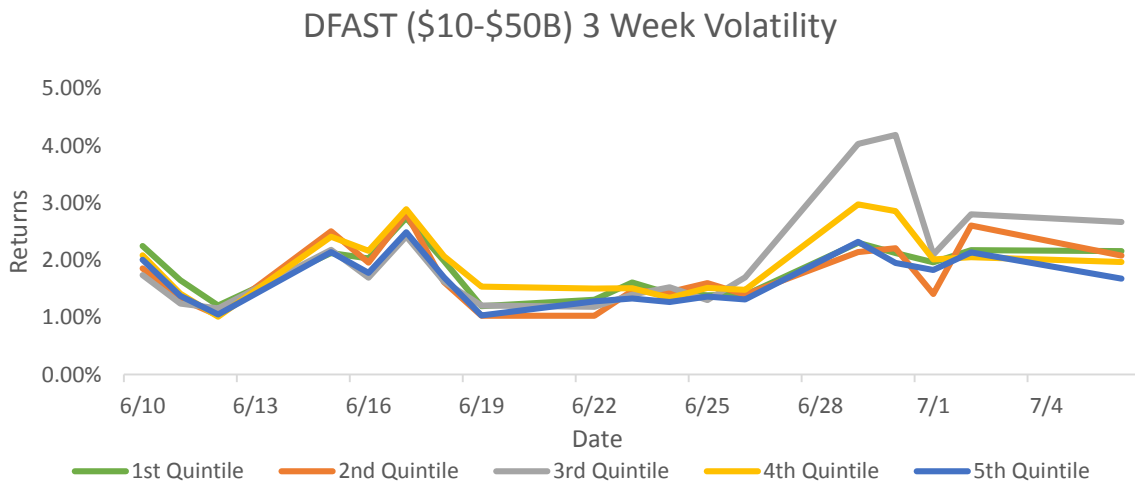
*Figure 7 shows the average percent change in turnover of DFAST (\$10-\$50B) banks by quintile over a one month period

Figure 8.



*Figure 8 shows the average percent change in volatility for CCAR (\$50B+) banks by quintile. The timeframe displayed is three weeks centered near the average date of disclosure.

Figure 9.



*Figure 9 shows the average percent change in volatility for DFAST (\$10-\$50B) banks by quintile. The timeframe displayed is three weeks which are centered near the average date of disclosure.

The change in turnover in both CCAR and DFAST banks spiked right before the required disclosure dates. For CCAR banks there were two significant spikes, one occurring prior to the release of companies' internal results and another spike before the release of the Fed's results. These spikes were in line with the declines in stock price returns and indicate a selling trend in the BHCs equities. Similarly, the recorded volatility shown in Figures 8 and 9 support the selling trend.

Results and Interpretations

Overall, analyses of the market reaction to stress testing seem to support the concept that markets are not perfectly efficient. Although the market is not perfect at absorbing and reacting to stress test results, it is becoming more efficient over time. As market participants become more familiar with interpreting stress testing results and the general framework, they will likely place a lower value on the actual disclosure of these results. This is supported by the lower level of level of market volatility within the CCAR banks compared to DFAST banks. Moving forward, I anticipate the market participants will react less to the disclosure of stress testing results for DFAST banks, deeming them less valuable. Stress testing results will be considered much more valuable in the case of extreme results. The following case studies provide more insight into these extreme cases.

Case Studies on DFAST (\$10-\$50B) Banks

In order to get a more in-depth look at the market reaction to stress testing disclosure, I looked at two specific banks, one that disclosed poor results and one that released favorable results. City National Corporation ("CYN") was poorly capitalized and fell into the lowest quintile of banks based on CET1. Synovus Financial Group ("SNV") reported much higher capital

adequacy compared to City National Corporation. For each of the 44 total public DFAST banks I compared the stock price movement of the 3 days before each BHC released its results to the stock price movement the 3 days after disclosure. I used a simple T-test for two sample means and established my significance at a p-value of .05 (alpha = .05). A summary of the test results for CYN and SNV are displayed below in Figure 10. The resulting p-values of each test are highlighted in a shade of orange.

Synovus Financial Group (SNV)

Synovus Financial Group saw an increase in stock price and volatility following the release of their stress test results on June 19th. While this increase can be expected, no level of significance could be established. Many of the 44 total public DFAST banks trended upwards after the release of their results, but none of the banks traded up at a significant level. The level of significance for all T-tests was set at a confidence level of 95% (alpha = .05). This supports the notion that the market does not significantly reward BHCs for positive results. Synovus Financial Group was one of several banks that had a rather low p-value, indicating that the probability of the price randomly moving up was low yet still not significant. SNV shares were trading negatively prior to the disclosure of their results but the bank saw positive returns in the days following disclosure.

City National Corporation (CYN)

City National Corporation is a good example of how the market reacted to a BHC that release sub-optimal results. As you can see in Figure 10 below, CYN traded downwards at a significant level following the disclosure of their internally run stress test. The projected capital adequacy at CYN was of the lowest reported by any DFAST participating bank. Consequently,

City National Corporation was acquired by Royal Bank of Canada in November of 2015. CYN was not the only DFAST bank to be acquired since disclosure of results.

| City National Corporation | <i>Pre Disclosure</i> | <i>Post Disclosure</i> |
|----------------------------------|-----------------------|------------------------|
| Mean | 0.0004 | -0.0069 |
| Variance | 0.0000 | 0.0001 |
| Observations | 3.0000 | 3 |
| Pearson Correlation | 0.9394 | |
| Hypothesized Mean Difference | 0 | |
| df | 2 | |
| t Stat | 3.3112 | |
| P(T<=t) one-tail | 0.0402 | |
| t Critical one-tail | 2.9200 | |
| P(T<=t) two-tail | 0.0804 | |
| t Critical two-tail | 4.3027 | |

| Synovus Financial Corp | <i>Pre Disclosure</i> | <i>Post Disclosure</i> |
|-------------------------------|-----------------------|------------------------|
| Mean | -0.0082 | 0.0077 |
| Variance | 0.0001 | 0.0001 |
| Observations | 3 | 3 |
| Pearson Correlation | -0.5273 | |
| Hypothesized Mean Difference | 0 | |
| df | 2 | |
| t Stat | -1.5958 | |
| P(T<=t) one-tail | 0.1258 | |
| t Critical one-tail | 2.9200 | |
| P(T<=t) two-tail | 0.2516 | |
| t Critical two-tail | 4.3027 | |

*Figure 10 show the results of significance testing.
The T-Test for two sample means was used for both banks.

Mergers and Acquisitions

First Niagara Financial Group, Susquehanna Bancshares, and OneWest Bank were all either acquired or in the process of being acquired since disclosure of test results. Stress Testing results are not the only factor at play. The cost to comply and integrate a stress testing framework can be expensive. Karla Payne, CFO of Arvest Bank, recently stated that the requirements of the DFAST program are “a culture” compared to how smaller banks operate. Also in the ABA Banking Journal, she strongly warns smaller banks to prepare in advance if they

are considering growing large enough to become subject to DFAST. The merger and acquisition activity was likely expedited after several of the banks realized they were not properly prepared to perform these tests. This consolidation trend is likely to continue and expand in the area of smaller community banks according to Randy Dennis of DD&L Consulting (R. Dennis, personal communication, April 21, 2016). This consolidation trend helps banks capture economies of scale as well as other cost saving synergies.

Recommendations

The research and analysis in this paper has led me to make several recommendations. There are two main parties for which I would make recommendations: BHCs, market participants and regulators. For BHCs I recommend that the importance of stress testing not be overlooked. While market participants might be responding less to the actual disclosure of results, there are significant implications for releasing sub-optimal results. As evidenced by the short case studies above, it is likely that a BHC will be punished more severely for reporting sub-optimal results than rewarded for reporting positive results. I suggest that more research be performed in the coming years for DFAST banks as they continue to release their internally run test results. For market participants I recommend that stress test results be viewed as a holistic tool to evaluate the future prospects of the sector. Isolating a particular bank's results can be a misleading and add greater risk for investors since they are unaware of the assumptions in a BHCs stress test framework. BHCs that report poor results may be potential acquisition targets for larger banks but these opportunities will likely decrease in subsequent years. For regulators I recommend an increase in transparency and cooperation. Markets need assurance that regulators are performing their job by promoting market safety and efficiency. Stress tests can

be a very informative and preventive tool that promotes financial stability if corrected implemented and interpreted by all relevant parties.

Macro level stress testing is a great tool that can be used to evaluate the stability of the financial sector. The current stress testing programs in place are dynamic and continue to adapt as banks face new risks. DFAST participating banks will become more familiar with the system as time goes on, resulting in less drastic market reaction when the results are disclosed. Markets participants are quickly identifying the usefulness of these results though they still act irrationally at times.

List of Tables

Table 1

Table 1 displays the Stress Test Results for DFAST (\$10-\$50B) banks

| 2015 DFAST Results \$10B-\$50B Banks Severely Adverse Scenario | | | | | | | |
|--|----------------------|--------------------|---------------|-----------------|--------|------------------|----------|
| Bank Holding Company | | | | | | | |
| Stress Test Minimums: | Common Equity Tier 1 | Tier 1 Capital | Total Capital | Tier 1 Leverage | Ticker | Date Reported | Quintile |
| Regulatory Minimums: | 4.0% / 4.5% | 5.5% / 6.0% | 8.0% | 4.0% | | 6/30/2015 | |
| Arvest Bank Group | 10.0% | 11.3% | 13.9% | 6.4% | - | - | - |
| Associated Banc-Corp | 9.0% | 9.1% | 12.0% | 6.3% | ASB | 6/15/2015 | 2 |
| Astoria Bank | 15.1% | 15.1% | 16.3% | 9.7% | - | - | - |
| BancorpSouth, Inc. | 10.4% | 10.4% | 11.6% | 8.1% | BXS | 6/25/2015 | 3 |
| Bank of Hawaii Corporation | 14.2% | 14.2% | 15.5% | 7.0% | BOH | 6/26/2015 | 5 |
| BankUnited, Inc. | 14.3% | 14.3% | 15.6% | 9.3% | BKU | 6/19/2015 | 5 |
| Barclays Bank Delaware | 7.7% | 10.4% | 13.4% | 7.5% | - | - | - |
| BOK Financial Corporation | 11.6% | 11.8% | 13.0% | 9.4% | BOKF | 6/17/2015 | 4 |
| Cathay General Bancorp | 11.5% | 12.6% | 13.9% | 10.7% | CATY | 6/26/2015 | 4 |
| Central Banccompany, Inc. | 15.1% | 15.1% | 16.4% | 11.7% | - | - | - |
| CIT Group Inc. | 13.3% | 13.0% | 13.5% | 16.0% | CIT | 6/26/2015 | 5 |
| City National Corporation | 7.5% | 8.6% | 10.4% | 6.1% | CYN | 6/25/2015 | 1 |
| Commerce Bancshares, Inc. | 11.8% | 12.6% | 14.0% | 9.0% | CBSH | 6/25/2015 | 4 |
| Cullen/Frost Bankers, Inc. | 11.0% | 12.4% | 13.8% | 6.8% | CFR | 6/26/2015 | 4 |
| East West Bancorp, Inc. | 7.4% | 7.4% | 9.3% | 6.0% | EWBC | 6/26/2015 | 1 |
| EverBank Financial Group | 10.6% | 10.6% | 11.9% | 6.5% | EVER | 6/29/2015 | 3 |
| F.N.B. Corporation | 8.4% | 9.3% | 11.3% | 7.1% | FNB | 6/17/2015 | 2 |
| First BanCorp. | 10.6% | 11.0% | 15.0% | 8.5% | FBP | 6/25/2015 | 3 |
| First Citizens BancShares, Inc. | 12.2% | 12.2% | 13.9% | 8.5% | FCNCA | 6/15/2015 | 4 |
| First Horizon National Corporation | 10.0% | 11.1% | 13.7% | 8.5% | FHN | 6/15/2015 | 3 |
| First National of Nebraska, Inc. | 9.6% | 10.8% | 12.1% | 8.5% | FINN | 6/25/2015 | 3 |
| First Niagara Financial Group, Inc. | 8.0% | 9.6% | 11.6% | 7.1% | FNFG | 6/16/2015 | 1 |
| First Republic Bank | 9.9% | 12.5% | 14.0% | 8.4% | FRC | 6/15/2015 | 3 |
| FirstMerit Corporation | 8.9% | 8.9% | 12.6% | 7.0% | FMER | 6/19/2015 | 2 |
| Fulton Financial Corporation | 8.1% | 8.1% | 11.4% | 6.4% | FULT | 6/17/2015 | 2 |
| Hancock Holding Company | 7.3% | 7.3% | 8.5% | 6.0% | HBHC | 6/23/2015 | 1 |
| Hudson City Savings Bank | 18.3% | 18.3% | 19.6% | 9.8% | - | - | - |
| IBERIABANK Corporation | 8.8% | 8.8% | 10.8% | 8.2% | IBKC | 6/15/2015 | 2 |
| International Bancshares Corporation | 16.0% | 18.2% | 19.4% | 12.1% | IBOC | 6/15/2015 | 5 |
| Investors Bancorp, Inc. | 16.1% | 16.1% | 17.4% | 14.6% | ISBC | 6/26/2015 | 5 |
| New York Community Bancorp, Inc. | 8.9% | 8.9% | 11.1% | 6.0% | NYCB | 6/17/2015 | 2 |
| OneWest Bank, National Association | 14.7% | 13.6% | 14.9% | 9.3% | - | - | - |
| People's United Financial, Inc. | 9.7% | 9.7% | 12.4% | 8.2% | PBCT | 6/18/2015 | 3 |
| Popular, Inc. | 11.4% | 11.4% | 14.5% | 8.9% | BPOP | 6/15/2015 | 4 |
| PrivateBancorp, Inc. | 6.5% | 7.6% | 9.7% | 7.6% | PVTB | 6/25/2015 | 1 |
| Prosperity Bancshares, Inc. | 11.5% | 11.9% | 14.0% | 7.1% | PB | 6/25/2015 | 4 |
| Raymond James Financial Inc. | 19.6% | 19.6% | 20.4% | 12.2% | RJF | 6/26/2015 | 5 |
| Signature Bank | 11.9% | 11.9% | 13.2% | 9.0% | SBNY | 6/18/2015 | 4 |
| Susquehanna Bancshares, Inc. | 9.2% | 10.2% | 11.6% | 9.0% | SUSQ | 6/29/2015 | 3 |
| SVB Financial Group | 13.0% | 13.2% | 14.8% | 7.2% | SIVB | 6/24/2015 | 5 |
| Synovus Financial Corp. | 8.2% | 8.2% | 9.5% | 6.8% | SNV | 6/19/2015 | 2 |
| TCF Financial Corporation | 9.2% | 11.0% | 12.9% | 9.5% | TCB | 6/26/2015 | 3 |
| Texas Capital Bancshares, Inc. | 7.2% | 8.6% | 11.1% | 9.5% | TCBI | 6/29/2015 | 1 |
| Third Federal Savings and Loan Association of Cleveland (MHC) | 18.5% | 18.5% | 19.8% | 11.3% | - | - | - |
| Trustmark Corporation | 11.6% | 12.4% | 13.6% | 8.7% | TRMK | 6/15/2015 | 4 |
| UMB Financial Corporation | 12.5% | 12.5% | 13.5% | 7.5% | UMBF | 6/29/2015 | 5 |
| Umpqua Holdings Corporation | 6.4% | 6.4% | 10.8% | 4.4% | UMPQ | 6/15/2015 | 1 |
| Valley National Bancorp | 9.0% | 9.0% | 11.2% | 6.8% | VLY | 6/23/2015 | 2 |
| Washington Federal, Inc. | 22.7% | 22.7% | 24.0% | 11.4% | WAFD | 6/19/2015 | 5 |
| Webster Financial Corporation | 8.7% | 9.7% | 11.5% | 6.7% | WBS | 6/16/2015 | 2 |
| Wintrust Financial Corporation | 7.1% | 9.1% | 11.1% | 7.3% | WTFC | 6/19/2015 | 1 |
| Average | 11.2% | 11.7% | 13.6% | 8.5% | | 6/15/2015 | |

Source: Company Releases

*Excludes Charles Schwab Bank, E*TRADE & Synchrony Financial; Mode used for Average Date Reported

Table 2.

Table 2 displays the Stress Test Results for CCAR (\$50B+) banks

| 2015 CCAR Results \$50B+ Banks Severely Adverse Scenario | | | | | | | |
|--|----------------------|----------------|---------------|-----------------|--------|------------------|----------|
| Bank Holding Company | | | | | | | |
| Stress Test Minimums: | Common Equity Tier 1 | Tier 1 Capital | Total Capital | Tier 1 Leverage | Ticker | Date Reported | Quintile |
| Regulatory Minimums: | 4.5% | 6% | 8.0% | 4.0% | | 3/15/2015 | |
| Ally Financial Inc. | 8.4% | 11.1% | 12.3% | 9.6% | ALLY | 3/13/2015 | 2 |
| American Express Company | 13.6% | 14.1% | 16.1% | 12.0% | AXP | 3/5/2015 | 5 |
| Bank of American Corporation | 7.8% | 8.5% | 11.1% | 5.9% | BAC | 3/5/2015 | 1 |
| The Bank of New York Mellon Corporation | 12.3% | 13.4% | 13.9% | 5.5% | BK | 3/11/2015 | 5 |
| BB&T Corporation | 7.1% | 8.4% | 10.5% | 6.8% | BBT | 3/5/2015 | 1 |
| BBVA Compass Bancshares | 8.6% | 8.6% | 10.3% | 7.0% | BBVA | 3/5/2015 | 2 |
| BMO Financial Corp. | 8.0% | 8.0% | 11.1% | 5.8% | BMO | 3/5/2015 | 2 |
| Capital One Financial Corporation | 10.9% | 11.7% | 13.4% | 9.8% | COF | 3/5/2015 | 4 |
| Citigroup Inc. | 8.2% | 8.2% | 10.5% | 6.0% | C | 3/5/2015 | 2 |
| Citizens Financial Group, Inc. | 11.0% | 11.0% | 14.5% | 9.7% | CFG | 3/11/2015 | 5 |
| Comerica Incorporated | 9.0% | 9.0% | 10.9% | 8.3% | CMA | 3/5/2015 | 3 |
| Deutsche Bank Trust Corporation | 25.5% | 25.5% | 26.2% | 11.4% | DB | 3/11/2015 | 5 |
| Discover Financial Services | 13.0% | 13.8% | 15.5% | 12.1% | DFS | 3/5/2015 | 5 |
| Fifth Third Bancorp | 8.1% | 9.2% | 12.4% | 8.0% | FITB | 3/5/2015 | 2 |
| The Goldman Sachs Group, Inc. | 9.3% | 10.7% | 13.0% | 7.2% | GS | 3/5/2015 | 4 |
| HSBC North American Holdings Inc. | 8.6% | 9.8% | 14.6% | 6.0% | HSBC | 3/5/2015 | 3 |
| Huntington Bancshares Incorporated | 7.7% | 8.4% | 10.8% | 7.0% | HBAN | 3/5/2015 | 1 |
| JPMorgan Chase & Company | 6.9% | 8.1% | 10.2% | 6.0% | JPM | 3/5/2015 | 1 |
| KeyCorp | 9.9% | 10.1% | 12.5% | 9.3% | KEY | 3/5/2015 | 4 |
| M&T Bank Corporation | 9.2% | 10.8% | 13.7% | 8.9% | MTB | 3/12/2015 | 3 |
| Morgan Stanley | 12.3% | 12.3% | 14.6% | 8.5% | MS | 3/5/2015 | 5 |
| MUFG Americas Holdings Coporation | 8.0% | 8.0% | 10.2% | 7.1% | MTU | 3/5/2015 | 2 |
| Northern Trust Corporation | 10.4% | 11.0% | 13.6% | 7.5% | NTRS | 3/5/2015 | 4 |
| The PNC Financial Services Group, Inc | 9.2% | 10.6% | 13.4% | 9.2% | PNC | 3/5/2015 | 3 |
| Regions Financial Corporation | 10.1% | 10.7% | 13.2% | 9.5% | RF | 3/5/2015 | 4 |
| Santander Holdings USA, Inc. | 10.1% | 10.5% | 12.4% | 9.7% | SAN | 3/5/2015 | 4 |
| State Street Corporation | 8.2% | 9.7% | 11.5% | 4.9% | STT | 3/6/2015 | 2 |
| SunTrust Banks, Inc. | 8.7% | 9.5% | 11.4% | 8.2% | STI | 3/6/2015 | 3 |
| U.S. Bancorp | 7.6% | 9.0% | 11.2% | 7.6% | USB | 3/5/2015 | 1 |
| Wells Fargo & Company | 9.1% | 10.5% | 13.5% | 8.9% | WFC | 3/5/2015 | 3 |
| Zions Bancorporation | 8.6% | 8.6% | 10.5% | 12.7% | ZION | 3/5/2015 | 3 |
| Average | 9.8% | 10.6% | 12.9% | 8.3% | | 3/6/2015 | |

Source: Company Releases & FED Report

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