The Impact of the Volcker Rule on Systematically Important Financial Institutions: An Event Study

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Abstract:

We examine stock market reactions to three key events leading to the passage of the Volcker Rule to provide empirical evidence on the effectiveness of the regulation on systematically important financial institutions (SIFI). SIFI overall had a negative abnormal return. A control group of financial institutions less likely to be affected by the regulation had a positive abnormal return. A group of proprietary trading firms (PTG) overall had a negative abnormal return. We also use a cross-sectional analysis to examine the impact of firm-specific characteristics on both our SIFI and PTG. We find that the cumulative abnormal return (CAR) for SIFI that are larger in size, amount of debt and higher average trading volume, were not affected by the regulation. We found the same effect for our PTG sample.

1. Introduction

The financial crisis of 2008 is considered to be the worst financial crisis since the Great Depression of the 1930s. The crisis spurred the collapse of large financial institutions, the bailout of banks by national governments, and a period of downturns in stock markets around the world. Various studies have been conducted in order to isolate the key factors that were responsible for the crisis. A bi-partisan commission of US Senators such as Tom Coburn, Rand Paul, and Scott Brown released a 635 page report which details the causes of the financial market crisis of 2008. The U.S. Senate's Levin–Coburn Report[1] concluded that the crisis was the result of high risk, complex financial products; undisclosed conflicts of interest; the failure of regulators, the credit rating agencies, and the market itself.

The Financial Crisis Inquiry Commission[2] concluded that the financial crisis was avoidable and was caused by widespread failures in financial regulation and supervision, and dramatic failures of corporate governance and risk management by many systemically important financial institutions. Some studies have pointed to the 1999 repeal of the Glass-Steagall Act[3] that effectively removed the separation between investment banks and depository banks in the United States (Kroszner, 1994). The immediate aftermath of the crisis enabled the call for regulatory reform within the financial markets. The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) and the Volcker Rule which was added to the 2010 Dodd-Frank Act was considered the largest regulatory mandate since the Great Depression

[1] Levin–Coburn Report is a two-year bipartisan investigation conducted by Senator Carl Levin, D-Mich., and Senator Tom Coburn M.D. R-Okla., Chairman and Ranking Republican on the Senate Permanent Subcommittee on Investigations on the causes of the financial crisis.

[2] The Financial Crisis Inquiry Commission (FCIC) is a ten-member commission appointed by the United States government with the goal of investigating the causes of the financial crisis of 2007–2010.

[3] The term Glass–Steagall Act usually refers to four provisions of the U.S. Banking Act of 1933 that limited commercial bank securities activities and affiliations between commercial banks and securities firms.

(Skeel, 2010). Given the magnitude of such reform, opponents of the regulation have argued that the proposed Volcker Rule would affect credit and capital markets (Admati, 2012). The opponents believe that the regulation would increase cost, halt lending, and burden the business activities of the banks subjected to the regulation.

Paul Volcker, the Chairman of President Obama's Economic Advisory Board, argued that the regulation would only affect banks that were involved in highly-speculative trading, particularly, banks that were deemed too-big-to-fail. The main objective of the regulation was to separate the speculative trading activities which the Chairman believed deviated from traditional banking activities that supported the real economy. To be more precise, the Volcker Rule is primarily intended to restrict US banks from engaging in proprietary trading. According to the rule proprietary trading is defined as any engagement as a principal for the trading account of a banking entity in any transaction to purchase or sell certain types of financial positions. Also, banks ownership or investments in hedge funds or private equity funds are restricted.

Since President Obama's announcement of the Volcker Rule on January 21, 2010, until the rule finally passed the House on December 10, 2013[4], there have been various studies that have attempted to assess the impact that such regulation would have on the financial market. Schäfer, Schnabel and di Mauro (2012) examined the effects of various regulations including the Dodd –Frank Act on financial markets. Gao, Liao and Wang (2011) constructed a group of SIFI, which was comprised of banks and non-bank financial institutions, in order to investigate the impact of the regulation on such firms. More recently Pennathur, Smith and Subrahmanyam

[4] Initially the Volcker Rule was scheduled to pass on July 21, 2012. The Dodd-Frank was signed, but the Volcker Rule was delayed until December 10, 2013. The rule, although it passed the House of Representative, has not been posted on the Federal register. And it is scheduled to take effect in July 2015.

(2014) looked at the wealth effects on financial markets using nine prominent government interventions on banks savings and loan associations and insurance companies. King, Massound and Song (2012) examine the Volcker rule and its impact on the banking industry, in order to see whether the rule has altered their investment strategy or their attitude towards financial risk.

Given that the Volcker Rule has officially passed the House of Representatives and is scheduled to be implemented by July 2015, it makes sense not only to develop a paper that investigates the impact of the Volcker Rule on financial institutions, but also examines how effective the regulation has been on affecting SIFI. In this paper, we therefore investigate the following questions: How effective was the Volcker Rule on solely affecting SIFI? In particular, have SIFI equity valuations registered the new rules? Apart from the overall effects, we are also interested in investigating the impact of the regulation on firm-specific characteristics. Our study is important because we examine the effects of the Volcker Rule on SIFI. Our investigation differs from prior studies because we examine the effectiveness of regulation by looking at three different groups of financial institutions to see how the regulation affected their stock returns on three key event dates.

To answer the said questions we examine the reaction of equity returns on three different groups comprised of banks and non-bank financial institutions following major regulatory events during the period September 2009 - December 2013. We focus on three key events: (i) January 15, 2010 when President Obama announced plans to adopt the Volcker Rule; (ii) October 6, 2011 when a memorandum containing a draft of the Volcker rule was leaked ahead of the

scheduled (October 11) FDIC conference (Switzer and Sheahan-Lee, 2012); and (iii) December 10, 2013 when regulators approved the passage of the Volcker Rule.

Additionally, we perform cross-sectional test to examine how the CAR for our overall SIFI and PTG sample are related to the size, level of debt, and the average volume of trades of each institution in our sample. This paper makes two primary contributions. First, to the best of our knowledge, our study is the first to investigate the effectiveness of the market reaction to the Volcker Rule. We add to the debate on the Volcker Rule by providing empirical evidence suggesting mixed views on the effectiveness of the regulation in targeting SIFI. We believe that if policy is established to do a certain task, that policy makers should be concerned as to whether the policy met its proposed objective. This is what our paper sets out to do; we investigate whether the Volcker rule fulfilled its initial objective. Second, we add to the literature on the market reaction of financial regulation by examining the equity returns of proprietary trading firms. Prior studies have focus on measuring the impact of financial regulation on the market and have ignored asking the question as to whether the regulation achieved its purpose in affecting firms that the regulation intended to target.

Our findings and contributions are subject to the following caveats. First, similar to any event studies of major legislation, the implicit assumption in our paper is that the stock market is efficient, meaning that stock prices incorporate all publicly-known information, and that stock prices change with the incorporation of new information. Thus, we assume that the expected costs and benefits of the regulation are reflected on the event dates that we selected. The inferences drawn from our results are also subject to the extent to which both our PTG and

control groups can effectively mitigate concerns over confounding events (i.e. if we find that the SIFI were not affected on any of the event dates yet our PTG and control groups were affected on each event, it would makes us question whether our event dates were right). As such, the results documented in our paper should be interpreted as suggestive.

The rest of this paper is organized as follows. In section 2, we provide background and hypothesis development. In section 3, we discuss our paper's relation to previous literature. In section 4, we explain the event study approach. In section 5, we discuss our methodology and present our data. In section 6, we discuss our results. In section 7, we discuss our cross-sectional analysis. Finally, section 8 contains concluding remarks and policy implications.

2. Background

Major Provision of Volcker Rule

History of Event Dates and Hypothesis Development

Background

In 1933, in the wake of the 1929 stock market crash and during a nationwide commercial bank failure and the Great Depression, two members of Congress put their names on what is known today as the Glass-Steagall Act (GSA). The objective of the Act was to separate investment and commercial banking activities. At the time, regulators were led to believe that commercial banks involvement in stock market was one of the factors that led to the financial crash. It was the belief at the time that commercial banks took on too much risk with depositors' money. Commercial banks were accused of being too speculative in the pre-Depression era, not only because they were investing their assets but also because they were buying new issues for resale to the public. Thus, it's been said that the banks became greedy, taking on huge risks in

the hope of even bigger rewards. Banking itself became sloppy and objectives became blurred (Kroszner & Rajan, 1994).

Senator Carter Glass, a former Treasury secretary and the founder of the United States Federal Reserve System, was the primary force behind the GSA. Henry Bascom Steagall was a member of the House of Representatives and chairman of the House Banking and Currency Committee. Congressman Steagall agreed to support the Act with Glass after an amendment was added permitting bank deposit insurance for the first time. As a collective reaction to one of the worst financial crises at the time, the GSA set up a regulatory firewall between commercial and investment bank activities, both of which were curbed and controlled.

Banks were given a year to decide on whether they would specialize in commercial or in investment banking. Only 10% of commercial banks' total income could stem from securities. Financial giants at the time such as JP Morgan and Company, which were seen as part of the problem, were directly targeted and forced to cut their services and, hence, a main source of their income. By creating this barrier, the GSA was aiming to prevent the banks' use of deposits to conduct speculative trading. The GSA, however, was considered harsh by most in the financial community, and it was reported that even Senator Glass himself moved to repeal the GSA shortly after it was passed, claiming it was an overreaction to the crisis (Kroszner & Rajan, 1994).

Mark Twain the great American author once wrote, “History doesn’t repeat itself, but it rhymes.” This statement has some truth to it when one examines the current regulations that have been imposed on the financial markets. The Volcker Rule is often described as a modern version

of the 1933 Glass-Steagall Act, which limited the activities of commercial banks and prevented them from owning securities firms. Following the bailouts of many US financial firms in late 2008 and early 2009, the Volcker Rule has been introduced to prohibit deposit-taking banks from engaging in speculative activities that might lead to future bailouts. However, before we go into depths about the Volcker Rule, it is imperative to illustrate how the rule came about.

The Dodd-Frank Act, a financial regulation bill introduced by Sen. Dodd and Rep. Frank, was signed into law by President Obama on July 21, 2010. The Act was the direct result of the severe financial crisis of 2007-2009 and the recession that followed, and was hailed as the most significant overhaul of financial regulation since the New Deal in 1930s. While more stringent financial regulation was widely expected after the financial crisis, the initial signal of the framework of the new financial regulations that first emerged in early 2009 when President Obama's administration unveiled a plan of more rigorous financial regulation. The President's administration was determine to reduce the amount of risk taking that commercial banks had become accustomed to, and most importantly to end the too-big-to-fail problem, that left tax payers footing the bill after large financial institutions mismanaged depositors' money.

The next big moment in the Dodd-Frank legislation, which is the focus of this study, came in January 2010 when President Obama formally endorsed the Volcker Rule proposed by Paul Volcker, former Federal Reserve Chairman and a main proponent of tougher restraints on banks' activities. He proposed to restrict banks from making speculative investments that did not benefit their clients and had no relation with their core business. While the proposal was initially regarded as an undesirable intervention in big banks' business activities, it gradually gained

popularity. The rule was first announced on January 21, 2010 and became law on December 10, 2013 as section 619 of the Dodd-Frank Act. The rule is set to go into effect sometime in July 2015.[5]

The key to understanding the Volcker Rule is to know its two fundamental parts. First, it restricts any US banking entity and its affiliates or subsidiaries from engaging in proprietary trading for their own profit. A banking entity is defined as any insured depository institution, any company controlling such an institution, any Bank Holding Company (BHC) and any entities that has access to the Fed's discount window. It also includes the domestic banking operations of foreign institutions. Second, the rule prohibits BHCs from owning, investing or sponsoring hedge funds and private equity funds. Banks would be restricted to 3% of any single fund, following an initial one-year seeding period and an aggregate exposure across the BHC of 3% of its Tier 1 capital.[6]

Major Provision of Volcker Rule

The objectives along with some major provisions of the Volcker Rule are: (i) to reduce moral hazard by reducing the dependence of federal support on the banking system. The rule forces banks and nonbank financial institution that the *Financial Stability Oversight Council*[7]

[5] Written in the law is a provision that allows the Federal Reserve to extent the date of implementation of the Volcker Rule for three years.

[6] Tier 1 capital is the core measure of a bank's financial strength from a regulator's point of view. It is composed of core capital, which consists primarily of common stock and disclosed reserves (or retained earnings), but may also include non-redeemable non-cumulative preferred stock.

[7] FSOC was established by Title I of the Dodd-Frank Act. The Act provides the council with broad authorities to identify and monitor excessive risks to the U.S. financial system arising from the distress or failure of large, interconnected bank holding companies or non-bank financial companies. The FSOC has a rubric that they use to classify which firms will be classified as SIFI's. These firms must have $50 billion in total consolidated assets, $30 billion in gross notional credit default swaps outstanding for which a nonbank financial company is the reference

(FSOC) considers to be SIFI to develop living wills. (ii) The rule strives to limit activities that have caused undue risk or loss in regulated banks, leading to government bailouts. One of the activities in particular is to limit banks from using depositors' money to make short-term bets on the market; (iii) to reduce potential conflicts of interest between banks and their customers.

In terms of proprietary trading, the Volcker Rule specifically exempts: (i) trading in the federal government debt, federal agency debt, and obligations of any state or political subdivision (including municipalities); (ii) trading in connection with underwriting, market-making, and hedging to meet the short-term demands of clients or counterparties; (iii) trading on behalf of customers; (iv) activities related to loan creation, including loan securitization and (v) investments by insurance affiliates for their general account.

In terms of dealings with hedge funds and private equity funds, banking holding companies may continue to provide: (i) prime brokerage services for independent hedge funds and private equity funds; (ii) prime brokerage services for independent hedge funds and private equity funds; (iii) investment management and investment advisory services (including fund of funds); and (iv) trust, fiduciary and custodial services.

History of Event Dates and Hypothesis Development

Although many studies use various event dates leading up to the passage of the Volcker Rule (Switzer and Sheahan-Lee, 2012), we focus on three key event dates in the Volcker time-line. One date (December 20, 2013), to the best of our knowledge, has never been used in a

entity, $3.5 billion of derivative liabilities, $20 billion in total debt outstanding, 15 to 1 leverage ratio of total consolidated assets (excluding separate accounts) to total equity; and 10 percent short-term debt ratio of total debt outstanding with a maturity of less than.

study. The remaining two dates are event dates that other studies have used; see King, Massound and Song (2012). We believe that these three events are appropriate to examine whether the Volcker Rule achieved its purpose.

Our first event date is January 21, 2010 when President Obama announced the Volcker Rule at a White House press briefing, with former Federal Reserve Chairman Paul Volcker standing right next to him. Obama disclosed plans to add these restrictions to the Dodd-Frank legislation that had passed the US House of Representatives and was being introduced to the Senate. Although our sample[8] differs from prior studies, we hypothesize[9] that the announcement of the Volcker rule will result in a negative abnormal return for our SIFI group. Prior studies have reported a no effect for the SIFI group on this date; however, given our sample, which we feel better represents SIFI because we construct our sample using the FSOC guidelines for SIFI, the abnormal return should be negative.

We expect a positive abnormal return for our PTG sample. The reason for our expectation is due to the fact that the firms in the PTG sample are proprietary trading companies. If the Volcker Rule restricts commercial banks from conducting proprietary trades, then the firms most likely to benefit from the restrictions of the regulation placed on banks would be the firms in our PTG sample. We believe that investors would see this regulation as an opportunity for proprietary trading firms to increase their client's base as well as the overall day-to-day transaction.

Our second event is the October 6, 2011 leak of a memorandum containing a draft of the Volcker Rule, ahead of the scheduled October 12, 2011 FDIC conference (Switzer & Sheahan-Lee, 2013). We therefore hypothesize that the leak of the Volcker rule will result in a negative abnormal return for our SIFI group. Again, we expect positive abnormal returns for the PTG, for the same reason stated above. We believe that this event date is an important date due to the fact

[8] Prior studies construct SIFI samples that do not incorporate banks that meet the FSOC requirement for SIFI.
[9] For all three of our events, we predict that the abnormal return for our control group should be zero.

that important material that dispelled the various provisions of the Volcker rule was leaked. In an efficient market, new information can alter prices, thus we use the leakage of the memorandum as an event date.

Our last event took place December 10, 2013. Regulators finally approved the Volcker Rule. In any event study, especially event studies that deal with regulatory policy, not all dates should be considered as real news given the fact that market participants may have anticipated the new information and equity valuations may already be a reflection of the incorporated information. One crucial question to ask is how to filter out the important events? Ideally, we would like to identify when those events that where truly new information became available to markets. We propose to use the standard process in the literature, the editorial process of major financial newspapers as a filtering device (Lamdin, 2001): a reform is classified as a first-order event if it was published on the front page of a major newspaper. The objective function of an editor is to give larger prominence to news that people are interested in because they learn new information.

For instance, the enactment of a law that has long been agreed on will not make page one. But the deal that paved the way for the law is more likely to make page one. This is the type of event we want to capture. Using both the *Washington Post* and the *New York Times* as our editorial filter, it was clear to see that the passage of the Volcker Rule made front cover on both papers. We predict that both the SIFI should have a positive abnormal return and our PTG should have a negative abnormal return. The reason for our prediction is because many studies have pointed to the fact that the Volcker Rule that passed the house has been diluted from the rule that

was initially proposed (Skeel, 2010). The diluted Volcker Rule that regulators approved on December 10, 2013 allows banks to conduct proprietary trading and most importantly as Skeel (2010) points, banks have found loopholes[10] around the regulation. Therefore, it is important to note that the negotiations and compromises made in Congress during the final phase of the legislation could possibly undermine the effectiveness of the final version of the Volcker Rule.

3. Relation to Previous Literature

Our paper is related to the current literature on the Volcker Rule. We focus more on the stock market reaction to regulatory events, rather than the structural changes in the business models of the firms subjected to the government intervention. The banking industry has gone through various structural changes due to government regulation, since the passing of the Glass-Steagall in 1933 (Karmel & Roberta, 1980). Event studies have been one of the key methods that financial economists use to provide insight as to how equity markets react to new information. Jackson et al. (1999) use empirical evidence to investigate the impact of the 1988 Basle Accord on the banking industry. Their paper focuses on whether the adoption of fixed minimum capital requirements led some banks to maintain higher capital ratios than would otherwise have been the case and whether any increase in ratios was achieved by increasing capital or reducing lending.

The evidence from this event studies on the stock market reaction to announcements of the introduction of requirements is generally mixed and therefore does not indicate an

[10] According to a *Fox Business* News report, Goldman Sachs has already moved about half of its proprietary stock-trading operations into its asset management division, where these traders can talk to Goldman clients and then place their own bets with house money. These bets, the report concluded, are legal as long as they are labeled customer-related, are not classified as proprietary.

overwhelming reaction one way or the other regarding the expected effect on profitability of the banks in the sample. King, Massound and Song (2012) examine the impact of the Volcker Rule on the Banking industry. Their paper focused on assessing the reaction of the regulation on equity returns, they looked at the overall portfolio return before and after the regulation to see whether the regulation altered the investment strategies of large and small banks. They also used the weekly beta for the BHCs to see whether the regulation reduced the high levels of risk that banks were taking before the crisis. Four key events dates were selected in their study.

They use data from the Fed's consolidated Financial Statements for banking holding companies (Form FR Y9-C). So their data covered all BHC with consolidated assets of $500 million or more. Out of all four of their selected events, January 15, 2009 experienced the largest negative abnormal return, -20%. This event had more of an impact than President Obama's announcement of the Volcker Rule (January 21, 2010). They also were able to uncover that only smaller banks reduce the level of proprietary trading that they conducted, and that the larger banks increased the level of proprietary trading. Using the weekly beta, they find that the Volcker rule did not reduce the level of systematic risk (measured by the weekly beta from 2009-2011) for BHCs. Our study differs from King, Massound and Song in two ways; first, we construct a better sample of firms to represent our SIFI group. Second, our event dates are not contaminated with other factors that affect the equity returns in our sample.

Two major weaknesses are apparent in King, Massound and Song (2012). First, their sample was not a good representation of companies that would be affected by the Volcker Rule. Second, their most significant event, January 15, 2009, is contaminated. The FSOC has a rubric

for companies that the regulation will target. These companies have to have $50 billion in total assets and $20 billion (for the rest of the requirements see FSOC final rules report). Their sample contains companies with total assets of $500 million or more. They compiled a second sample of the largest 18 US banking holding companies, however this sample is rather small compared with the size that other studies compile. Since their sample is not a good representation of firms that will be affected by the regulation then one should be skeptical about their stated results. Also, the January 15, 2009 event date that they used, is contaminated due to the bankruptcy of Lehman Brothers, September 15, 2008.

The bankruptcy filing took two months before it was finally processed. There was a lot of uncertainty in the market during this period. Therefore, it is rather hard to believe that the group of thirty's announcement had a stronger affect than President Obama's January 21, 2010 announcement. Studies have shown that the President has a stronger influence than any other government official on the economy (McCombs & Shaw, 1993). King, Massound and Song used a market model[11] to conduct their event study. This means that their alpha and beta estimates which are calculated by using the return during the estimation period[12] are contaminated. This could probably explain why they reported such a large and strongly significant abnormal return.

Switzer and Sheahan-Lee (2013) investigate the impact of Dodd-Frank regulation of OTC derivatives market and the Volcker Rule on equity prices of international versus US banks. To conduct their study, they use a US sample of an entire universe of firms classified as banks by

[11] $R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}$. Where Rit and Rmt is the overall portfolio and market return respectively. Beta is the measurement of systematic risk and εit is the disturbance or the abnormal return.

[12] The estimation period, is the period prior to the event. The length of the estimation period is usually 120 trading days.

Bloomberg's equity screener. They remove firms with a market cap lower than $500 million from their sample. Their total universe of US banks was 104 and their international sample was 88 banks. They used five important event dates (we use one of their dates in our study) to conduct their study. They find that the Dodd-Frank regulation had a negative effect on bank shareholders with a greater burden shown for US based banks, and for international banks with a greater presence in the US.

They concluded that the Volcker Rule had the largest negative impact on US banks, amounting to about $22 billion net of the positive reaction to the official announcement date. On the other hand, their foreign banks sample experienced a significant gain. They suggested that this was due to the fact that regulators cannot fully enforce the Volcker Rule on foreign banks, and that international banks that can circumvent its provisions will experience an expansion of their revenue generation and risk management opportunity sets at the expense of US banks. Switzer and Sheahan-Lee (2013) do not go into detail about whether every bank in their sample operates in the OTC derivative market or whether the firms in their US sample all conduct proprietary trades. Our study differs from Switzer and Sheahan-Lee in two ways. First, we do not use an index of banking firms to represent our SIFI group. Instead, we selected each bank that met the FSOC requirement. This method provided a better representation of SIFI. Second, we do not use international banks as our control group; our control is comprised of US banks only. There can be multiple firm-specific or systematic factors that can affect their international sample that Switzer and Sheahan-Lee may not have controlled for.

If there are a few firms in their US sample that do not use OTC derivatives or conduct proprietary trades, then the Volcker Rule or Dodd-Frank should not affect them as much as it would firms that operate in both of these markets. It would have been interesting to see the 104 US banks separated into groups of banks that did a substantial amount of proprietary trading and OTC derivative trades and firms that did not do as much of either of the two activities. It is possible that they would have found that the firms that did not operate in the OTC derivative market, or conduct proprietary trade, were not affected by the regulation. If this were the case, one could argue that such firms should not be included in their SIFI sample. Another weakness in their study was with a proxy variable that they used in their cross-sectional analysis. In their cross-sectional analysis they created a variable for trading assets. This variable was supposed to represent proprietary trading. The problem with using trading profit as a variable is that because banks typically do not separate profits they make from proprietary trades and profits they make from normal business operations, the lines are sometime blurred.

Gao, Liao, Wang (2011) looked at stockholder and bondholder reactions to seventeen key events that led to the passage of the Volcker Rule in order to assess the impact of the Act on SIFI. They find overall strong negative abnormal stock returns and strong positive abnormal bond returns for large financial institutions. Their logic behind examining the reaction to both the bond and stock market was that if the regulation reduced the level of risk in the market, bondholders would respond positively and stockholders would respond negatively. They believed that bondholders face less risk while stock holders face a more volatile market. Gao, Liao, Wang used the same event date (January 15, 2009) as King, Massound and Song. They did not find the (-20%) abnormal return that King, Massound and Song found. The abnormal return

they uncovered for the same event was -8.2%. Although, they face the same contamination issue, we still cannot rule out that nothing happened on this date. I credit their findings to the sample they had, which was comprised of firms that met the FSOC standard for SIFI.

Schäfer, Schnabel and di Mauro (2012) examined the effects of various regulations including the Dodd –Frank Act, on financial markets. They analyze the reaction of equity returns and CDS spreads following major regulatory steps of the banking industry during the period January 2009-October 2011 within the framework of an event study. They consider both national events, such as the Dodd-Frank Act, and international regulatory events, such as the modification of the Basel Accord ("Basel III"). They find that markets reacted most strongly to structural reforms, such as the announcement of the US Volcker Rule, the UK Vickers Regime, and the Swiss too-big-to-fail regulation. In the case of the Volcker Rule they show in a cross-sectional analysis that investment banks were more significantly affected than pure deposit-taking banks when the Volcker rule was announced. However, one of their most important observations was that the Volcker reform was watered down over time. Overall, market reactions suggest that the impact of reforms on banks' safety and profitability, as well as on bail-out expectations, has been minor. In our study, we did not use the S&P 500; we used the Russell 3000 index, which is a broader index of US firms. Our sample size is much larger than the Schäfer, Schnabel and di Mauro sample.

Bongini, Nieri and Pelagatti (2013) investigate whether financial markets reacted to the regulatory changes implied by the publication of the SIFI list and the new rules designed to address the too-big-to-fail problem of systemic banks. They used a sample of 70 of the world's

largest banks, to assess whether the stock prices of SIFIs reacted significantly and differently from those of other large banks not deemed to be systemically important. They find that financial markets did not strongly react to the new regulation regarding SIFIs.

4. The Event Study Approach

An event study attempts to examine the stock returns for some specific firm or industry before and after the announcement of a special event. An event is defined as special if market participants are surprised by the event. Typically the returns of each company for a certain holding period are calculated by adding the stocks dividend for the period to the change in the stock's price and dividing by the initial stock price. When an event is significant, the news of the event has the potential to alter the pattern of stock returns for a firm or industry. Some events are easy to select, for example the merger or acquisition of a firm, or the hiring or firing of a CEO. In the case of a regulatory event, the event dates are not as easy to select, given that regulatory reforms cover a wider period of time.

A difficult part of event studies is to make adjustments for overall movements of the stock market, as well as for other events unrelated to specific announcement under study. To accomplish this task event studies follow four basic steps. The first step is to simply identify the events in questions. After the event dates have been selected, the second step is to select an estimation period that is relevant to the event window. The third step is to estimate the abnormal return. The abnormal return represents the excess return after subtracting out returns attributable to overall movements of the stock market. The final step is to interpret the abnormal returns for each event date.

5. Methods and Data

Methods and Data

One of the challenges in examining the effects of government intervention is to pinpoint the dates when value-relevant information about the regulation became available to markets. We propose to use the standard process in the literature, the editorial process of major financial newspapers as a filtering device (Lamdin, 2001): a reform is classified as a first-order event if it was published on the front page of a major newspaper. The objective function of an editor is to give larger prominence to news that people are interested in because they learn new information. Two of the three events that we use were taken from prior literature (Switzer and Sheahan-Lee, 2013). For our last event December 10, 2013, we used the editorial process of major financial newspapers as a filtering device (Lamdin, 2001).[13]

To conduct our analysis, we use a dummy regression which is simply just a one-stage procedure to derive the abnormal return for the firms in our sample. The traditional event study with non-overlapping event windows is equivalent to estimating a dummy variable regression over the combined sample and event window, where the event window becomes dummied out with the zero-one variables (Pynnönen, 2005). Then the coefficients (Υ_i) for the dummy variables correspond to the abnormal returns. If the event windows were overlapping or the same, the abnormal returns would be contemporaneously correlated, which could cause serious bias in the standard error estimates. This problem is circumvented, by using equally weighted

[13] For more detail on how event studies on regulatory policy are conducted, see Lamdin (2001)

portfolios[14], and to use the portfolio return to conduct the event study. Thus, we estimate a regression such as:

$$\mathrm{Rpt} = \alpha + \beta \mathrm{p} R\mathrm{M} + \sum_{i=1}^{T} \Upsilon i Di + \varepsilon \mathrm{t}$$

The variable Rp is the equally-weighed portfolio return for each of our three samples. The variable α in finance is sometime interpreted as a performance measurement of whether a portfolio outperformed its benchmark index. The variable βp is the systematic risk of the portfolio. RM is the Russell 3000 index[15] and D_i are dummy variables assuming values of one on event day $i = 1$ and zero otherwise. The returns for each firm in the sample were calculated as such: $\frac{Pt+1-Pt+D1}{Pt}$ where the variable P_{t+1} is the recent stock price, P_t is the past stock price and D_1 is the dividend awarded to shareholders.

In order to examine the effectiveness of the regulation, we needed to compile a sample of firms that we believed should be negatively affected by the outcome of the regulation (SIFI), another sample of firms that should not be affected by the regulation (control group), and a third group that would benefit from the restriction (PTG) of banks not being able to conduct proprietary trades. If the regulation achieved its purpose, then the SIFI group would be negatively affected. The PTG would benefit from the regulation, and our control group would

[14] A type of weighting that gives the same weight, or importance, to each stock in a portfolio or index fund. The smallest companies are given equal weight to the largest companies in an equal-weight index fund or portfolio. This allows all of the companies to be considered on an even playing field

[15] The Russell 3000 Index is a stock market index of US stocks. This index measures the performance of 3,000 publicly held US companies based on total market capitalization, which represents approximately 98% of the investable US equity market

not be affected by the Volcker Rule. We use Yahoo! finance to collect all of the stock prices for all three sample groups.

We constructed our SIFI group by using the FSOC requirement (see footnotes on pg. 10) for nonbank financial companies that they suggested would be deemed systematically important. The banks that were going to be affected by the regulation were pretty obvious, thus we included these banks whose total consolidated assets were greater than $50 billion, and had total debt greater than $20 billion. A list of the banks for all of our samples is in the appendix of this study. We compiled a total of 34 financial firms for our SIFI group. Our sample differs from prior literature due to the timing in which the FSOC published it measurement standards for SIFIs and its list of nonbank financial firms that they selected. These firms were also included in our sample. Gao, Liao, Wang (2014) modified their 2010 study to include the firms that were on the FSOC list, however fifteen out of the their 45 firms that they classified as SIFI were too small to meet the FSOC quantitative requirement. This leads us to believe that our SIFI sample is a good representation of firms that will be affected by the regulation.

When it came to our control sample, we wanted to find a group of banks that we believed would not be affected by the regulation. Prior studies have tried to construct a control group, yet some of the firms in their sample were affected by the regulation. In order to circumvent this problem, we looked at the annual reports between the years 2010-2013 of 100 publicly-traded banks with total assets less than $1 billion. Our goal was to find a group of banks whose annual report from the years 2010-2013 did not consistently[16] mention the Dodd-Frank

[16] We consider two years or more mentioning of the Dodd-frank in an annual report as consistent. Thus, if a company in our sample's 2010 and 2011 annual report mentioned the Dodd-Frank Act. We dropped them from our

Act or the Volcker Rule. We believe that management should be able to perceive whether the Act would somehow affect their business, and that they would inform investors by stating so, and its potential effects in their annual report. Prior studies have placed firms in their control group whose annual reports from 2010-2013 consistently mention the Dodd-Frank Act and how they believe they will be affected by the act once it is implemented. When investors see such information, they are more likely to alter their holdings in the said companies due to these warnings from management.

Given that we were able to find 28 companies (two companies[17] had total assets of $3-6 billion) that fit our criteria, we believe that this group is a good representation of firms that will not be affected by the regulation. Our last group is comprised of 36 proprietary trading firms. We looked at more than 100 firms that were classified as private equity, hedge fund, proprietary traders etc. Our goal was to find firms with the said characteristics that were publicly traded and based in the US. This was not an easy task given that these types of firms are typically private. We were able to find 36 publicly-traded hedge funds, private equity firms, and financial services companies that are active in the area of market-making, hedging, and speculating. We believed that these firms would benefit the most from the regulation simply because banks would be restricted from conducting these activities and their clients would shift their business to the firms in our PTG.

sample. We did the same if a company's 2010 and 2013 only mentioned the Act; we still dropped them from our sample. We only mention the event dates that were significant.

[17] BancFirst Corporation had total assets of $6 billion and Columbia Banking System had total assets of $4 billion. However, both of these firms' annual reports did not consistently mention the Dodd-Frank or the Volcker rule.

This loss of competition from SIFI should make rational investors enthused about the proprietary trading firms. We believe that this is the perception[18] of the firms in our PTG sample. The 2011 annual report of Stifel Financial, a financial services holding company, validated our belief with these words; "We believe the events over the past few years provide us a tremendous opportunity to build our capabilities while gaining market share. Simply, the structural changes required by Dodd-Frank for the large banking firms to shrink and restructure their businesses in order to be capital compliant while also achieving acceptable return on invested capital. The new regulatory framework generally does not burden us, and our unlevered balance sheet provides us ample dry powder (financial term for idle cash) to take advantage of opportunities." Thus, we believe that this group is a good representation of firms that will most likely benefit from the regulation.

6. Results of Event Analysis

We begin our analysis by examining the overall results for all of our events and present the regression estimates of our model in the following tables.

[18] October 21, 2010 New York Times article stated, "Even mighty Goldman Sachs is not immune. Its proprietary trading desk in New York, which spawned the careers of Robert E. Rubin and dozens of successful hedge fund managers, is heading to the private equity giant Kohlberg Kravis Roberts (KKR is in our PTG sample) as Goldman winds down the operation to comply with new federal regulations."

Table 1: Abnormal Returns for the SIFI
Standard errors; coefficients; average return in percentage, # of Obs 1089

Regulatory Events	Date	Average Return	Abnormal Return	Std Error	T-Statistic
Announcement of Volcker Rule	21-Jan-10	-3.40	-.248	.7134	-0.35
Leakage of Memorandum	6-Oct-11	-4.27	-2.75***	.7124	-3.87
Volcker Rule Passage	10-Dec-13	-1.32	.450	.7125	.63

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 34 bank and nonbank financial institutions that the FSOC deemed SIFI. We regress the portfolio return of the SIFI sample (using equally weighted returns) the (Rm) Russell 3000 and the three event dates. Our total observation was 1089. All of the dummies equal 1 for the event date and zero otherwise.

Judging from our results, the SIFI group was not affected by President Obama's announcement of the Volcker Rule as measured by the abnormal return. Prior studies have reported similar results. King, Massond and Song (2012) find a -5.76% abnormal return that is strongly significant at the 1% level. The magnitude of their coefficient is partly due to their meager sample size (18 US banks) of their SIFI group. Gao, Liao and Wang (2011) report a non-significant abnormal return. Their coefficient was smaller (-.009) than King, Massond and Song. Their average return for that date was -.014. This was probably due to the fact that 15 banks in their SIFI sample should have not been included. Schäfer, Schnabel and di Mauro (2012) also report a non-significant abnormal return for the announcement event. Because our sample differs from prior studies, it is difficult to tell whether all of the non-significant abnormal returns should be interpreted as if nothing really happened on this date.

The leakage of the Volcker Memorandum has the strongest statistically significant abnormal return. Switzer and Sheahan-Lee (2013) is the only study that used this same event in their paper. Their results are similar as well. They reported a strongly significant negative

abnormal return of -4.00%. They concluded that the Volcker Rule cost $25 billion dollars in losses to SIFI. Our abnormal return is much smaller than Switzer and Sheahan-Lee. One of the reason for the difference in coefficient stem from the fact that our market index that we use is different. We use the Russell 3000 (^RUA), which is a broader index comprised of 3,000 US firms, and they use the MSCI US index which is an index comprised of 2,500 firms. Most importantly, they used Bloomberg's equity screener to select their SIFI group. Bloomberg classifies companies that are not banks as banks. Therefore when we examined their sample, we saw more than a dozen companies that were not banks, some of them that were banks were not going to be affected by the Volcker Rule. We believe this event is significant, however, the magnitude that Switzer and Sheahan-Lee (2013) report should be much smaller. We do not believe that a leaked memorandum would cost the SIFI $25 billion dollars.

The last event date had the lowest average return and the abnormal return was not significant. Skeel (2010) pointed out that the Volcker Rule that passed is a more diluted version of the initially proposed regulation. Gao, Liao and Wang (2011) also indicated that the final version of the bill fell short from its initial goal. If they are both right about the Volcker Rule being diluted, then our results validate that nothing should have happened. These results, in particular the leakage of the memorandum provides initial evidence that the Volcker rule has a strong and negative effect on SIFI.

We ran a separate regression on each of the firms in the SIFI sample. Our objective was to examine how many firms within the portfolio had an abnormal return that was negatively significant, negatively non-significant, positively significant and positively non-significant for each event. The first event results were 3, 12, 3, and 15 respectively. The results for the second

event were 18, 15, 0 and 1 respectively, and our results for our last events were 0, 8, 0 and 26 respectively. The firms that stood out were Huntington Bank, Regional Financial and Capital one Bank.

Table 2: Abnormal Returns for the Control Group
Standard errors; coefficients; average return in percentage # of Obs 1089

Regulatory Events	Date	Average Return	Abnormal Return	Std Error	T-Statistic
Announcement of Volcker Rule	21-Jan-10	.0551	1.06**	.3758	2.81
Leakage of Memorandum	6-Oct-11	.2605	.124	.3747	.33
Volcker Rule Passage	10-Dec-13	-.4395	-.0028	.3749	-.76

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 30 bank and nonbank financial institutions that we believed would not be affected by the Volcker Rule. We regress the portfolio return of the Control sample (using equally weighted returns) the (Rm) Russell 3000 and the three event dates. Our total observation was 1089. All of the dummies equal to 1 for the event date and zero otherwise.

We expected all of the dates to have an AR = 0. This was true for both the Leakage of Memorandum and the Volcker Rule Passage, but not for the announcement of the Volcker rule, which had a positive effect. To the best of our knowledge there are no studies that report their findings for their control group with similar dates. Gao, Liao and Wang (2014) use two set of control groups, both a domestic and an international control group. Both of their controls were negatively affected by the regulation, however the dates they tested differ from ours, thus there is little to no meaning in comparing the two. One of the reasons we believe that our control group responded in such away to the announcement of the Volcker Rule, is possibly due to the fact that they may have perceived that this regulation would even the playing field between them and the SIFI. The banks in our control sample are traditional banks that derive most of their revenue

from traditional lending. Because the banks in our SIFI sample focus on various areas of banking relative to the banks in our control group that focus mainly on traditional lending, the banks in our control group should have an edge on SIFI.

If investors believed that SIFI would be forced to go back to traditional lending, then this could possibly explain why our control group responded positively to the news. The average returns are positive up until the diluted Volcker passed the house.[19] We ran a separate regression on each of the firms in the PTG sample. Our objective was to examine how many firms within the portfolio had an abnormal return that was negatively significant, negatively non-significant, positively significant and positively non-significant for each event. The first event results were 0, 13, 4, and 14 respectively. The results for the second event were 10, 20, 0 and 6 respectively, and our results for our last events were 0, 14, 2 and 20 respectively. The firms that stood out were Apollo Global Management, American Capital and SEI Investment.

Table 3: Abnormal Returns for the PTG
Standard errors; coefficients; average return in percentage # of Obs 1089

Regulatory Events	**Date**	**Average Return**	**Abnormal Return**	**Std Error**	**T-Statistic**
Announcement of Volcker Rule	21-Jan-10	-2.59	.2451	.5963	.41
Leakage of Memorandum	6-Oct-11	-2.62	-1.27**	.5954	-2.14
Volcker Rule Passage	10-Dec-13	-1.03	.5564	.5955	.93

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 36 Hedge fund, private equity firms and financial service companies in our sample. We regress the portfolio return of the SIFI

[19] Our main focus is on the abnormal returns for each event date however, we use the average return as a guide to support our hypothesis.

sample (using equally weighted returns) the (Rm) Russell 3000 and the three event dates. Our total observation was 1089. All of the dummies equal to 1 for the event date and zero otherwise.

We expected that the PTG would experience positive returns from the Volcker Rule; however, our PTG results look somewhat similar to our SIFI group. The average and abnormal returns are both negative on the date of the leaked memorandum. Our results are strongly significant. Therefore, we can say that these results, in particular the leakage of the memorandum, provides initial evidence that the Volcker rule has a strong and negative effect on PTG. We are the first to the best of our knowledge to test the effects of the Volcker rule on proprietary trading groups.

Schäfer, Schnabel and di Mauro (2012) perform a cross-sectional analysis where they construct a sub sample of firms that they classify as investment banks and non-investment banks. On January 21, 2010 they reported a negative abnormal return for investment banks that is significant at the 10% level. Our abnormal return is not strongly significant as well. This could be due to the fact that before the regulation, banks could invest in hedge funds and private equity firms who could use the invested funds from the banks and speculate on the various movements of the market. If the Volcker Rule restricts banks from investing in hedge funds or private equity firms, then it makes sense that our PTG sample would be affected by the Volcker Rule because they would lose large investors (Big Banks). We believe our sample is a good representation of proprietary trading firms. Therefore, if our analysis is correct, then these results, in particular the leakage of the memorandum provides initial evidence that the Volcker rule has a strong and negative effect on PTG.

We ran a separate regression on each of the firms in the control sample. Our objective was to examine how many firms within the portfolio had an abnormal return that was negatively

significant, negatively non-significant, positively significant and positively non-significant for each event. The first event results were 0, 8, 10, and 12 respectively. The results for the second event were 2, 12, 1 and 15 respectively, and our results for our last events were 1, 8, 10 and 12 respectively. The firms that stood out were NBT Bank, CVB financial and Community Bank system.

7. Cross-sectional analysis

Cross-sectional results

We next examine the impact of firm-specific characteristics on our full SIFI and PTG sample of firms via the following models:

$$\mathrm{Rt} = \alpha + \beta R\mathrm{M} + \Upsilon iD4 + \varepsilon t$$

$$\Upsilon \equiv \mathrm{CAR}$$

$$\mathrm{CAR} = \beta_0 + \beta_1 Size_j + \beta_2 Debt_j + \beta_3 AvgVolume + \varepsilon_j$$

The variable Rt is the return for each of company in both samples. This comprised of 70 total regressions. The variable α in finance is sometime interpreted as a performance measurement of whether a portfolio outperformed its benchmark index. The variable β is the systematic risk for each firm. RM is the Russell 3000 index[20] and D_4 is an overall dummy variables assuming values of one on all three event day $i = 1$ and zero otherwise. Since D_4 is an overall dummy the variable Υ can be considered as the CAR for each firm on the three event dates. Once we estimate all the Υ variables, we regress this variable against three specific firm characteristics. Since our sample comprises of firms that differ in size, total debt and trading

[20] The Russell 3000 Index is a stock market index of US stocks. This index measures the performance of 3,000 publicly held US companies based on total market capitalization, which represents approximately 98% of the investable US equity market

volume, we can examine how each firm was affected by the regulation depending on its size, debt level and average trading volume.

For the SIFI group we double the FSOC standard to see if these firms were more affected by the regulation. Therefore, we measure *Size* equal to 1 if the firm's total asset is greater than $100 billion. *Debt* is equal to 1 if the firm's total debt is greater than $40 billion. The variable *AvgVolume* is equal to 1 if the average trading of the firm is greater than 15 million. For the SIFI group we predict that the Size variable should show no effect because research on bank size and efficiency shows that banks from about $100 million to 25 billion in size are the most efficient (Berger, Demsetz & Strahan, 1999). Also, Fok, Chang, & Lee (2004) argue that large banks have larger market shares and better access to capital and information, which should lead to greater profitability; hence the relationship between size and abnormal return may be ambiguous. We expect firms with large debt to be negatively affected by the regulation, and firms with higher trading volume to be positively affected by the regulation.

For the PTG group we did not use the FSOC standard to see if these firms were more effect by the regulation. The average total debt, volume of trade and total assets were far less than the SIFI group. Therefore, we measure *Size* equal to 1 if the firm's total asset is greater than $10.5 billion. *Debt* is equal to 1 if the firm's total debt is greater than $1.4 billion. The variable *AvgVolume* is equal to 1 if the average trading of the firm is greater than 1 million. For the PTG group, we predict a no effect for the variable *Size*. We expect firms with large amount of debt to be negatively affected by the regulation. Large amount of debt on a firm's balance sheet would

not enable them to borrow money to take advantage of the opportunities[21] due to the regulation. When companies seek to make acquisitions they typically have a lot of idle cash on hand. If a firm has a lot of debt the amount of potential cash that could be used for acquiring other companies goes towards paying down their debt. This is why we believe that a lot of debt would negatively affect this group. We also predict that firms with higher average volume of traded will be positively affected by the regulation.

Cross-sectional results

We examine determinants of our cumulative abnormal return for all the events and report cross-sectional results for our SIFI and PTG sample in tables 4 and 5.

Table 4: Cross-sectional regression for the SIFI
Standard errors; coefficients; average return in percentage # of Obs 34
Dependent Variable CAR

Independent variable	Coefficient	Std Error	T-Statistic
Size	-.4155	.3695	-1.12
Debt	-.2413	.4592	-0.53
AvgVolume	.3248	.5478	.59

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 34 bank and nonbank financial institutions that the FSOC deemed SIFI. The dependent variable is the cumulative abnormal return for the entire event dates combined. This variable is equal to 1 for the dates prior to event, event date and post-event. For the SIFI group we double the FSOC standard to see if these firms were more effect by the regulation. Therefore, we measure *Size* equal to 1 if the firm's total asset is greater than $100 billion. *Debt* is equal to 1 if the firm's total debt is greater than $40 billion. The variable *AvgVolume* is equal to 1 if the average trading of the firm is greater than 15 million.

[21] Another statement from the October 21, 2010 New York Times article read, "Wall Street is holding a garage sale, and private equity firms are showing up to buy."

For the SIFI group we expected that the Size variable should show no effect because research on bank size and efficiency shows that banks from about $100 million to 25 billion in size are the most efficient (Berger, Demsetz & Strahan, 1999). This is exactly what our results show. We expected firms with large debt to be negatively affected by the regulation and firms with higher trading volume to be positively affected by the regulation. We find that the CAR for SIFIs with large amount of debt and higher trading volume had a no effect. Pennathur, Smith and Subrahmanyam (2013) results differed from ours in their cross-sectional analysis. They did not report a negative relationship between the CAR and trading volume, even though they expected a positive relationship. These results show that firms in the SIFI sample with twice the level of debt, size that the FSOC requires were not affected by the regulation.

Table 5: Cross-sectional regression for the PTG
Standard errors; coefficients; average return in percentage # of Obs 36
Dependent Variable CAR

Independent variable	Coefficient	Std Error	T-Statistic
Size	-.4903	.6963	-.70
Debt	-.2531	.5303	-.48
AvgVolume	-.3227	.4495	-.72

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 36 bank and nonbank financial institutions that the FSOC deemed. . We used 36 Hedge fund, private equity firms and financial service companies in our sample. For the PTG group we did not use the FSOC standard to see if these firms were more effect by the regulation. The average total debt, volume of trade and total assets were far less than the SIFI group. Therefore, we measure *Size* equal to 1 if the firm's total asset is greater than $10.5 billion. *Debt* is equal to 1 if the firm's total debt is greater than $1.4 billion. The variable *AvgVolume* is equal to 1 if the average trading of the firm is greater than 1 million.

For the PTG group, we expected a no effect for the variable *Size*. This is exactly what our results show. We expect firms with large amount of debt to be negatively affected by the regulation. Our results show that there was no effect for firms with larger amounts of debt. We believed that large amount of debt on a firm's balance sheet would not enable them to borrow

money to take advantage of the opportunities due to the regulation. We also predict that firms with higher average volume of traded will be positively affected by the regulation. Our results show that there was no effect.

8. Conclusion and Policy Implications

In this study, we examine the effects of the Volcker Rule on SIFIs, using three key events that led up to the passage of the regulation. While recent studies examines the impact of the Volcker Rule on SIFI using multiple events, to the best of our knowledge, our study is wider in scope and investigates the impact that the Volcker Rule had on proprietary trading firms and a valid control group. Our inclusion of these industry groups allow us to test whether the passage of the Volcker Rule was effective by examining the overall returns of each of the three groups on the three key event dates that we selected. We believed that if our SIFI sample was negatively affected, and the PTG was positively affected, and our control group had a no effect, then the regulation achieved its purpose. The reason we hold this view is because the banks in our SIFI sample are the only ones that will face restrictions in their business activities due to the regulation. These restrictions we believe should negatively affect their equity returns.

Using a dummy variable regression, we investigate market reaction in aggregate for SIFI, PTG and our control group. We find that the event date market reaction is negative and significant for the entire firms in the PTG and SIFI group for one-October 6, 2011 (leakage of Volcker memorandum) out of the three event dates. We find that only one date – January 21, 2010 (announcement of the Volcker Rule) results in a positive and significant market reaction for our control group. Judging from our results, we find that the Volcker Rule hit the SIFI group the

hardest with a decline in the abnormal return of -2.75% at the 5% significance level. Our cross-sectional analysis shows whether effects differed across the SIFI. The CAR of the SIFI had no effect on firm debt, size and the average trading volume. From our results, we find that the Volcker Rule was not effective in achieving its purpose of only affecting SIFI. The regulation negatively affected proprietary trading firms. Our control group saw minor positive wealth effects from the passage of the regulation.

If these results are correct, then policies targeting SIFI are ineffective. Proprietary trading firms experience negative abnormal returns. Smaller traditional banks experienced positive abnormal returns. As such, the Volcker Rule, although it was intended to make the financial markets safer, might be unequally affecting the equity returns of certain financial institutions. This could be due to the fact that financial markets today are extremely advanced from prior years and legislators are slow to develop sound policy that meshes well with the rapid changes occurring in the financial markets. If we assume that legislation does not move in tandem with the changes that occur in the financial markets, then policy could end up harming the overall economy rather than safeguarding it from potential harm.

In spite of our results, we strongly believe that further research should be done on this topic. One of the limitations that we faced in developing this paper is that not enough time has passed for researchers to address the impact of the Volcker Rule on SIFI. Prior studies have been conducted before the rule was passed. As such, further research is needed to determine how conclusive our findings are. It is possible that our sample was not large enough or our event dates

were really not relevant to market participants. Most importantly, it may take a few years before we see the true effects of the Volcker Rule on SIFI.

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Appendix: **Timeline of the Volcker Rule**

Date	Description
15-Jan-09	The Group of Thirty, a policy advice group chaired by former Fed Chairman Paul Volcker, releases a report that includes a call for restrictions on banks trading for profit with their own money, a practice known as proprietary trading. The report, titled "Financial Reform - A Framework for Financial Stability", lays out 18 recommendations of which the first is "Large, systemically important banking institutions should be restricted in undertaking proprietary activities that present particularly high risks and serious conflicts of interest."
4-Feb-09	Paul Volcker gives testimony to the Senate Committee on Banking chaired by Dodd, and outlines the Group of Thirty report.
7-Dec-09	The US House of Representatives announces the forthcoming Wall Street Reform and Consumer Protection Act (WSRCPA) with a priority list of steps to protect US consumers. The number 3 priority is to "ensure that taxpayers will never again need to bail out Wall Street banks by putting an end to too big to fail firms...".
8-Dec-09	The US House of Representatives begins debating the Dodd-Frank bill.
21-Jan-10	11:34 EST At a White House press briefing, President Obama proposes a reform that would prevent banks from owning, investing or sponsoring hedge funds, private equity funds or proprietary trading operations for their own profit. With Mr. Volcker at his side, he dubs the rule the Volcker Rule, "after this tall guy behind me." This reform -- along with cap on wider forms of funding employed by large financial institutions (modeled on the existing deposit cap) -- would be added to Dodd-Frank legislation that has passed House and is before the Senate. Barron's reports that bank stocks fall 6.2%.
2-Feb-10	Senate Banking Committee begins hearing testimony on Volcker rule, with appearance by Paul Volcker. The hearings continue on February 4 with testimony from banks and academics. A Goldman Sachs executive testifies that the firm's earnings will be reduced by 10%.
23-Feb-10	The White House reaffirms its support for the Volcker rule, which runs into headwinds in the Senate as some senators move to water it down.
3-Mar-10	The US Treasury department sends legislative text to Senate spelling out the Volcker Rule. The text provides a definition of proprietary trading and clarifies that any rule will be phased-in over 2 years.
10-Mar-10	Legislation for the Volcker rule is introduced into the Senate for debate.
15-Mar-10	CNBC reports that the Volcker rule may be included in the proposed Dodd-Frank legislation.
10-May-10	Senators Carl Levin (D-Mich) and Jeff Merkley (D-Ore) introduce amendment to pending Volcker rule legislation, improving its chances of coming to a vote on the Senate floor.
25-Jun-10	Senator Chris Dodd proposes a tougher version of Volcker rule as lawmakers push to approve a deal.
15-Jul-10	The US Congress passes the Dodd-Frank legislation, including the Volcker rule.
21-Jul-10	President Obama signs the Dodd-Frank Wall Street Reform and Consumer Protection Act into law. Section 619, outlining the Volcker Rule, runs to 11 pages.
1-Oct-10	Financial Stability Oversight Council (FSOC) holds its inaugural meeting and solicits public comment on Volcker Rule.
26-Nov-10	Fed publishes proposed timeline for compliance with Volcker rule.
18-Jan-11	FSOC completes its study of the rule, after gathering more than 8,000 comments, and releases a study on implementing the rule, starting the clock on a deadline of October 18, 2011, for federal
9-Feb-11	The Fed adopts the final rule for implementing the Volcker rule, which relaxes the timeframe for adoption. The Fed confirms that banks will have 2 years to divest 'hard-to-sell' assets.

8-Jul-11	The Government Accountability Office issues a Dodd-Frank Act mandated report stating that US regulators need more information to effectively police the Volcker rule.
16-Sep-11	According to media reports, a draft version of the Volcker rule eases some restrictions on banks. Banks could be allowed to continue making risky bets with their own capital, diluting the provision's original ban on "proprietary trading."
6-Oct-11	A draft of proposed federal regulations to implement the Volcker rule is leaked onto the internet, including over 100 questions that regulators need to resolve before the final "Notice of Proposed Rulemaking" is issued at year-end. The draft suggests that foreign banks may come under the American rule. Regulators respond to the leak by issuing their proposed Volcker rule for public comment on October 7.
11-Oct-11	Federal officials formally unveil the Volcker rule for public comment through January 23, 2012.
12-Oct-11	SEC votes unanimously to approve the Volcker rule.
10-Dec-13	The House of Representatives approve the Volcker Rule
1-Jul-15	The Volcker will go into effect all regulated institution most comply with the regulation

Table A
Event Summary & Market Reaction Hypotheses

Date	Event & (Type)	Predicted Abnormal Return
21-January 2010	President Obama announced the Volcker Rule at a White House press briefing	**SIFI**-Negative **PTG**-Positive **Control**-Zero
6- October 2011	Private Volcker Rule Memorandum Leaked before the official release	**SIFI**-Negative **PTG**-Positive **Control**-Zero
10-December 2013	Volcker Rule passed the House of Representative	**SIFI**-Positive **PTG**-Negative **Control**-Zero

SIFI Variable	Obs	Mean	Std. Dev.	Min	Max
totalassets	34	4.68e+11	6.18e+11	5.37e+10	2.42e+12
totaldebt	34	8.78e+10	1.57e+11	1.63e+09	5.35e+11
volume	34	1.43e+07	3.02e+07	1010000	1.41e+08
debt	34	.2647059	.4478111	0	1
avgvolume	34	.1470588	.3594906	0	1
size	34	.4411765	.5039947	0	1

PTG Variable	Obs	Mean	Std. Dev.	Min	Max
totalassets	36	1.11e+10	3.40e+10	4.18e+07	2.00e+11
totaldebt	36	1.83e+09	3.47e+09	0	1.31e+10
volume	36	1.06e+07	5.65e+07	18580	3.40e+08
size	36	.1388889	.3507362	0	1
debt	36	.3055556	.4671766	0	1
avgvolume	36	.3333333	.4780914	0	1

SIFI	PTG	Control Group
American Express Company	Kohlberg Kravis Roberts	Cambridge Bancorp
American International Group, Inc	The Blackstone Group	Two River Bancorp
Comerica Incorporated	Apollo Global Management	BancFirst Corp
Regions Financial	TICC Capital Corp	Parke Bancorp Inc
U.S. Bancorp	American Capital	Elmira Savings Bank
M&T Bank	Fortress Investment Group	Bar Harbor Bankshares
Fifth Third Bancorp	Och-Ziff Capital Management	Ames National Corp
Huntington Bancshares Inc	Affiliated Managers Group	Community Bank System
KeyCorp	Lazard Ltd	PICO Holdings Inc
Bank of America	Investment Technology Group	Ameris Bancorp
Northern Trust Corp	BlackRock, Inc	NBT Bancorp, Inc
PNC Financial Services Group	Invesco Ltd	Columbia Banking System Inc
BB&T Corporation	Janus Capital Group	WesBanco Inc
State Street Corporation	Greenhill & Co.	Beneficial Mutual Bancorp
Zions Bancorporation	Evercore Partners Inc	Glacier Bancorp Inc
The Bank of New York Mellon	Gladstone Capital	Brown & Brown Inc
JPMorgan Chase & Co	Cowen Group, Inc	Eastern Insurance Holdings
Citigroup Inc	SEI Investments Co	Citizens Financial Services
Morgan Stanley	Legg Mason Inc	Chemung Financial Corp
Wells Fargo & Company	Virtus Investment Partners	Harleysville Savings Financial
SunTrust Banks, Inc	Eaton Vance Corp	Park National Corp
Capital One Financial Corp	Waddell & Reed Financial	CVB Financial Corp
Goldman Sachs Group	Cornerstone Strategic Value Fund	Employers Holdings, Inc
Prudential Financial, Inc	Piper Jaffray Companies	Pinnacle Financial Partners
Charles Schwab Corporation	Oppenheimer Holdings Inc	Pacific Continental Corp
SLM Corporation	WisdomTree Investments	Dimeco, Inc
Cigna Corp	Federated Investors	Kansas City Life Insurance
CNA Financial Corporation	AllianceBernstein Holding	Chemical Financial Corp
Lincoln National Corporation	CIFC Corp	Amerisafe, Inc
Hartford Financial Services	Stifel Financial Corp	American Financial Group
MetLife, Inc	MCG Capital Corporation	
Genworth Financial Inc	Apollo Investment Corp	
Ameriprise Financial, Inc	Ares Capital Corp	
Principal Financial Group	Triangle Capital Corp	
	FBR & Co	

	Ladenburg Thalmann Financial	

SIFI	Event 1	Event 2	Event 3
American Express Company	-5.99***	-1.08	-.2600
American International Group, Inc	.5630	-3.19	.6109
Comerica Incorporated	2.28	-.431**	-.0213
Regions Financial	.0853	-5.39**	1.01
U.S. Bancorp	.5677	-1.59	.4072
M&T Bank	-1.50	-1.74	.9027
Fifth Third Bancorp	3.91**	-3.19**	1.15
Huntington Bancshares Inc	6.79***	-4.09**	.3219
KeyCorp	1.89	-4.39**	.3219
Bank of America	.1102	-4.25**	.1726
Northern Trust Corp	-.2939	-1.65	-.5224
PNC Financial Services Group	-1.08	-1.83	.0799
BB&T Corporation	-.5403	-3.07**	1.84
State Street Corporation	-1.77	-1.80	.2495
Zions Bancorporation	-.4064	-1.13	-.7170
The Bank of New York Mellon	-1.78	-1.40	-.3594
JPMorgan Chase & Co	-.4425	-3.76**	.5861
Citigroup Inc	3.10	-3.54**	.1258
Morgan Stanley	-1.44	-4.31**	.0383
Wells Fargo & Company	.2484	-1.90	-.3066
SunTrust Banks, Inc	3.57**	-3.44**	1.10
Capital One Financial Corp	-9.23***	.6242	.3017
Goldman Sachs Group	-1.56	-4.07**	.2444
Prudential Financial, Inc	.4581	-3.02**	.8541
Charles Schwab Corporation	1.03	-1.95	1.68
SLM Corporation	-8.89***	-.9918	-.4474
Cigna Corp	1.30	-.0525	.0698
CNA Financial Corporation	-.4743	-2.85**	.1152
Lincoln National Corporation	-1.77	-2.69	-1.00
Hartford Financial Services	.3911	-1.98	.1051
MetLife, Inc	.1782	-4.48**	1.15
Genworth Financial Inc	.8418	-4.65**	1.38
Ameriprise Financial, Inc	.8214	-2.53**	.1539
Principal Financial Group	1.73	-2.67**	.4737

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 34 bank and nonbank financial institutions that the FSOC deemed SIFI. We regress the individual returns of the firms in our SIFI sample against the (Rm) Russell 3000 and the three event dates. Our total observation was 1089. All of the dummies equal 1 for the event date and zero otherwise.

PTG	Event 1	Event 2	Event 3
Kohlberg Kravis Roberts	.8946	.3248	-2.22
The Blackstone Group	-1.80	-2.75	1.62
Apollo Global Management	-1.09	-4.93***	-.9617
TICC Capital Corp	.1195	-.3271	1.22
American Capital	-1.24	-3.21***	-.2827
Fortress Investment Group	.9397	.6977	5.04**
Och-Ziff Capital Management	-.4864	1.68	.5586
Affiliated Managers Group	3.31**	-1.28	.0488
Lazard Ltd	-.8232	-1.51	3.14
Investment Technology Group	-.9793	-3.21***	-.2827
BlackRock, Inc	.5899	-1.19	-.7524
Invesco Ltd	.8669	-2.16**	.0214
Janus Capital Group	-2.07	-1.57	-.4411
Greenhill & Co.	4.38**	-.2233	3.57**
Evercore Partners Inc	3.10	-1.59	2.05
Gladstone Capital	-.1851	-.8240	1.58
Cowen Group, Inc	.4114	1.42	-1.12
SEI Investments Co	3.11	-1.58***	2.06
Legg Mason Inc	-1.23	-1.29	1.46
Virtus Investment Partners	-2.12	-1.31	-.1967
Eaton Vance Corp	.7257	-.5232	-.4118
Waddell & Reed Financial	1.20	-1.11	-.8467
Cornerstone Strategic Value Fund	1.60	-3.30	2.29
Piper Jaffray Companies	-.1841	-3.15**	1.32
Oppenheimer Holdings Inc	3.80	-1.91	1.80
WisdomTree Investments	-1.71	-2.97**	1.40
Federated Investors	-1.96	-2.58	-.9872
AllianceBernstein Holding	-.7954	-3.32**	-1.64
CIFC Corp	-3.83	.3522	.1991
Stifel Financial Corp	.7053	-2.97**	1.29
MCG Capital Corporation	.3642	3.64	1.84
Apollo Investment Corp	-.3354	-.9198	.2642
Ares Capital Corp	-.0142	-3.27**	1.01
Triangle Capital Corp	-.1294	-.1351	.3607
FBR & Co	2.03	-1.71	-1.03
Ladenburg Thalmann Financial Services	4.91	-.3382	-3.76

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 36 Hedge fund, private equity firms and financial service companies in our sample. We regress the individual returns of the firms in our PTG sample against the (Rm) Russell 3000 and the three event dates. Our total observation was 1089. All of the dummies equal to 1 for the event date and zero otherwise.

Control Group	Event 1	Event 2	Event 3
Cambridge Bancorp	1.98**	-1.51	1.15
Two River Bancorp	.1053	.4172	.1214
BancFirst Corp	3.43*	1.24	-.189
Parke Bancorp Inc	.5028	-1.92	.7951
Elmira Savings Bank	.2791	3.05	.8735
Bar Harbor Bankshares	-.6039	-.1468	-.9622
Ames National Corp	-2.93	1.66	-.5973
Community Bank System	4.02***	-1.90**	-.2216
PICO Holdings Inc	-.7073	-.6551	-.1463
Ameris Bancorp	1.75	-.3061	-.3222
NBT Bancorp, Inc	3.09***	-1.72**	-.2874
Columbia Banking System Inc	3.12**	1.20	-.5511
WesBanco Inc	2.01	-1.15	-.2549
Beneficial Mutual Bancorp	1.00	1.71	.7164
Glacier Bancorp Inc	2.43**	.8100	-.4911
Brown & Brown Inc	.0272	1.20	.0843
Eastern Insurance Holdings	-.7073	-.666	-.1527
Citizens Financial Services	.0908	-1.71	-.0444
Chemung Financial Corp	.9651	-.1378	-1.03
Harleysville Savings Financial	-.4013	1.17	-.0115
Park National Corp	2.379**	1.16	-.3590
CVB Financial Corp	4.63***	-2.45	-.2675
Employers Holdings, Inc	.5256	.7472	-2.30
Pinnacle Financial Partners	3.21**	1.36	.1832
Pacific Continental Corp	3.44**	-1.61	-.2804
Dimeco, Inc	.7488	2.14	-.0832
Kansas City Life Insurance	-2.45	5.889	-.6339
Chemical Financial Corp	1.13	-.5943	-.0196
Amerisafe, Inc	-.6587	.5339	-2.91**
American Financial Group	-.6978	2.41**	-.2981

Notes: *** significant at 1 percent, ** significant at 5 percent, * significant at 10 percent. We used 30 bank and nonbank financial institutions that we believed would not be affected by the Volcker Rule. We regress the individual returns of the firms in our control group against the (Rm) Russell 3000 and the three event dates. Our total observation was 1089. All of the dummies equal to 1 for the event date and zero otherwise.

D_4 SIFI	D_4 PTG
-0.02443	-0.01493
-0.01049	-0.00336
-0.00686	-0.00976
-0.01433	-0.02338
-0.00209	0.003403
-0.00781	-0.01296
0.006177	0.022274

0.010003	0.005861
-0.00445	0.006883
-0.01327	0.002693
-0.00825	-0.00453
-0.00945	-0.00428
-0.0059	-0.01362
-0.01108	0.025782
-0.00754	0.011864
-0.01184	0.001971
-0.01208	0.002362
-0.00111	0.011971
-0.01908	-0.00354
-0.0045	-0.01211
0.004032	-0.00071
-0.03178	-0.00254
-0.01797	0.00195
-0.00571	-0.00674
0.002537	0.012276
-0.03439	-0.01099
0.00437	-0.01844
-0.01072	-0.01925
-0.01153	-0.01092
-0.00497	-0.00324
-0.01051	0.019548
-0.00814	-0.0033
-0.00522	-0.00755
-3.1E-05	0.000352
	-0.00243
	0.002675

SIFI	Obs	Mean	Std. Dev.	Min	Max
Rsifi	1089	.0008933	.01763	-.111095	.0767901
Rm	1089	.0006478	.011058	-.0703547	.0510736
AXPrtn	1089	.0012086	.0168271	-.0882611	.0711026
AIGrtn	1089	.0011101	.0296915	-.1604569	.2126175
CMArtn	1089	.0008747	.0200127	-.1053902	.0862069
RFrtn	1089	.0009601	.0273709	-.1362725	.1448864
USBrtn	1089	.0008738	.0161907	-.0898123	.0824742
MTBrtn	1089	.001035	.0169434	-.0774619	.0903639
FITBrtn	1089	.0010562	.0225552	-.1137441	.1032505
HBANrtn	1089	.0011681	.0235492	-.0979592	.1309963
KEYrtn	1089	.0010838	.0226262	-.1048632	.0874786

BACrtn	1089	.0003205	.0258022	-.2029703	.1677019
NTRSrtn	1089	.0004031	.0158606	-.0884705	.0692435
BBTrtn	1089	.0006763	.0179994	-.1067821	.0690838
STTrtn	1089	.0006328	.0193132	-.1008902	.1067812
ZIONrtn	1089	.0008903	.0253375	-.1090604	.1247987
BKrtn	1089	.0004988	.0182431	-.0972673	.0764368
JPMrtn	1089	.0006517	.0194279	-.0943396	.0843284
Crtn	1089	.0005334	.0250538	-.164018	.1384505
MSrtn	1089	.000651	.0261084	-.1449795	.1694393
WFCrtn	1089	.000841	.0186916	-.0903308	.0806527
STIrtn	1089	.0008076	.0236685	-.1386374	.0966117
COFrtn	1089	.0009789	.0208821	-.1211315	.0847411
GSrtn	1089	.0003665	.0189903	-.1279116	.0947102
PRUrtn	1089	.0010683	.0212507	-.1083535	.0923286
SCHWrtn	1089	.0006505	.0192082	-.091673	.1005968
SLMrtn	1089	.0014825	.0237472	-.1472393	.2070646
CIrtn	1089	.0011708	.0174733	-.1092642	.0798706
CNArtn	1089	.0007277	.01584	-.0936003	.0883028
LNCrtn	1089	.0011666	.0259747	-.1223053	.1385768
HIGrtn	1089	.0009602	.0261506	-.1424196	.1553571
METrtn	1089	.000805	.0216701	-.0992908	.0891233
GNWrtn	1089	.0010501	.0334731	-.2376623	.1714614
AMPrtn	1089	.0016639	.0209759	-.1237668	.1322804

PTG	Obs	Mean	Std. Dev.	Min	Max
Rptg	1089	.0011344	.0158188	-.0865482	.078134
Rm	1089	.0006478	.011058	-.0703547	.0510736
ITGrtn	1089	.0001224	.0223495	-.1395179	.1091251
KKRrtn	1089	.0014451	.0236863	-.2865424	.1318436
BXrtn	1089	.0015492	.0238584	-.1150959	.0836614
APOrtn	1089	.0017255	.0303611	-.6939559	.0938511
TICCrtn	1089	.0018298	.0181913	-.1008018	.1423671
ACASrtn	1089	.0021601	.0283424	-.1184211	.3268482
FIGrtn	1089	.0013224	.0308186	-.1140351	.189781
OZMrtn	1089	.0012744	.023341	-.0898345	.1155116
AMGrtn	1089	.0013647	.020904	-.1154699	.1033576
LAZrtn	1089	.0006124	.0223484	-.1142962	.1660839
BLKrtn	1089	.0008453	.0187873	-.1010734	.0955083
IVZrtn	1089	.0010123	.0226013	-.1344997	.1042325
JNSrtn	1089	.0005125	.0258252	-.1	.1181193
GHLrtn	1089	.0002876	.0222854	-.1220176	.1232472
EVRrtn	1089	.001319	.0249642	-.0986301	.2130707
GLADrtn	1089	.0012879	.0202689	-.1255743	.1523643
Cownrtn	1089	-.0001191	.0257078	-.097035	.1152648
SEICrtn	1089	.0012672	.0249965	-.0986301	.2130707
LMrtn	1089	.0007853	.0223024	-.099	.1142558

VRTSrtn	1089	.0027291	.0246306	-.1530703	.1153644
EVrtn	1089	.0008773	.019243	-.0836089	.1181939
WDRrtn	1089	.0013816	.0225941	-.1017838	.1262842
CLMSrtn	1089	.0007217	.0264594	-.1264151	.1487119
PJCrtn	1089	.0001464	.0257149	-.1440678	.1627842
OpyRtn	1089	.0005796	.0279341	-.1778374	.1203065
WETFrtn	1089	.0027893	.0305253	-.1467236	.1639676
FIIrtn	1089	.0008605	.0183062	-.0841424	.0774473
ABrtn	1089	.0007913	.0210377	-.1309771	.0833333
CIFCrtn	1089	.0008642	.0389178	-.2279793	.3791946
SFrtn	1089	.0004288	.0210547	-.0992973	.1228748
MCGCrtn	1089	.0006835	.0405287	-1	.1691176
AINVrtn	1089	.0011625	.0208269	-.1046154	.1067616
ARCCrtn	1089	.0016208	.0168549	-.0952986	.1213389
TCAPrtn	1089	.0019093	.0188019	-.1146409	.1104199
FBRCrtn	1089	.0005047	.0253541	-.112426	.2374429
LTSrtn	1089	.0021841	.040025	-.1346154	.2125

Control	Obs	Mean	Std. Dev.	Min	Max
Rcg	1089	.0010148	.0076549	-.0376776	.0376802
Rm	1089	.000652	.0110584	-.0703547	.0510736
ATLOrtn	1089	.0004569	.0245916	-.0906801	.1505085
CATCrtn	1089	.0008841	.0143205	-.0694235	.0724496
CZFSrtn	1089	.0012297	.0174894	-.0923504	.0958947
TRCBrtn	1089	.0010384	.0288742	-.1764706	.2178571
DIMCrtn	1089	.0006737	.018463	-.1275733	.1110122
HARLrtn	1089	.0008254	.0181039	-.097116	.099466
BANFrtn	1089	.0007956	.0168682	-.1002556	.1017863
PKBKrtn	1089	.0006116	.0267922	-.1553254	.1609848
ESBKrtn	1089	.0013209	.0237933	-.1647287	.1266667
AFGrtn	1089	.0010154	.0128903	-.0726552	.0673077
BHBrtn	1089	.0005557	.0140194	-.086771	.0684876
AMSFrtn	1089	.000994	.0170542	-.082336	.1194598
EIGrtn	1089	.0009738	.0185898	-.151343	.0900595
EIHIrtn	1089	.0011636	.0163441	-.1313253	.1540643
PICOrtn	1089	.0010691	.0162361	-.1313253	.1540643
BROrtn	1089	.0006463	.0135252	-.0817061	.0974063
KCLIrtn	1089	.0007346	.0203536	-.0768982	.1075812
ABCBrtn	1089	.0014777	.0239031	-.1226819	.1675127
CHMGrtn	1089	.0009558	.0172656	-.0878307	.1201299
CBUrtn	1089	.0012597	.0179598	-.0864475	.0896994
CVBFrtn	1089	.0026157	.0262697	-.2231947	.2201166
NBTBrtn	1089	.0006331	.0180629	-.0910552	.0982787
COLBrtn	1089	.000834	.020972	-.0820014	.1158301
WSBC	1089	.0020002	.0336723	-.1	.8814945
PNFPrtn	1089	.0010935	.0251928	-.2329218	.1279555

PCBXrtn	1089	.0009316	.0236843	-.1084198	.109116
BNCLrtn	1089	.0003646	.0168613	-.103211	.1384615
CHFCrtn	1089	.0009496	.0198303	-.1016949	.128224
GBCIrtn	1089	.0011442	.0194708	-.1060473	.104067
PRKrtn	1089	.000996	.0181998	-.1250243	.1266918